University of Gothenburg
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State capacity in dictatorships

Investigating variation in income taxation amongst autocracies

Master's Thesis in Political Science
VT 2017
30 higher education credits
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Words: 13 560

Abstract

This thesis investigates whether different types of dictatorships construct their state apparatuses in different ways, resulting in higher or lower levels of state capacity. Arguing that income taxes is the hardest form of taxes to collect – and thus is a good indicator of the state's overall fiscal capacity – the thesis hypothesize that party-based autocracies should display higher levels of fiscal capacity compared to other types of dictatorships, for three reasons: Firstly, party-based regimes tend to have longer time-horizons than most other types of autocracies. Secondly, they often have greater incentives than others to invest in the fiscal capacity of the state. Thirdly, due to the highly institutionalized nature of party-based regimes, they avoid the fear, incompetence and bad information that plagues many other dictatorships. Using time-series analysis with panel data covering 80 countries for the period 1980-2010, the thesis finds strong – but not complete – support for the hypothesis.

Keywords

State capacity, Taxation, Dictatorship, Single-party regimes

"The development of state power, or the state's authority of society and the market economy, is usefully examined by highlighting its ability to get citizens to do something that they would rather not do – namely, pay taxes."

Evans Lieberman (2002)

"Different kinds of authoritarianism differ from each other as much as they differ from democracy."

Barbara Geddes (1999)

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1. Introduction

Over the last couple of decades' social scientists have once again become interested in the state's role in social and economic development. With few exceptions, social scientist of every stripe agree that states are necessary to regulate markets, provide public goods[1] and maintain order (see, for example, Evans, Rueschemeyer & Skopcol 1985).

To do these things, however, states must be capable and – as the burgeoning literature on "failed states" shows – at least in some sense "strong" (Brinkerhoff 2005). For this reason, many researchers have turned their attention to what is often called "state capacity", (Hanson & Sigman 2013; Cingolani 2013; Soifer 2012) or states "infrastructural power" (Mann 1984; Soifer 2008). Although definitions vary, the observation underlying the concept is that the degree to which governments policies are implemented – or have the intended effect – differ tremendously between states. Put differently, some states are more effective than others to maintain order, implement policies or collect taxes.

One of the most interesting aspects of this far-reaching research agenda is the relationship between *political regimes* and the strength and characteristics of the *state apparatus* (Bäck & Hadenius, 2008). Many studies have contrasted democratic with non-democratic regimes in relation to state capacity, as in the debate about "sequencing" (Carothers 2007; Fukuyama 2007; Mansfield & Snyder 2007). In short, the discussion concerns whether democracy makes it easier or harder to "build up" the state. Some argue that it may be better – from the perspective of effective public goods provision – to establish "credible enforcement" before "credible commitment", rather than the other way around (D'Arcy & Nistotskaya, 2016). Yet others have showed that democratic institutions, such as competitive elections, under certain conditions spur improvements in state capacity (Slater 2008).

What is far less common, however, is comparative studies that explore differences in state capacity *within* the group of non-democratic regimes. This is unfortunate, because – as put by one of the world's foremost scholars on autocracies, Barbara Geddes (1999, p. 121) – "different kinds of authoritarianism differ from each other as much as they differ from democracy".

More precisely, various types of autocracies rely on different sections of society for support, have different kinds of decision-making procedures, chose leaders in various ways and respond to societal pressure in different manners. If we believe that political institutions have at least some effect on the level of state capacity (for an overview of the different types of explanations often found in the literature, see Bräutigam et al. 2008) it seems strange not to explore this variation in the world of autocracies further.

There is, however, as least one study that looks at the variation in state capacity within the group of non-democracies. In their paper "Which dictators produce Quality of Government?", Charron and Lapuente (2011, p. 399) investigate "*how different forms of authoritarianism… build up their state apparatuses in characteristically different ways*".

This thesis builds upon Charron and Lapuente's work, but approaches the theme in a somewhat different manner. It contributes to the existing field of research in at least two ways. Firstly, it is theoretically anchored in the literature on state capacity rather than the

[1] Of course, a capable state apparatus can also be used for unambiguously bad things. Indeed, some of the worst atrocities in human history was committed by vicious regimes in control of a high capacity state.

literature on "quality of government", and uses a more precise definition of its key concept. Charron and Lapuente defines quality of government as "an uncorrupted and efficient public bureaucracy... a legal system that is impartial (non-discriminatory) and enforces contracts and citizens' private property rights" (2011, p. 400). Although there is much to appreciate in Charron and Lapuente's study, the author of this thesis finds this definition too broad. Moreover, although things like protection for private property and an impartial public sector free from corruption may often be found in strong states, "quality of government" and "state capacity" should not be treated as the same analytical concept.

Secondly, contrary to Charron and Lapuente – and much other previous research – this thesis does not rely on expert evaluations as indicators of "bureaucratic effectiveness" and the like. Instead, it uses an objective measure – income taxes as share of GDP – to measure the effectiveness of the tax system, one of the core functions of the state.

By using the autocratic regime classification first presented by Geddes et al. (2014) as the independent variable, and collected income taxes as share of GDP as my dependent variable, the thesis show that party-based autocracies display higher levels of fiscal capacity than personalist and military regimes. Employing a time-series analysis with panel data, covering 80 countries for the time-period 1980-2010, the results hold even when including demanding control variables such as GDP per capita, population density, state antiquity, regime duration and several others. Despite lack of data for several potentially important cases, there is strong reason to believe that the results are not driven by selection bias. Additional robustness checks somewhat weakens the results, but do not change them overall.

2. Outline of the thesis

The outline of the thesis is as follows. Section 3 presents an overview of the state capacity concept. The section discusses some of the problems with how the concept has been understood and operationalized, arguing that researchers should be clearer on *which type of capacity* they are investigating. The thesis then goes on to discuss the fiscal capacity of the state – i.e. the ability to effectively raise taxes from its territory and population – in some detail, arguing that taxation tells us something important about the strength and reach of the state.

Section 4 deals with the question of how to categorize different types of non-democracies, followed by section 5 where a theoretical argument for how autocratic regimes could impact state capacity is presented. Section 6 discuss available data and research design. The results are presented in section 7. Section 8 discusses the results and concludes.

3. The state capacity concept

State capacity has been understood as the durability and autonomy of the state's organizations (Huntington 1968), as states' ability to execute policies "cleanly and transparently" (Fukuyama 2004a), as the ability of state leaders to get people in society "to do what they want them to do" (Migdal 1988), and in numerous other ways. Quite often, state capacity is used interchangeably with other concepts such as "quality of government" (see for example, Charron & Lapuente 2011), often understood as an impartial public sector free from corruption. As the heart of most definitions of state capacity, however, lies the ability of states to enforce policy – to change the status quo – even in the face of societal resistance (Mann 1993).

A first step to make sense of the conceptual confusion surrounding the concept may be to follow in the steps of Cingolani (2013) and Hanson and Sigman (2011). In their respective reviews of the concepts and measurements of state capacity, they start off with the basic question: *Capacity to do what?*

Cingolani shows that the term may refer to as many as eight different aspects of capacity: coercive / military; fiscal; administrative / implementation; transformative or industrializing; relational/territorial coverage; legal; and political. Hanson and Sigman makes a rather similar summary of the existing state capacity literature, and argues that researchers should focus on three core dimension of the concept: extractive, coercive, and administrative capacity. These three dimensions, they argue, capture almost all core functions of the modern state (see Pierson 2004).

While these clarifications are helpful, the research on state capacity also suffers from another weakness. In short, the problem arises from the difficulty in trying to measure the *capability* of the state, rather than various *outcomes*. These are different things, because even if a certain actor has the *ability* to do something, he or she may not necessarily *choose* to do it.

For example, Hendrix (2010) discuss how a researcher may use the number of military personnel per capita as a proxy for the coercive capacity of the state. This means that states with small armies will be seen as having relatively low state capacity, and countries with large armies will be seen as having high state capacity. This does not have to be misleading. It could be the case that the state with a small army would like to have a much bigger military force, but is *unable* to achieve this. However, it could also be the case that the people in control of the state apparatus could raise a much larger army rather quickly *if they wanted to*, but for some reason choose not to. If so, trying to estimate the capacity of the state by using a certain outcome as a proxy may give us biased results.

This potential weakness in the state capacity literature is clearly described by Lindvall and Teorell (2016), who argue that we can never measure state capacity directly. Instead, we should think of state capacity as "the strength of the causal relationship between the policies that governments adopt (p) and the outcomes that they intend to achieve (y)" (2016, p. 14).

This way of thinking about state capacity has close resemblance to how political scientists often understand power: The ability of X to make Y do something Y would not otherwise have done (Dahl 1957). Rather than trying to measure power directly, political scientists generally try to gauge different actors' *power resources*, and Lindvall and Teorell argue that a similar approach should be taken by researchers interested in state capacity. Thus, they invite us to think more about the resources at the governments disposal, rather than various outcomes. According to Lindvall and Teorell, there are three broad types of resources – money, human capital, and information – that the state can use to increase the likelihood that the government's policies have the intended effect.

The author of this thesis is sympathetic to the theoretical argument presented by Lindvall and Teorell. In the best of all possible worlds, research on state capacity should focus more on the various resources at the state's disposal. Recent studies along those lines – which specifically tries to assess and quantify states' *informational resources* – include Brambor et al. (2016), Lee and Zhang (2016) and D'Arcy and Nistotskaya (2017).

However, we do not live in the best of all possible worlds. In practise, it is not always feasible to distinguish between resources and outcomes. Moreover, while some studies – such as the ones mentioned above – have shown that it is possible to empirically gauge certain state resources, most empirical indicators available to researchers are not of this kind[2]. For this reason, most researchers interested in state-capacity are still forced to use measures that captures outcomes rather than resources. The theoretical distinction between the two is nevertheless important, since it reminds us to be cautious when interpreting results based on "outcome-type" empirical indicators. With this in mind, we move on to discuss the type of state capacity which is the focus for this thesis – *extractive, or fiscal capacity*.

3.1. Taxation as state capacity

As described above by Cingolani and Hanson and Sigman above, the ability to tax is often seen as one of the core characteristics of the state (see also Levi 1988). Douglas North goes even further and defines the state in terms of its capacity to tax. According to him, the state can be understood as "an organization with a comparative advantage in violence, extending over a geographic area whose boundaries are determined by its power to tax constituents" (North 1981, p. 21).

Numerous scholars have noted the close connection between the capacity to collect taxes and the step-by-step creation of the modern state, especially in Western Europe (see for example Tilly 1975; Tilly 1992). With a few exceptions – such as the prevalence of abundant and easily extracted natural resources – some type of taxation is necessary for the continuation and upholding of the state over time, no matter where in the world it is located.

This does not mean that governments cannot be supported by other forms of revenue. Some countries in the world rely heavily on international aid. Others derive substantial amounts of money from the operations of state-owned companies. Taxation, however, is a very specific form of revenue for at least three reasons: Firstly, unlike aid-payments – which are conditional on some other states' goodwill or strategic interests – taxes are something that the state itself decides on, and which emanates from within the countries own borders. Secondly, while fees such as – for example – a highway-toll tend to be given with the explicit understanding that the money will be used to fund infrastructure, taxes are paid without promise of any specific service or good in return[3]. Thirdly, taxes are compulsory, meaning that a citizen, company or consumer is forced to pay the taxes he or she owes.

Bearing this in mind, it is not surprising that researchers have used taxation as a way to estimate the capacity of the state. As put by Lieberman (2002, p. 92), "the development of state power, or the state's authority of society and the market economy, is usefully examined by highlighting its ability to get citizens to do something that they would rather not do – namely, pay taxes". Following Lieberman, a central assumption for this thesis it that taxation tells us something important about states' capacity.

[2] Furthermore, even when there exist empirical indictors that explicitly captures state resources rather than policy outcomes, these indicators may not be suited to all estimation strategies. The author of this thesis has tried to use a novel "legibility-index" constructed by Lee and Zhang (2016) – which captures the accuracy of national censuses – for the research problem presented here. In the end however, the number of observations was too few to permit meaningful analysis.

[3] Of course, taxes of often collected and paid with an implicit understanding that the money will at least partly be used for some kind of goods provision. Indeed, the extent to which citizens think that their tax money will be put to "good use" may often affect their willingness to pay said taxes. However, when the state collect taxes from an individual or company, there is no promise that this money will be earmarked and used for a *specific* project in return.

However, all taxes are not equal. As pointed out by Lieberman as well as numerous other scholars, some taxes require much higher levels of state capacity than others. At the low-end of the capacity spectrum we find trade-taxes, such as tariffs on goods. Since most imports and exports tend to enter and exit a country at a few major ports or border towns, it is relatively easy for a state to set up customs stations and collect taxes there. Historically, this has often been the most important form of revenue for many countries in the world. Examples of taxes that requires some capacity – but not necessary high levels of capacity – include payroll- and domestic consumption taxes.

The most difficult form of tax to collect – and which therefore requires the highest levels of capacity – is arguable the income-tax (Chaudry 1997; Lieberman 2002; Rogers & Weller 2014).

Taxes on personal income, on capital gains and on companies' profits requires extensive coverage, monitoring and enforcement. As put by Mares and Queralt (2015, p. 1975), income taxes involve a "sophisticated tax administration capable of verifying the income of individuals in a given economy, and ensuring the compliance of the latter with their tax obligations". This view is echoed by Piccolino (2015, p. 3), who argues that direct taxes on income and profits, "require fine-grained information on social and economic activities that cannot be obtained by coercion alone". For this reason, such taxes tend to spur "the development of a state's administrative apparatus".

While income taxes are hard to collect – i.e. they require high levels of capacity – they also have a number of properties that make them attractive: The tax base is wide, revenue stream tend to be relatively stable over time, and they distort the economy to a comparatively low extent. As put by Rogers and Weller, "income tax systems, especially once automated, are the steadiest and most lucrative form of tax revenue".

To summarize, for a state to derive any meaningful amount of money from income taxes, it must have detailed information not only about the whereabouts of its citizens and companies, but also about their economic activities. It's not enough for the state to know the value of their assets (which is a prerequisite for an effective property tax) – rather, it must know how much money every individual or company made *each month or year*[4]. For this to happen the state has to be "present" in peoples' everyday lives, and preside over an advanced bureaucracy. However, once an income-tax system is put in place and maintained, it offers clear benefits to the state, compared to almost all other forms of government revenue.

Thus, while more general information about taxation – such as the total amount of taxes collected – arguably tells us *something* about the capacity and reach of the state, income taxation is a better proxy for the extractive capacity of the state. In this, the thesis follows previous studies by Lieberman (2002), Rogers and Weller (2014), and Brambor (2016).

Following these studies, and relating to the overall theoretical section above, this thesis understands state capacity in general terms as *states' ability to effectively implement policy*. Talking about fiscal capacity specifically, this is understood as states' ability to *effectively generate revenue through taxation*.

[4] Income taxes are taxes on a "flow", rather than on a "stock".

4. Categorizing autocracies

In recent decades, political scientist has started to distinguish between different types of autocracies in a more systematic manner. Arguably, the two most commonly used classification schemes today are the ones constructed by Cheibub et al. (2010), and by Geddes et al. (2014)[5].

For the individual researcher, the different ways to categorize autocracies prompts an obvious question: which categorization should be used? The author of this thesis agrees wholeheartedly with Charron and Lapuente (2011, p. 407) that "the choice of classification should be based primarily on which source best suits one's theory". In the context of this thesis, this means that the theoretical explanations for *why and how different regime-types may affect state capacity* should direct the choice of classification.

In the next section, the theoretical arguments for how and why we expect some regimes to invest more in state capacity than others are presented in more detail. In short, however, the theoretical argument is that *the extent to which a ruling organization of some kind can constrain the executive* plays a key role in how the regime functions. In some regimes, power in concentrated in the hands of a single "all-powerful" dictator. In other regimes, power is exercised by and through an organization of some kind – often a political party or the military. Drawing upon existing research on autocracies, the author of this thesis argues that this plays a crucial role in how regimes' constructs their state apparatus', resulting in higher or lower levels of state capacity.

Given this theoretical point of departure, which classification scheme should be used? Below, the two most common ways to categorize non-democracies – Cheibub et al. and Geddes et al. – are compared. This comparison leads the author of this thesis to conclude that the regime classification provided by Geddes et al. is the most suitable.

4.1. Comparing regime classification schemes

Cheibub et al. argues that autocracies can be classified according to the characteristics of the "inner circles" of different regimes. Following this rule, they divide dictatorships into civilian, military and royal dictatorships. In monarchies, this "inner circle" tend to be made up of kin and extended family. In military regimes, the inner sanctum tends to be made up of officers from the armed forces. Contrary to both military and royal autocracies, however, civilian regimes do not have any "ready-made organization on which to rely" (Cheibub et al. 2010, p. 86). This means that civilian dictators quite often have a regime party that helps them to rule.

At a first glance, the classification strategy used by Cheibub et al. seem relatively similar to the one advocated by Geddes et al. The "autocratic regime dataset" constructed by Geddes et al. is a continuation of the seminal work by Geddes (1999), which defines regimes based on "the rules that identify the group from which leaders can come and determine who influences leadership choice and policy". The so-called leadership group "makes key policies, and regime leaders must retain the support of its members to remain in power, even though leaders may also have substantial ability to influence the group's membership" (Geddes et al. 2014, p. 314-315).

With this as their guidance, Geddes and her co-authors divide the world of non-democracies into party-based autocracies, military regimes, personalist regimes, monarchies, oligarchic,

[5] There are, of course, other categorization schemes as well. See, for example, Hadenius and Teorell (2007).

indirect military, or hybrids[6] of the first three. The data-set constructed by Geddes et al. also includes a simplified categorization, where only the four main regime-types – party-based, military, personalist, and monarchy – are included (more on this in section 6 and 8 below).

In party-based autocracies, leadership selection, the control of policy and over the security apparatus resides with a ruling party. In military regimes, the same role is played by the military, and in monarchies by the royal family. In personalist regimes, the ruling group is smaller than in other regime-types, and is tied much more closely to the individual dictator. Oligarchy refer to regimes where leaders are selected in competitive elections, but where a majority of the population is disenfranchised[7]. The classification "indirect military rule" is used to capture regimes where political leaders formally are chosen by elections, but where the military nevertheless controls key policy choices and or actively prevents certain parties to participate in the election.

Table 1 Regime classification schemes

Cheibub et al. (2010)	*Geddes et al. (2014)*
Civilian dictatorships	Party-based autocracies
Military dictatorships	Military autocracies
Royal dictatorships	Personalist autocracies
	Monarchies

Note: The four regime-types in the right column refers to the *simplified* regime categorization provided by Geddes et al.

The first thing that one notes when comparing the two classifications schemes (see table 1) is that Cheibub et al. do not distinguish between party-based autocracies and other types of civilian regimes. What about, for example, the "strong-man rulers" in many countries in central Asia, who took power after the collapse of the Soviet Union? In Cheibub et al. classification, Azerbaijan and Tajikistan of today are coded as civilian regimes – but so is China, which is ruled by the Chinese communist party. In the data-set constructed by Geddes et al., China is coded as a party-based autocracy, while Azerbaijan and Tajikistan are labeled "personalist" regimes.

Another difference between the two classification systems is seen in how they treat the category "military regimes". Despite what at a first glance seem to be relatively similar definitions, Cheibub et al. code more than twice as many country-years as military regimes than Geddes et al. does. For example, while the rule of Mobutu in Zaire is coded as a military regime by Cheibub et al., Geddes et al. classifies the regime as personalist. The same goes for Idi Amin's rule in Uganda – a military regime according to Cheibub et al; a personalist regime in the eyes of Geddes et al.

Commenting specifically on the case of Uganda under the reign of Idi Amin, Geddes et al. (2014, p. 323) writes that they coded the regime as personalist "because Amin marginalized most of the military from decision making". This quote is revealing: For a regime to be coded as military according to Geddes et al. *the military as an institution* must have substantial influence on policy, and some ability to constrain the ruler. A typical example is the military junta governing Brazil between 1964 and 1985, "in which senior officers, in consultation with a small number of civilians, picked each successive president in keeping with rules specified

[6] For example, Chile under Augusto Pinochet is coded as "military-personal", and Cuba during Fidel Castro's reign is coded as "party-personal".
[7] Oligarchic regimes make up a very small percentage of total country-years in the dataset constructed by Geddes et al. South Africa under *apartheid* is probably the most prominent example of this regime-type.

by the institutions of the authoritarian regime" (Geddes 1999, p. 124). A country where the dictator came to power through the military, but who then consolidated power around his own person and marginalized the armed forces from decision making, will be coded as a personalist regime by Geddes et al. By contrast, Cheibub et al. codes all regimes where the "effective head" of government *is a current or past member of the armed forces* as a military regime (2010 p. 87).

The usage of the personalist regimes-category also has implications in other cases. For example, although Juan Perón in Argentina founded the Justicialist Party to support him, he nevertheless maintained "a near monopoly over policy and personnel decisions" (Geddes 1999, p. 124). Thus, Argentina in the early 1950's is coded as a personalist regime by Geddes et al., and not as a party-based regime.

The distinction between personalist regimes – where power is concentrated in the hands of one individual – and other regimes, where an organization of some kind can constrain the ruler, plays an important role in this thesis theoretical argument for why some autocracies display higher levels of state capacity than others. Thus, for this particular thesis, the regime classification scheme provided by Geddes et al. is deemed superior.

5. How may regime-type affect state capacity?

There are many theories that aims to explain the great variation in state capacity seen around the world (see, for example Besley & Persson 2009). However, since this thesis concerns the effect of *regime-type* on state capacity, many other types of explanations are left out of this theoretical section[8].

Having surveyed the literature on autocracies and on state capacity, the author of this thesis finds three factors that seems highly relevant: The time-horizons of the ruler; the dictator's incentives for investing in a sophisticated tax-system, and the dynamics between the dictator and other parts of his "inner circle", or ruling elite.

Below, each of these three factors is described one-by-one in relation to the different regime-types used by Geddes et al. The section end with a summary of the theoretical argument and a hypothesis.

5.1. Rulers' time-horizons

With inspiration from economics, it is increasingly common to view state capacity as an *investment problem* (Besley & Persson 2011). To create – for example – an effective taxation system, the regime must invest resources that could have been used for something else "right now", in the hope that the taxation system will bring higher yields sometime in the future.

This way of thinking about state capacity – as something that the regime in power may choose to "invest in" – fits nicely with the overall understanding that the state apparatus is something that is being built up gradually over time (see for example Fukuyama 2004b). One example of this is D'Arcy and Nistotskaya's (2016) work with creating an indicator for states' monitoring

[8] In other words, just because this thesis deals with political regimes as a predictor of fiscal capacity, this does not mean that this is the only – or, for that matter the most important – factor explaining the strength and reach of the state. Other predictors often found in the literature include, for example, the history of "stateness" and of international wars, economic structure, and dependency on aid.

capacity. Using the extent and quality of cadastral records, the indicator they create is not so much the "flow" of state capacity, as its "stock".

Thinking of state capacity as an investment problem then leads to the question: Why do certain non-democratic regimes invest in higher levels of extractive capacity than others?

A literature review suggests that a crucial factor influencing investment decisions is ruler's time horizons and discount rates (see for example Levi 1988) – i.e. to what extent the ruler value the future relative to the present. As put by Besley and Persson (2011, p. 40), "incumbents weight the present costs of investing against uncertain future expected benefits".

Of course, by definition dictators do not have to worry about being ushered out of power through democratic elections. However, this does not mean that all non-democratic regimes are equally stable. On the contrary, a large body of research shows that some types of autocratic regimes are clearly more durable than others (Haggard & Kaufman 1995; Geddes 1999; Geddes et al. 2014). In short, military regimes are the most short-lived, followed by personalist regimes. Party-based regimes are comparatively long-lived, but not as durable as the monarchies that survived the first decades after the World War II[9].

Leaders in regimes which – on average – tend to survive for longer periods also tend to have longer time-horizons. Thus, we would expect such regimes to invest more in state capacity.

However, while regime duration may serve as a proxy for rulers' time horizons (see for example Lapuente & Nistotskaya 2009), it is not the whole story in autocracies. One reason is that the way autocratic leaders are treated after they are removed from power also differs a lot depending on the type of dictatorship. As shown by Geddes et al. more than two thirds (69 %) of leaders in in personalist dictatorships face either exile, imprisonment or death[10] when ousted from office. A similar fate happens to dictators in party-based autocracies only 37 percent of the time. Military regimes and monarchies are somewhere in between. Moreover, personalist regimes very rarely survive if the leader himself is removed from power. Party-based autocracies and monarchies, however, are much better at transferring power from one person to another.

Moreover, the individual dictator in party-based regimes can hope to live a "good life"[11] even after he or she steps down from power, since there are institutions in place to ensure the transfer of power and the continuation of the regime. Even in the event of a regime collapse, leaders in party-based autocracies are more likely than not to have a "good life" after they leave office. Thus, the leader of a party-based regime that has ruled for twenty years will likely have a longer time-horizon that the leader of a personalist regime that has been in power for the same amount of time.

For this reason, we would expect monarchies and party-based autocracies to invest more in taxation capacity than other regime types.

[9] In the full dataset constructed by Geddes et al., covering the period 1946-2010, the mean regime-duration for military regimes is 7 years (the range going from 1 to 26). The mean-duration for personalist regimes is 12 (1-48), 23 for party-based autocracies (1-85) and 54 for monarchies (1-269).

[10] This refers to unnatural deaths. In other words, a dictator who is removed from power because he died of natural causes is not included in this category.

[11] In this context, having a "good life" means not being killed, imprisoned or exiled.

5.2. Incentives to invest in fiscal capacity

Another type of explanation focuses on rulers' *incentives*. Put differently, do certain types of non-democracies have a bigger interest in building a refined tax-collecting system than others?

At a first glance, the question may seem strange. A sophisticated tax-system means that the dictatorships can extract resources from their population more effectively. Which dictator would not want that? There are, however, some theoretical reasons for believing that the incentives to construct an advanced tax-system are conditioned by regime-type.

As mentioned in the section above, military regimes are – on average – the most short-lived regime-type. According to Geddes (1999), this is in no small part due to the fact that military regimes are not primarily interested in governing[12]. In fact, Geddes argues that the standard assumption that rulers of all kinds want to remain in power may be disregarded when it comes to military regimes (1999, p. 125). This is because professional soldiers the world over – despite the huge cultural, ethnic and socioeconomic differences between them – tend to value the efficacy and survival *of the military itself* more than anything else (DeCalo 1976; Kennedy 1974).

The reason for a military take-over is often either the fear of civil war – which risks putting soldiers of the armed forces against one another – or that the privileges and resources of the military itself appears to be threated. If conflicts within a military regime becomes overly aggravated, most officers would rather "return to the barracks" than fight and kill fellow soldiers. If the military receives guarantees from a would-be civilian government that their privileges will remain intact[13], they will often accept stepping down from office.

For this reason, military officers are unlikely to have any great interest in building up the state's extractive capacity. Their primary objective is to preserve the military as an institution, not to rule the state.

Both personalist and party-based regimes differ from military autocracies in that both types of regimes *want to rule*. Moreover, both personalist and party-based regimes maintain their grip on power in part by distributing resources and services to key social groups in society (Bratton & van de Walle 1997). Since these resources must come from somewhere, these regimes have a clear incentive to increase the effectiveness of the tax-system.

However, personalist and party-based regimes differ from one another when it comes to *the size of their support groups*. In personalist regimes, the "selectorate" (Bueno de Mesquita et al. 2003) tend to be quite small. As put by Geddes (1999, p. 133) personalist regimes "distribute benefits and office to a smaller proportion of citizens than do single-party regimes, and the group of beneficiaries is more likely to be dominated by a single familial, clan, ethnic, or regional group". In contrast, party-based often rely on a broader segment of the population for support and are less likely – compared to personalist regimes – "to limit their clientele to particular clan, regional, or ethnic groups" (1999, p. 134).

[12] Of course, many military take-overs have resulted in more long-lived dictatorships, where an officer centralizes power around himself and stays on. In Geddes et al. terminology, however, this represents a shift from a military to a personalist regime.

[13] Such guarantees are often given. Civilian government who returns to power after a period of military rule are often keen to "keep the military happy".

Because of these differences, party-based autocracies have even greater incentives than personalist regimes to build up an effective tax-system. Since party-based regimes depend on broader segments of the population for support, they also need to generate more revenue than personalist regimes. Personalist regimes can often keep their small support-group happy – and their leaders can often live in luxury – even with the modest revenue streams collected by a more primitive extractive system.

To summarize, party-based autocracies have the greatest incentives for investing in the extractive capacity of the state, followed by personalist regimes. Military regimes have weak incentives to build up the state apparatus in any way, apart from the military. Fundamentally, they are rarely interested in ruling at all. Lastly, it is hard to find theoretical arguments one way or the other for monarchs' incentives[14].

5.3. Regime institutions: Dynamics between leaders and elites

As argued in previous sections, high levels of taxation capacity require a sophisticated administrative apparatus. This is especially true for the collection of income taxes, which, in the words of Piccolino (2015, p. 3), "require fine-grained information on social and economic activities".

However, this information is obviously not gathered and systematized by the rulers themselves. As put by Greif (2007) the aspirations of rulers "are nothing but a wish without an administration to implement them". In other words, in order to build up an effective administrative apparatus – capable of collecting and synthesizing different kinds of information about the populations economic activities in order to tax them – dictators must delegate some power to competent advisors. This, however, is far from easy.

In Frantz and Ezrow (2011), a simple theoretical model is presented which aims to explain variation between autocracies. Drawing upon the regime distinction first developed by Geddes (1999) the idea is that the institutional setup of regimes affect *the relationship between the leader and the "elite coalition"*.

In certain autocracies – such as military or party-based regimes – the dictator cannot singlehandedly choose the people who make up the inner circle of the regime. He, too, must adhere to the military or party organization, which tends to have rules and procedures for how people are chosen for different positions, how policy decisions are made, and so on. In personalist regimes, by contrast, the dictator is more or less free to fill the cabinet and other powerful positions with his own lackeys. Just as important, personalist dictators are also free to dismiss – and sometime even exile or kill – members of their elite coalition if they displease him.

These institutional differences between regimes have huge implications, for several reasons. As shown by Egorov and Sonin (2011) many dictatorships face a trade-off between competence and loyalty in their subordinates. The reason is straightforward: Even though all dictators would like to have competent agents working for them, more competent subordinates also pose a threat to the ruler. Capable bureaucrats and high-ranking officials may start to build up their own power-base within the regime, with the long-term goal of replacing the dictator with themselves. Or they may choose to side with a rival to the dictator, which – because of their competence and deep information about the inner workings of the

[14] This appears to be a large research gap. Filling it, however, goes beyond the boundaries of this thesis.

system – may very well be the thing that tip the scales in the rivals' favor. The counteract this, many rulers "sacrifice the competence of their agents, hiring mediocre but loyal subordinates" (Egorov & Sonin 2011, p. 903). In short, paranoia and fear lead dictators to rely not on the most able, but instead on the most trustworthy servants.

It is not hard to find anecdotal evidence for such a "competence loyalty trade-off". Young and Turner (1985) tells us the story of how Mobutu in 1978, just overnight, fires nearly 10 % of all officers because he doubted their loyalty. Thompson (1998) describes how the chauffeur of Philippine's dictator Ferdinand Marcos was appointed chief of all security forces. And Gordon and Trainor (2006) explains how Saddam Hussein – despite external threats to the regime – put incompetent (but loyal) administrators in key positions because he feared a plot against him.

Another kind of argument – but with similar consequences – is presented by Wintrobe (1998). According to him, autocratic rulers are often faced by an information problem which he calls the "dictators dilemma". In short, the idea is that subordinates in an autocracy are unwilling to share their information with the dictator since they may fall in disgrace if delivering bad news. For this reason, servants of all kinds will tell the dictator what he wants to hear – but because the dictator understands this, he will not trust any information given to him. This argument is developed further by Papaioannou and van Zanden (2015), who claims that this "disinformation trap" is one of the key reasons for bad economic decision making in many dictatorships.

Frantz and Ezrow argue – and present some empirical results indicating that this is the case – that the problems identified by Wintrobe, Egorov and Sonin are especially salient in personalist regimes[15]. In such a regime – where loyalty and position is tied *to the individual dictator*, who concentrates almost all power to himself personally – fear is often a constant part of the inner life of the regime. High officials are afraid to bring bad news to the dictator; the paranoid ruler, in turn, fears plots and treason from all sides. In such instances, regime personnel are typically "rotated frequently to prevent them from developing autonomous bases of support, and erstwhile supporters who become rivals or dissidents are quickly and unceremoniously excluded from office, influence, and sometimes life" (Geddes 1999, p.133).

In other types of dictatorships, however, this is not necessarily true. Military and party-based regimes – as classified by Geddes et al. – are characterized by the fact that members of the leadership group can constrain the executive. Conflicts, disagreements and power struggles are mediated by the institutions in place. To various extent, it is the military or party *as an institution* that governs in such regimes. Thus, high ranking bureaucrats in a party-based regime tend to be loyal to the party rather than to the individual leader. The individual dictator in such regimes – powerful as he may be – may not be able to single-handedly remove a high-ranking official who displeases him. And a bureaucrat who falls out of favour with the ruler is less likely to risk exile or death than in personalist regimes.

[15] Egorov and Sonin note themselves that the "competence-loyalty trade-off" is an especially severe problem in certain kinds of autocracies, namely what they – following Linz and Chehabi (1998) – calls "sultanistic regimes". Examples include Nguema in Equatorial Guinea, Duvalier in Haiti, Idi Amin in Uganda, Mobutu in Zaire, Batista in Cuba and Marcos in the Philippines. As put by the authors "each of the regimes has been characterized by the selection of dictator's subordinates based on personal loyalty". Although Egorov and Sonin do not cite Geddes themselves, the similarity between Linz and Chehabi's "sultanistic regimess" and Geddes et al. "personalist regimes" is obvious.

For this reason, the problems described above are likely less severe in military and party-based regimes. Monarchies fall somewhere in between. In monarchies, power resides in a single individual, the king. However, the extended royal family and the court may act as a constraint on the executive. Unlike personalist regimes, monarchies also have an established way of transferring power from one person to the next, meaning that the ruler's fear of being overthrown in a coup from within are lower in monarchies than in personalist regimes.

Taking the dynamic between dictators and administrators into account, we expect military and party-based regimes to display higher levels of state capacity, compared to personalist regimes.

5.4. Summary of theoretical argument & hypothesis

Because it is hard to rank the three factors described above in any meaningful way – that is, it is not obvious if time-horizons matters more than incentives; if the dynamic between the dictator and his elite coalition is more important than the other two factors, etc. – it is very hard to theoretically predict exactly how each regime-type perform in terms of taxation capacity.

Based on the discussion presented above, I argue that, compared to other autocracies, party-based autocracies have the most effective taxation system. They have strong incentives to invest in the extractive capacity of the state (since they need revenue to distribute to a broad segment of the population), they have long time-horizons, and because of the highly institutionalized nature of the regimes, they avoid the fear, incompetence and bad information that plagues many other dictatorships.

Military regimes are also institutionalized, but tend to have short time-horizons and lack incentives to increase taxation capacity. Personalist regimes have shorter time-horizons than party-based autocracies, and because they are characterized by fear and mistrust, have great trouble creating a functioning administration. Monarchies are expected to end up somewhere in between.

This leads to the following hypothesis:

> *H1. Compared to other types of autocracies, party-based regimes are associated with higher levels of fiscal capacity.*

6. Data and research design

As explained in the theoretical section above, income taxation is used as a proxy for the effectiveness of the taxation system. More precisely, the indicator used is the amount of money raised from income taxes as a percentage of GDP, for each given year. The variable comes from the ICTD Government Revenue Dataset (Wilson Prichard & Goodall, 2014). Because of the skewness of the distribution, the variable is logged.

The main independent variable – regime-type – is taken from the autocratic regime data-set constructed by Geddes et al. (2014). More precisely, I employ the simplified version of the regime-classification, which means that only the four "pure" categories party-based, military, personalist and monarchy is used. This means that hybrid-regimes and subgroups are also classified as belonging to one of these four groups. Specifically, "party-personal-military", "party-personal" and "party-military regimes" are all coded as party-based autocracies, as are

oligarchic regimes. "Military-personal" and "indirect military regimes" are coded as military. Since the regime-categories are mutually exclusive, they are represented by four dummy-variables, which take on the value of "0" or "1".

The variable regime-duration – which measure the number of years the regime has been in power at any given year – is also taken from Geddes et al. (2014). Regime-duration is an important control, because we expect regimes with longer time-horizons to invest more in state capacity. Although regime duration is not a perfect measure of time-horizons – as explained in the theoretical section above – it tells us something about how short-sighted rulers are. Due to the skewness of the distribution, this variable is also logged.

Several other controls are also included: Richer countries are likely more able to afford the costly enterprise of building up an effective extractive apparatus. Therefore, GDP per capita (Gleditsch 2002) is included. Theoretically, we would expect more densely populated areas to be easier to tax. For this reason, I control for population density (Word Bank 2016). Furthermore, many studies (see for example Chaudhry 1997) have shown that abundant easily extracted natural resources leads to a less developed tax system. Thus, oil-rents relative to GDP (World Bank 2016) is another control. In a similar vein, dependency on foreign aid can cause regimes to under-invest in taxation capacity (see Bräutigam et al. 2008). Thus, I also control for received aid as share of GDP (Williamsburg, 2016). Due to the skewness of the distribution, these variables are all logged.

One potential weakness with the regime classification offered by Geddes et al. is that the "party-based regime" category may refer both to single-party states – where only the ruling party is allowed – and to what many scholars refer to "electoral authoritarianism" (Schedler 2015). Such regimes may have elections of some kind, but are nevertheless not deemed democratic[16]. De facto power still resides within one party. In order to capture the difference between single-party states and "electoral authoritarian" regimes, I follow Charron and Lapuente and include the political rights variable from Freedom House (2016). The variable is inverted, meaning that higher values indicate more political freedom.

Since state capacity is something that is being built up gradually over time, many scholars argue that historical legacies are important predictors for present day levels of capacity (see, for example, Acemoglu & Robinson 2012; Broms 2016; D'Arcy & Nistotskaya 2017). I control for the history of "stateness" using the state antiquity index[17] constructed by Putterman (2007).

In a similar vein, Tilly (1975; 1992) has famously argued that the main driver behind European states' efforts to construct an effective tax system was war. A hostile international environment meant that states needed bigger and better armies. In order to achieve this, they had to find new and more effective ways to tax their population. This, in turn, lead to more money spent on the military, prompting other states to invest even more in their extractive capacity. In order to capture the potential influence of historic wars on present day levels of

[16] Elections may be rigged; the mass media not allowed to report freely; freedom of organization may not be respected, etc.

[17] The state antiquity index exists in a number of versions, with different discounting rates (0, 1, 5, 10 and 50 %). A higher discounting rate means that the distant past is deemed less important compared to the recent past. In this thesis, the state antiquity index with a 10 % discounting rate is used. Although one can debate which discounting rate that is the "right one", all version of the state antiquity index except the one with a 50 % discounting rate correlate with one another above the 0,9 level.

taxation capacity, I include the number of years each country has been involve in inter-state wars between 1816 and 1979, taken from the Correlates of War Project (Sarkees & Wayman 2010). This variable is also logged.

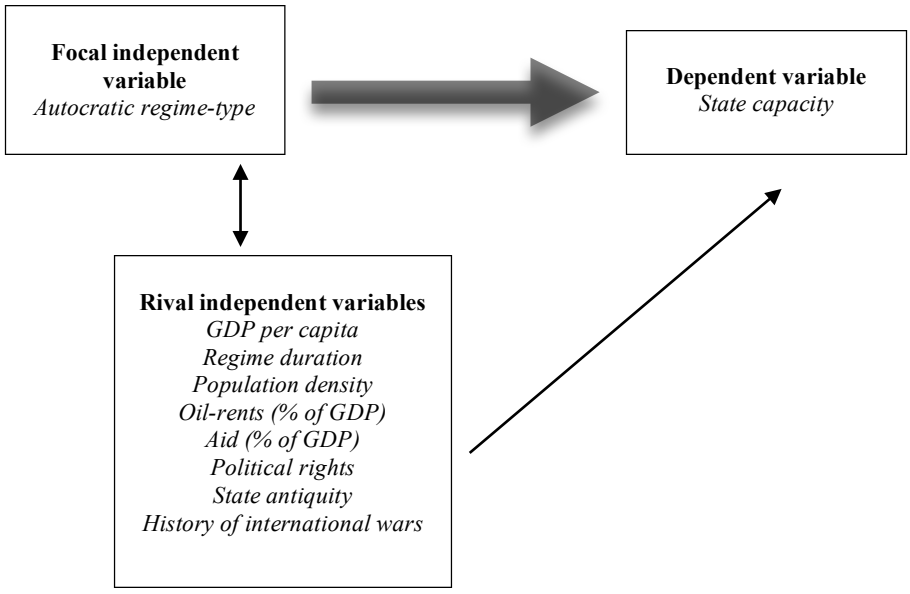
Since it is very unlikely that authoritarian regimes are just randomly spread throughout the world, regional dummies (Hadenius & Teorell 2007) are also used as controls. Summary statistics for all variables used in the regressions can be found in the appendix (Table 5).

To test the hypothesis, I employ a linear cross-sectional, time series model using random effects[18], correcting for first order autocorrelation (AR 1). The method to compute autocorrelation is based on Durbin-Watson. The statistical software used is STATA.

The main reason for using a time-series model is the possibility of change in the main independent variable over time – i.e. the regime-type in a given country may change – as well as changes both upwards and downwards in other variables over the years. In order to at least party tackle the problem of reversed causality, all independent variables are lagged one year. This means that the value of a predictor – for example regime-type – for the level of income taxation in year q, is taken from the previous year (q-1). The logic behind this is simple: if X is supposed to have a causal effect on Y, then X must happen before Y in time. Lagging all predictors follows the practice in previous research (see for example Bäck & Hadenius 2008).

Lastly, all models – although not displayed in the regression tables or figures below – include year-dummies for all years in the sample except the first one. The inclusion of year-dummies – i.e. year-fixed effects – aims to control for aggregate time-series trends. Put differently, it could be the case that both my dependent and independent variables move up- or downwards over time due to some global trend. If that was the case and we failed to include year-fixed effects in the regression, we may mistakenly interpret a correlation as a causal relationship.

Figure 1 Illustration of the model



[18] A Hausmann-test clearly indicated that random effects should be used.

6.1. Sample

The source of my independent variable – the autocratic regime data-set – covers all country-years in the post second world war-era, up to 2010. Data on revenue from income taxes from the ICTD dataset, however, are only available as far back as 1980. This means that the time-period is restricted to 31 years, from 1980-2010.

Moreover, as is common in comparative politics, data is often missing for some observations. For example, even if we have information on regime-type for a certain country-year, it is not certain that we have data on income-taxation for the same country-year. This problem tends to get bigger the more control-variables one enters in a regression. Thus, it is very common that the first model in a regression table (often including only the main independent variable) has a much higher N than the last displayed model (including all control-variables).

Although this is very common – even in peer-reviewed articles – it is not ideal. What we in fact are doing when comparing two such models with one another is comparing two regression models *based on different samples*. To counteract this problem, all main regression models in this thesis will have the same N (the largest number of observations for which there is data on all independent and dependent variables): 1041 country-years.

However, there is still the possibility that this sample of 1041 observations is in some fundamental way different compared to the population as a whole. In the last section, where I discuss the regression results, I come back to the question of whether the sample bias the results in any way, and how it may affect the interpretation of the results.

7. Results

The regression results are presented in table 2 below. The focal relationship is displayed in model 1. Since the main independent variable – autocratic regime-type – is represented by dummy-variables, one of the regime-types is excluded from the regressions. In these models, the excluded dummy-variable is party-based regime. This variable is the reference-category, meaning that the coefficients for the other regime-types is interpreted *as the change in the dependent variable when moving from a party-based autocracy to another type of dictatorship*.

The coefficients for personalist and military regimes are both statistically significant and negative. Compared to party-based autocracies, personalist and military regimes collect less money in income taxes. The fact that the dependent variable is logged means that a one unit change in the independent variable (i.e. going from a party-based autocracy to another type of autocracy) should be interpreted as a 100 * the coefficient % change in the dependent variable. In other words, according to Model 1 personalist regimes derive 21 % less money in income taxes as share of GDP then do party-based autocracies. Military regimes collect roughly 25 % less money in income taxes compared to party-based dictatorships. This should be seen as substantial effects.

The coefficient for monarchies, however, is not statistically significant. Thus, we cannot draw any conclusions about systematic differences between monarchies and party-based autocracies when it comes to income taxation.

Table 2 Regression results

Income-taxes (log)	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Personalist	-0.21**	-0.203**	-0.207**	-0.203**	-0.202**	-0.224**
Military	-0.254***	-0.289***	-0.289***	-0.291***	-0.292***	-0.278***
Monarchy	-0.066	-0.058	-0.056	-0.045	0.003	0.082
GDP pc. (log)		0.178***	0.179***	0.184***	0.183***	0.189***
Regime duration (log)		-0.031	-0.031	-0.03	-0.03	-0.033
Population density (log)		0.01	0.012	0.016	0.029	0.064
Political rights			-0.014	-0.014	-0.015	-0.012
Oil-rents (log)				0.006	0.008	0.005
Aid, share of GDP (log)				0.008	0.008	0.009
Years of international wars (log)					0.056	0.053
State antiquity index (10 % disc)					-0.0008	-0.0008
Region, Eastern Europe / USSR						0.172
Region, Latin America						-0.253
Region, MENA						0.007
Region, East Asia						0.421
Region, South East Asia						-0.181
Region, South Asia						-0.594*
Constant	1.135	-0.187	-0.163	-0.28	-0.148	-0.259
R^2 (overall)	0.08	0.20	0.20	0.20	0.21	0.28
Observations	1041	1041	1041	1041	1041	1041
Countries	80	80	80	80	80	80
Years (maximum)	30	30	30	30	30	30

*p≤0.05 **p≤0.01 ***p≤0.001
All models include dummies (not reported in the table) for all years in the sample except one (1980).
The reference-category for regime-types is party-based regimes. The reference-category for regions is Sub-Saharan Africa.

In model 2, some additional controls – GDP per capita, regime duration and population density – are introduced. The coefficients for personalist and military regimes are still statistically significant, and the size of the effects remain substantially the same. As before, the effect of being a monarchy compared to a party-based autocracy is not statistically significant.

While regime duration and population density are not statistically significant, GDP per capita is. As expected, the coefficient is positive, meaning that richer countries collect more money in income taxes. The overall R^2 increases substantially in Model 2 compared to Model 1, which probably is due to GDP per capita being an important predictor for income tax collection.

Model 3 introduces political rights as a control. However, the coefficients from Model 2 stay more or less the same. Personalist and military dictatorships are still statistically significant, while monarchies are not. Political rights is not statistically significant, meaning that the extent of political freedom doesn't matter for income tax collection one way or the other.

Model 4 and Model 5 introduces even more controls: Oil-rents, received aid, state antiquity and history of wars. Despite these additional controls, military and personalist regimes are still statistically significant and negative, compared to party-based autocracies. The size of the effects is also rather similar compared to the first model – the main difference being that the coefficient for military regimes has gone from -0.254 in Model 1 to -0.292 in Model 5. As in previous models, monarchies are not statistically significant. GDP per capita remains the only significant control variable.

Lastly, Model 6 also include regional dummies. Here, the reference category is Sub-Saharan Africa. As before, military and personalist autocracies are statistically significant, while monarchies are not. The negative coefficients for personalist and military regimes are relatively similar to previous models (-0.224 and -0.278 in model 6). The effect of GDP per capita is still significant and positive. The only new control-variable that is significant is the regional dummy-variable for South Asia. In Model 6 – with the introduction of regional dummies – the overall R^2 increases to 0,28.

To summarize, party-based autocracies have higher levels of income-taxation compared to personalist and military regimes in all different model specifications. The difference between party-based dictatorships and monarchies, however, is not statistically significant. Thus, we find strong support for the hypothesis (H1) in the data.

8. Discussion

Based on Figure 2 (see appendix), and the fact that the regressions presented in section 7 already corrects for serial autocorrelation, heteroscedasticity does not appear to be an issue. The correlation matrix (Table 9, appendix) as well as further tests (STATA's *variance inflation factor* command) indicate that multicollinearity is not a problem either. However, several other factors that may affect the interpretation of the results also needs to be discussed.

As touched upon in section 3 above, a potential weakness in the research on state capacity is that it often tries to measure the *capability* of the state by looking at various *outcomes*. This can be a problem, because even if a certain actor has the ability to do something, he or she may not necessarily choose to do it.

This criticism could be levelled at this thesis as well. One could argue that the results above shows not that party-based autocracies display higher levels of taxation *capacity* than other dictatorships, but merely that they have a *preference* for higher taxes. A possible way to at least partly counteract this criticism would be to include a control-variable that captures regimes' policy preferences (D'Arcy and Nistotskaya 2017). If certain regime-types collects more money in income taxes than others, even when controlling for tax policy, this would be a very strong indication that the variation in collected income taxes is due to variation in the fiscal capacity of states, and not due to a variation in preferences. However, data on top marginal tax rates exists only for a small number of countries (D'Arcy and Nistotskaya look specifically at Europe, meaning that they can utilize the European Union data), which makes it impossible to include this as a control in the thesis.

The expansion of the tax policy data to autocracies would be one of the several possible avenues for future research. Until then the results of this analysis should be interpreted cautiously.

8.1. Potential selection bias

It is by now a well-established fact that many studies in comparative politics that investigates the effects of political regimes are highly sensitive to selection bias. One notable example is Ross (2006), who argued that many of the studies claiming to show that democracy has a positive effect on the welfare of the poorest in society are in fact driven by the exclusion of "high-performing" autocracies from their data. Given this, how certain can we be that the

results presented above are not just the product of a very particular sample, that differ in some fundamental way from the population as a whole?

Although it is not entirely clear how to define the population (all autocratic country-years since the beginning of human civilization?) we can easily compare the sample of 1041 observations with all non-democratic country-years included in the autocratic regime data-set for our chosen time-period, 1980-2010. The difference is displayed in Table 3 and 4.

Table 3 Population of autocratic country-years, 1980-2010

	Eastern Europe / USSR	*Latin America*	*MENA*	*Sub-Saharan Africa*	*East Asia*	*Southeast Asia*	*South Asia*	*Total*
Party	148	80	148	428	97	175	33	1109 (48,3%)
Personalist	136	25	86	429	0	7	12	695 (30,2%)
Military	0	75	21	96	8	42	19	261 (11,4%)
Monarchies	0	0	186	31	0	0	16	233 (10,1%)
Total	284 (12,3%)	180 (7,8%)	441 (19,2%)	984 (42,8%)	105 (4,6%)	224 (9,7%)	80 (3,5%)	2298 (100%)

Source: Geddes et al. (2014) Autocratic regime dataset. The regional divisions come from Hadenius and Teorell (2007).

Table 4 Sample of autocratic country-years 1980-2010

	Eastern Europe / USSR	*Latin America*	*MENA*	*Sub-Saharan Africa*	*East Asia*	*Southeast Asia*	*South Asia*	*Total*
Party	18	49	81	220	14	66	15	463 (44,5 %)
Personalist	89	18	11	206	0	1	0	325 (31,2 %)
Military	0	37	19	74	8	10	18	166 (15,9 %)
Monarchies	0	0	52	19	0	0	16	87 (8,4 %)
Total	107 (10,3 %)	104 (10 %)	163 (15,7 %)	519 (49,9 %)	22 (2,1 %)	77 (7,4 %)	49 (4,7 %)	1041 (100 %)

Source: Geddes et al. (2014) Autocratic regime dataset. The regional divisions come from Hadenius and Teorell (2007).

As shown in Table 3, there was a total of 2298 non-democratic country-years in the period 1980-2010, according to Geddes et al. classification. The total number of observations used in the regressions in section 7 is 1041 (Table 4), which represents slightly less than half (45 %) of all observations in the population.

More interestingly, however, is whether there are any big, systematic differences in the relative importance of regime-types or regions between sample and population. At a first glance, this does not seem to be the case. The relative importance of different regime categories is roughly similar between the sample and the population: Party-based autocracies

and monarchies are slightly underrepresented, while military regimes are overrepresented (15,9 % of all observations in the sample, compared to 11,4 % in the population). The proportion of personalist regimes is very similar in the sample and in the population.

Eastern Europe / former USSR account for 10,3 % of all observations in my sample, and 12,3 % of all observations in the population. Latin America accounts for 10 % (compared to 7,8 % in the population) and the MENA-region for 15,7 % (19,2 % in the population). Africa makes up almost half of all observations in my sample (compared to 42,8 % in the population). The relative weight of Southeast Asia and South Asia is also rather similar in the sample and the population. One region however – East Asia – is heavily underrepresented. Representing 4,6 % of all observations in the population, this drops to 2,1 % in the sample. In percentage-points this is not a big difference, but in relative terms it is. The actual number of country-years in East Asia drops from 105 in the population to 22 in the sample (almost an 80 % decrease).

When we look at the various *regime-types within regions*, we notice some major differences between the sample and the population. The first thing that stands out is that the number of party-based autocratic country-years in Eastern Europe / USSR is very low in the sample (18), compared to the population (148). This is because almost all of the communist dictatorships in Eastern Europe / USSR-region are excluded from the sample[19].

Secondly, both monarchies and especially personalist regimes in the Middle East are underrepresented. Personalist regimes such as Yemen under president Saleh and Iraq under Saddam Hussein, as well as monarchies such as Saudi Arabia, Kuwait and the United Arab Emirates are absent from the sample[20]. Thirdly, party-based regimes in East Asia are decidedly underrepresented (14 country years in the sample compared to 97 in the population). This is because Taiwan and North Korea are absent in the sample, and China and Mongolia and are only represented with a couple of years.

Could the omitted observations lead us to under- or overestimate the effect of regime-type on taxation capacity? Although we cannot know for certain, we can make some qualified approximations.

In the government revenue dataset, many of the communist dictatorships of Eastern Europe / USSR are among the best of all non-democratic countries at collecting income taxes. Thus, we can be certain that the empirical results presented above – showing that party-based regimes exhibit higher levels of taxation capacity than most other types of dictatorships – are not driven by the "high-performing" communist dictatorships of Eastern Europe. On the contrary, there is strong reason to believe that the effect of being a party-based dictatorship would be even stronger if the sample included more observations from countries such as Poland, Bulgaria and the USSR.

[19] Even in the population as a whole, the number of party-based autocratic country-years in Eastern Europe / former USSR-region may seem low (148). This is because many countries which are today independent states – such as Estonia, Latvia and Lithuania – were part of the USSR during the period 1980-1991. Thus, they are not included in the autocratic dataset.

[20] The fact that so many monarchies are dropped from the sample may be the biggest problem, since this is the least common form of autocracy. The sample only includes four monarchies – Jordan, Morocco, Nepal and Swaziland - which together make up 87 of the 1041 observations.

While income taxation data is lacking for Iraq, Taiwan or North Korea, we know that the monarchies clustered around the Persian Gulf – such as Saudi Arabia, Kuwait and United Arab Emirates – have virtually no revenue coming from income taxes at all. Thus, it is not impossible – although we cannot be certain – that the contrast between party-based autocracies and monarchies would increase if the "low-performing" monarchies of the Persian Gulf were included in the sample. As it is, the sample of 1041 observations include only four royal dictatorships: Morocco, Swaziland, Jordan and Nepal. Two of these – Morocco and Swaziland – collect rather large sums of money in income taxes, while the opposite is true for Jordan and Nepal. The low number of cases is likely the reason for why monarchies were not statistically significant in any of the model specifications.

Another possibility is that the results presented in the section above is a consequence of the specific time-period chosen (1980-2010). For example, would the results change if the sample covered the whole period – assuming data was available – of 1946-2010?

As shown by Geddes et al. (2014) the distribution of different autocratic regime types varies a lot over the post second world war era. For example, the prevalence of military regime peaked around 1980 and declined from there on. Party-based autocracy has remained the most common form of dictatorship for the whole period 1946-2010, but nevertheless declined by half after the end of the Cold War. By contrast, the proportion of personalist regimes has increased continuously since 1946, so that they today rival dominant-party rule as the most common form of dictatorship. The proportion of monarchies has remained more or less constant over the same time-period.

Extending the time-period back to the end of the second world war would thus decrease the relative weight of personalist regimes, and probably slightly increase the relative weight of party-based and military regimes. It is difficult to speculate how these changes would affect the results.

8.2. Robustness check

As mentioned in section 4, Geddes et al. divides the world's non-democracies into party-based autocracies, military regimes, personalist regimes, monarchies, oligarchic, indirect military, or hybrids of the first three. However, this thesis – just as most other comparative studies that build upon Geddes et al. work – utilizes the simplified regime categorization, which collapse all regimes into the four main types dominant-party, military, personalist and monarchy.

Given the central role regime categorization plays for this thesis, I have rerun the regressions with all hybrid regimes and subtypes removed from the sample. This removes regimes that are somewhat hard to classify, and reduces the total number of observations with about 23 %. However, almost all of the dropped observations are coded as either party-based or military regimes. Military regimes are specially affected by the removal of hybrids and subtypes, going from 166 observations to 65 (see Table 7 in the appendix for details).

Table 8 in the appendix shows the regression results without any hybrid regimes. The coefficients for regime-types are significant and quite similar in terms of magnitude of the effect to those reported in Table 2. In other words, the data provides support for H1. At the same time, while the personalist regime category is still statistically significant, military regimes are not. Thus, while we can still say with confidence that party-based dictatorships display higher levels of taxation capacity than personalist regimes, we can no longer say the

same for military regimes with any certainty[21]. As in previous regressions, monarchies remain statistically non-significant.

The likely reason for why military regimes are non-significant when removing hybrid regimes and subtypes is the low number of observations (65 out of 802). The fact that the coefficients for military regimes stay quite similar both with and without hybrids and subtypes indicate that the problem is too few observations, not that the overall pattern regarding taxation capacity for party-based and military regimes is dependent on a specific sample. Put differently, I would be much more worried if the coefficient for military regimes changed dramatically – for example if the coefficient became positive, or if the size of the effect became much bigger or smaller – with a reduced sample.

8.3. Conclusion

This thesis set out to investigate if different types of dictatorships construct their state apparatuses in different ways, resulting in higher or lower levels of state capacity. Using income taxes as share of GDP as a proxy for the effectiveness of the tax system, the thesis hypothesized that party-based autocracies display higher levels of fiscal capacity compared to other forms of autocracies. The hypothesis was derived from the extensive political science literature on dictatorships and on state capacity, and focused on three factors: Rulers' time-horizons; their incentives; and how institutions shape the dynamics between rulers and their "elite coalitions".

Using a time-series analysis with panel data, covering 80 countries for the time-period 1980-2010, I found clear support for the hypothesis, even when controlling for GDP per capita, population density, state antiquity, regime duration and several others potentially important factors. However, while the results showed that military and personalist regimes clearly derived less money from income taxes than party-based regimes, the analysis showed no systematic difference between monarchies (the least common form of autocracy) and party-based dictatorships (the most common form of autocracy).

As always, the results should be interpreted with caution. The study suffers from at least three potential weaknesses: Firstly, it is possible that the dependent variable – income tax revenue as share of GDP – do not actually capture the fiscal *capacity* of the state, but rather rulers' tax *preferences*. This problem is inherent in much of the research on state capacity, since there is a difference between an outcome, and the ability to achieve said outcome. Secondly – even though I find it unlikely – it is possible that the results are driven by selection bias. Thirdly, one could also question the coding of autocratic regimes, done by Geddes et al. As the discussion in section 8.2. above suggests, the results are at least partly sensitive to regime-coding.

All these issues represent avenues for future research. For example, future research could try to include a control-variable that captures tax preferences; employ indicators that does not measure an outcome but rather the resources of the state; or increase the geographical and/or temporal scope of the study. All things considered, the variation in state capacity amongst dictatorships appears to be an important research gap. As far as I know, there exists no published studies that investigates the variation in taxation capacity amongst dictatorships. This thesis is a small contribution to this emerging strand of research.

[21] It should be noted that party-based and personalist autocracies are by far the most common forms of dictatorships in the post-Cold War era, making up more than three fourths of all dictatorships.

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10. Appendix

Table 5 Summary statistics, independent and dependent variables

Variable	*Obs*	*Mean*	*SD*	*Min*	*Max*	*Source*
Income-taxes, share of GDP (log)	1041	1.169	0.64	-2.392	2.846	ICTD Gov. Revenue Dataset
Party	1041	0.445	0.497	0	1	Geddes et al. (2014)
Personalist	1041	0.312	0.464	0	1	Geddes et al. (2014)
Military	1041	0.159	0.366	0	1	Geddes et al. (2014)
Monarchy	1041	0.083	0.277	0	1	Geddes et al. (2014)
GDP pc. (log)	1041	7.717	0.956	5.726	10.106	Gleditch (XXXX)
Regime duration (log)	1041	2.673	1.015	0	4.443	Geddes et al. (2014)
Population density (log)	1041	3.67	1.301	0.356	8.676	WDI (XXXX)
Political rights	1041	2.652	1.399	1	7	Freedom House (XXXX)
Oil-rents (log)	1041	-3.53	4.44	-7.343	4.27	WDI (XXX)
Aid, share of GDP (log)	1041	10.07	1.516	2.515	13.321	AidData (XXX) & Gleditch (XXXX)
International wars (log)	1041	0.607	0.961	0	3.584	Correlates of War Project (XXXX)
State antiquity index (10 % disc)	1041	258.45	125.414	25	512.41	Putterman (2007)
Region, Eastern Europe / USSR	1041	0.103	0.304	0	1	Hadenius & Teorell 2007
Region, Latin America	1041	0.099	0.3	0	1	Hadenius & Teorell 2007
Region, MENA	1041	0.156	0.364	0	1	Hadenius & Teorell 2007
Region, Sub-Saharan Africa	1041	0.498	0.5	0	1	Hadenius & Teorell 2007
Region, East Asia	1041	0.021	0.144	0	1	Hadenius & Teorell 2007
Region, South East Asia	1041	0.074	0.262	0	1	Hadenius & Teorell 2007
Region, South Asia	1041	0.047	0.212	0	1	Hadenius & Teorell 2007

Note: Some of the variables used as predictors have the value "0" for certain observations. This represents a problem when logging these variables, since the natural logarithm of zero is undefined. When logging such a variable, this means that an observation with the value "0" instead gets a missing value, thus leading to fewer observations overall. To counteract this, half of the smallest value greater than zero was added to all observation for the variables income taxes, GDP per capita, regime duration, population density, oil-rents and aidshare. After that, the natural logarithm for these variables was generated. For the years of international wars-variable all values were increased by one before logging.

The political rights index from Freedom House has been inverted, so that higher values indicate more political freedom.

Table 6 List of countries

Albania	Guatemala	Pakistan
Algeria	Guinea	Panama
Angola	Haiti	Paraguay
Armenia	Indonesia	Peru
Azerbaijan	Iran	Philippines
Bangladesh	Jordan	Russia
Belarus	Kazakhstan	Rwanda
Benin	Kenya	Senegal
Botswana	Korea, South	Sierra Leone
Burkina Faso	Kyrgyzstan	Singapore
Burundi	Laos	South Africa
Cambodia	Lesotho	Sri Lanka
Cameroon	Liberia	Swaziland
Central African Republic	Libya	Syria
Chad	Madagascar	Tajikistan
Chile	Malawi	Thailand
China	Malaysia	Togo
Congo	Mali	Tunisia
Cote d'Ivoire	Mauritania	Turkey
Cuba	Mexico	Turkmenistan
Egypt	Mongolia	Uganda
El Salvador	Morocco	Uruguay
Ethiopia	Mozambique	Uzbekistan
Gabon	Nepal	Venezuela
Gambia	Nicaragua	Zambia
Georgia	Niger	Zimbabwe
Ghana	Nigeria	

Table 7 Sample of autocratic country-years, without any hybrids or subtypes

	Eastern Europe / USSR	*Latin America*	*MENA*	*Sub-Saharan Africa*	*East Asia*	*Southeast Asia*	*South Asia*	*Total*
Party-based	4	29	38	168	14	58	15	326 (40,6 %)
Personalist	89	18	11	205	0	1	0	324 (40,4 %)
Military	0	19	19	17	8	1	1	65 (8,1 %)
Monarchies	0	0	52	19	0	0	16	87 (10,8 %)
Total	93 (11,6 %)	66 (8,2 %)	120 (15 %)	409 (51 %)	22 (2,7 %)	60 (7,5 %)	32 (4 %)	802 (100 %)

Table 8 Regression results, without any hybrids or subtypes

Income-taxes (log)	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Personalist	-0.217*	-0.188*	-0.19*	-0.19*	-0.198*	-0.218*
Military	-0.202	-0.212	-0.212	-0.22	-0.228	-0.21
Monarchy	-0.028	-0.038	-0.039	-0.029	0.03	0.13
GDP pc. (log)		0.191***	0.192***	0.188***	0.196***	0.202***
Regime duration (log)		-0.011	-0.019	-0.001	-0.009	-0.014
Population density (log)		0.009	0.001	0.012	0.022	0.059
Political rights			-0.005	-0.006	-0.006	-0.001
Oil-rents (log)				0.005	0.008	0.005
Aid, share of GDP (log)				0.0004	0.00001	0.0009
Years of international wars (log)					0.08	0.047
State antiquity index (10 % disc)					-0.001	-0.001
Region, Eastern Europe / USSR						0.165
Region, Latin America						-0.337
Region, MENA						0.009
Region, East Asia						0.453
Region, South East Asia						-0.175
Region, South Asia						-0.66
Constant	1.081	-0.38	-0.369	-0.332	-0.167	-0.304
R^2 (overall)	0.07	0.20	0.20	0.19	0.24	0.32
Observations	802	802	802	802	802	802
Countries	66	66	66	66	66	66
Years (maximum)	30	30	30	30	30	30

*p≤0.05 **p≤0.01 ***p≤0.001
All models include dummies (not reported in the table) for all years in the sample except one (1980).
The reference-category for regime-types is party-based regimes. The reference-category for regions is Sub-Saharan Africa.

Table 9 Correlation matrix

	Party	*Personal*	*Military*	*Monarch*	*GDP pc*	*Regime duration*	*Population density*	*Political rights*	*Oil-rents*	*Aid, share of GDP*
Party	1,000									
Personal	-0,603	1,000								
Military	-0,390	-0,294	1,000							
Monarch	-0,270	-0,204	-0,132	1,000						
GDP pc	0,284	-0,235	-0,132	0,058	1,000					
Regime duration	0,419	-0,320	-0,355	0,253	0,306	1,000				
Population density	-0,067	-0,098	0,125	0,120	-0,093	-0,064	1,000			
Political rights	0,109	-0,132	-0,061	0,105	0,127	0,105	-0,033	1,000		
Oil-rents	0,169	-0,051	-0,035	-0,172	0,517	0,160	-0,146	-0,194	1,000	
Aid, share of GDP	-0,206	0,149	0,040	0,066	-0,692	-0,153	-0,121	0,090	-0,512	1,000
Years of int, Wars	0,083	-0,246	0,101	0,130	0,231	0,260	0,144	0,018	0,203	-0,265
State antiquity index	-0,003	-0,167	0,071	0,192	0,174	0,143	0,279	0,046	0,265	-0,279
Region, Eastern Europe / USSR	-0,188	0,380	-0,147	-0,102	0,231	-0,270	-0,011	-0,052	0,254	-0,214
Region, Latin America	0,018	-0,100	0,179	-0,101	0,202	-0,022	0,050	0,126	0,080	-0,112
Region, MENA	0,045	-0,228	-0,051	0,367	0,245	0,315	-0,011	-0,089	0,346	-0,189
Region, Sub-Saharan Africa	-0,042	0,182	-0,046	-0,169	-0,534	-0,101	-0,268	-0,047	-0,422	0,481
Region, East Asia	0,057	-0,099	0,082	-0,044	0,106	0,150	0,117	-0,011	0,006	-0,157
Regoin, South East Asia	0,235	-0,183	-0,023	-0,085	0,182	0,119	0,211	-0,003	-0,010	-0,208
Region, South Asia	-0,062	-0,150	0,126	0,195	-0,074	-0,133	0,257	0,172	-0,065	0,018

Note: The table continues on the next page.

Table 9 Correlation matrix, continued

	Years of int, Wars	*State antiquity index*	*Region, Eastern Europe / USSR*	*Region, Latin America*	*Region, MENA*	*Region, Sub-Saharan Africa*	*Region, East Asia*	*Regoin, South East Asia*	*Region, South Asia*
Years of int, Wars	1,000								
State antiquity index	0,556	1,000							
Region, Eastern Europe / USSR	-0,096	0,058	1,000						
Region, Latin America	0,264	-0,034	-0,113	1,000					
Region, MENA	0,255	0,390	-0,146	-0,144	1,000				
Region, Sub-Saharan Africa	-0,487	-0,613	-0,338	-0,332	-0,430	1,000			
Region, East Asia	0,337	0,265	-0,050	-0,049	-0,063	-0,147	1,000		
Regoin, South East Asia	0,199	0,232	-0,096	-0,094	-0,122	-0,282	-0,042	1,000	
Region, South Asia	0,003	0,276	-0,075	-0,074	-0,096	-0,222	-0,033	-0,063	1,000

Figure 2 Fitted values against residuals