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STATE FIRST, THEN DEMOCRACY:

Using Cadastral Records to Explain Governmental Performance

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Introduction

Understanding of the determinants of development has increasingly focused on the central role institutions play in fostering growth and providing public goods and services with collective benefits: from human security, to clean water, roads, healthcare, and education (North 1981; Acemoglu and Robinson 2012). The institutions most capable of delivering human development are states that are both strong and democratic. An extant political economy literature provides a theoretical explanation as to why this is the case: effective social order depends on the ability of the states a) to solve collective action problems (CAPs) by monitoring individual compliance with the terms of collective agreements and punishing free-riders (credible enforcement), and b) to refrain from the predatory use of power (credible commitment). In other words, they argue that the states most capable of enabling human flourishing are constrained Leviathans.

However, these accounts do not address the issue of sequence and timing. Credible commitment in the form of democracy and credible enforcement in the form of state capacity both matter for human development, but do different sequences of these institutional ingredients produce the same result? Samuel Huntington (1968) first drew attention to this non-trivial question. His concerns about the hazards of ‘premature’ democratization and ‘reverse’ sequencing (democracy before a strong state) were revived by the poor performance of many countries that democratized in the third wave. There has been vibrant debate on the relationship between democracy and state capacity. Many authors argue that democratization has implications for state capacity (Shefter 1994; Montinola and Jackman 2002; Sung 2004; Bäck and Hadenius 2008) and that the level of state capacity has implications for democratization (Linz and Stepan 1996; Møller and Skaaning 2011; Fortin 2012). However there is no consensus about whether or not these processes are endogenous (Bratton and Chang 2006; Carbone and Memoli 2015) or incompatible (Fukuyama 2004, 2007, 2014). Without theoretical or empirical resolution this debate has often become more normative than analytical (Carothers 2007a, 2007b; Snyder and Mansfield 2007b).

In this paper we bring rational choice theories that explain the institutional determinants of human development to bear on the sequencing debate to present a dynamic model of the effective state.

These theories make clear that when states do not have powers of credible enforcement the incentive of rational individuals is to free-ride regardless of whether or not the state is democratic, meaning that to become a credible enforcer the state must override these preferences. However, we argue, democracy makes states responsive to citizens' preferences and limits their ability to override them. Thus credible commitment (in the form of democracy) before credible enforcement locks states into the level of state capacity that has already been achieved and traps them in a cycle of low compliance and low effectiveness. As argued 200 years ago by James Madison, to achieve the efficient state we "must first enable the government to control the governed; and in the next place oblige it to control itself." (Hamilton, Madison, and Jay 1961 [1788]).

Based on this theoretical explanation, we hypothesize that countries that achieved higher levels of credible enforcement before they democratized have higher levels of capacity today and also perform better in the provision of essential public goods and services. These hypotheses are tested in a series of cross-sectional regressions using a theoretically grounded and novel indicator of the historical state capacity. We conceptualize credible enforcement as the ability of pre-democratic states to gather the information needed to monitor individual behavior in collective endeavors, and operationalize this concept through cadasters – methodically arranged inventories of land and land ownership within a certain territory, based on surveys of individual land parcels. We document the quality, extent and longevity of state-administered cadasters from their inception to the date of democratization for each stable democracy to capture the concept empirically. The data provide support to our hypotheses on the importance of sequencing. Even when controlling for factors that proxy for alternative explanations, our measure of historical state capacity is strongly positively associated with several contemporaneous indicators of state capacity, better provision of public good and essential services.

This research makes three important contributions to the literature. First, we contribute to the sequencing debate a theoretical explanation rooted in established rational choice theories of efficient social order. Second, to the political economy literature, our research suggests that democracy and state capacity are not incompatible, but can only be achieved via certain institutional pathways. Third, we make an important empirical contribution by introducing a novel indicator for historical levels of state capacity.

Rational Choice Theories of the State and Development: a Critique

Classic rational choice theories implicitly provide an explanation for why democracy and state capacity are both needed for optimal human development but do not directly address how these processes interact over time.

Many political economy models start with the assumption that the fundamental challenge in establishing effective social order is to solve collective action problems (CAPs). Collective action problems emerge from the fact that when collectives attempt to supply themselves with public goods, the dominant strategy pursued by rational individuals is free-riding on the contributions of others (Hardin 1968; Hobbes 2005 [1651]; Olson 1965, Samuelson 1954).¹ Two conditions that are critical to solving CAPs have been identified: ‘credible commitment’ and what we label ‘credible enforcement’.

Credible enforcement refers to a mechanism for monitoring individual contributions toward the provision of public goods and punishing those defecting and free riding (Cowell 1990; Hobbes 2005 [1651]; Olson 1965). In a small group it is more straightforward to solve CAPs as it is easier to reach agreement and, more importantly, easier to monitor and enforce compliance (Ostrom 1990). Because of the high degree of visibility in a small group, everyone can directly observe individual contributions by other members and sanction those defecting. In small groups, both the capacity and incentive to enforce the agreement are present. In large groups solving CAPs is more difficult as the behavior of group members is harder to observe directly and so the effectiveness of peer-to-peer monitoring and punishment is lower. Under these conditions free riding becomes the dominant strategy of individuals, and the need for an external agent who can align individual incentives with collective objectives arises (Hobbes 2005 [1651]; Olson 1965). To solve CAPs and achieve efficient social order or, in Hobbes’s words ‘Commonwealth’, an external agent has to ‘bridle men’s ambition, avarice, anger, and other Passions’, that tamper with collective interests, with ‘the fear of some coercive Power’ (Hobbes 2005 [1651], Ch.14). In other words, in large groups CAPs can only be solved through an external agent with the sound capabilities to monitor individual contributions

¹ Although the empirical findings on voluntary cooperation in laboratory and field environments show that many people contribute more to the public good for reasons beyond pure self-interest, these studies emphasize that; 1) preferences to contribute nothing exist; 2) free riding increases “in repeatedly played public goods experiments across various parameters and participant pools”; and 3) the breakdown of cooperation is “a frequent outcome in naturally occurring situation” (Fischbacher and Gächter 2010, 541).

to the commonwealth and to threaten them with punishment for defection. Being a credible enforcer is a crucial welfare-enhancing attribute of the external agent.

If the group is the citizens of a country and the external enforcer is the state, then the key attributes needed to solve CAPs are high monitoring capacity, a high capacity to project power over all the subjects to its authority and apply this power against those citizens found (through monitoring) to be free riding. Unless the state has these capacities it is not a credible enforcer and is not, as Thomas Hobbes stylized it, a Leviathan.

Placing considerable monitoring and coercive powers in the hands of an external agent raises the problem that these powers can be abused. The problem of how to constrain the external agent has been brought to the fore in contemporary debates about human development by New Institutionalism, and has dominated the debate over the last two decades. This school of thought has argued that the lack of credible commitment to the ‘rules of the game’ by the power-holders is the root cause of underdevelopment and what is needed is ‘tying the king’s hands’ (North 1981). Among the many specific solutions to the credible commitment problem that have been put forward,² democracy is the system of political authority that is seen to provide the best resolution to this problem (North 1990, 109; Rodrik 2000, 3). The fundamental conclusion of the credible commitment literature is that to sustain efficient social outcomes a Leviathan is necessary but not sufficient: its hands must also be tied through democratic institutions (constrained Leviathan).

In sum the literatures on collective action and credible commitment suggest that the sustainability of effective social order depends on individuals having a high degree of confidence that the state can ‘see’ everyone, can punish defectors and will only act in the collective good. If one of these conditions is violated, individuals’ incentives to participate in social endeavors and comply with their terms diminish, and with it the efficiency of social outcomes.³

² To name a few: a constitutional design that diffuses power among several actors (Falachetti and Miller 2001; Henisz 2000; North and Weingast 1989; Persson, Ronald, and Tabellini 1997; Tsebelis 2002), elections (Barro 1973; Ferejohn 1986), formal organizations of critical economic agents (Greif, Milgrom and Weingast 1994), non-politicized public bureaucracy (Miller 2000) and institutionalization of ruling parties (Gehlbach and Keefer 2011).

³ A fully-specified model of citizens’ tax compliance should also take into account factors offered by norms-based explanation, such as trust, citizenship and legitimacy (Braithwaite and Makkai 1994; Kirchler, Hoelzl, and Wahl 2008). This task, however, is beyond the scope of this paper.

As powerful as the insights from existing rational choice accounts are, they provide an essentially static model of development. They explain why society needs a constrained Leviathan, however they assume that the state is already a credible enforcer when its hands are tied. In taking for granted that the state is already a Leviathan, more weight is put on credible commitment with democracy being seen as ‘a meta-institution for building good institutions’ (Rodrik 2000, 3).

We take this literature forward by extrapolating from these static models to theorize how democratization at different levels of state capacity impacts on the subsequent ability of the state to achieve efficient social order. We illustrate the argument by drawing on historical and contemporary evidence from Europe and the developing world.

A dynamic model of sequencing: credible enforcement before credible commitment

The starting point of the credible commitment literature is the assumption that states are already credible enforcers. However, no states are born as Leviathans whose citizens can immediately and willingly endow it with high monitoring and enforcement capacities and ‘ask’ it to act as the guarantor of public goods contracts. Effective implementation of contracts is only possible through clamping down on individual preferences that run counter to collective objectives. Therefore, although rational individuals might want the public goods a Leviathan can produce, rational choice theories imply that they will not agree to voluntarily create this (efficient) actor, whose primary purpose is to monitor their actions and punish them if those actions violate the content of collective agreements. In other words, the preference for the efficient provision of public goods (including having a credible external enforcer) is heavily offset by the ‘selfish’ preference to free ride. It is only once the state has become a Leviathan that citizens may be ‘willing’ to accept it as the guarantor of their public goods contracts and the suppressor of their individual preferences.

If being a Leviathan is not the point where states themselves begin, then we must first ask the question of what happens if the state is not a credible enforcer? If we accept the founding proposition of collective action theory that people cannot square their collective objectives (public goods) with their individual preferences (free-riding), then the existence of a weak state, unable to clamp down on the welfare-undermining actions of individuals, is of little help to the cause of efficient public goods provision. This implies that states cannot become credible enforcers through responding to

citizens' preferences because the 'selfish' component of their preferences dominates over their preferences for efficient provision of public goods. If this is the case, it implies that to become a credible enforcer the state has to *over-ride* rather than respond to citizens' preferences. It has to acquire 'eyes' - the ability to monitor all citizens - and 'teeth' - the ability to punish those free-riding and defecting - regardless of individual's preferences to resist to this process.

This emphasis on the need to override preferences to defect gives a theoretical reasoning to underpin the observation that the history of state building has often been coercive and violent. According to Fukuyama 'the real driver of state formation is violence or the threat of violence' (2011, 83). Archaeological research on early states considers burned and forcefully abandoned settlements as evidence of the governing presence of state authority in ancient civilizations (Spencer and Redmond 2004, 174). European states acquired the monopoly on the means of coercion and then used those means to extract resources to fight wars (Tilly 1992, Downing 1993; Ertmann 1997).⁴ Although ordinary people benefitted from the defense the state could provide, it was not in response to demands from them for these wars to be waged that rulers built states. Instead, 'men who controlled concentrated means of coercion ordinarily tried to use them to extend the range of population and resources over which they wielded power' (Tilly 1992, 14). It is only when the state is the credible monopoly provider of protection that individuals have rational incentives to support it, i.e. *after* the state has become a Leviathan. Before this point, rulers have to use violence and coercion to override resistance: they have to 'conquer' populations.

When looked at in these terms – that the state becomes a Leviathan by over-riding rather than responding to individuals' preferences – it becomes clear why democratizing before the state has become a Leviathan could have profound implications for the likelihood of achieving efficient social order.

Democracy, by definition, is designed to make states responsive to their citizens' preferences and to limit their ability to over-ride them. Despite considerable operational differences, all existing definitions of democracy imply a system of governance that is in some meaningful way reflective of the

⁴ It should be noted that we do not explore the reasons why rulers turn states into Leviathans and only emphasize that the incentive to state build did not seem to come from below.

preferences of citizens.⁵ It ‘ties the hands’ of the state and its rulers, albeit imperfectly, and thus provides for one of the conditions that needs to be in place in order to sustain an efficient social order, i.e. credible commitment, but does not address the first – ensuring that the state is a credible enforcer. As both the collective action and credible commitment literatures make clear, if a state is not an effective enforcer and the cost of free-riding is low, citizens have few incentives to comply and strong ones to defect, *regardless of whether the state is democratic or not.*

To make this concrete, consider as an example the choice of citizens about whether or not to pay tax in contemporary Greece. Although Greece is a fully democratic state, citizens have little confidence in the state’s ability to enforce tax payments across the population. Taxation is ‘the essential function that makes government possible, and the one that the modern Greek state has never quite mastered in almost two centuries of existence’ (Palaiologos 2014, 32). In 2001 an OECD study found that Greece’s tax authorities ‘had difficulties in assessing taxes and cross-checking tax data, penalties for tax evasion were trivial and no real estate register was in place’ (Bronchi 2001, 7). This has led to high levels of perception among Greeks that others are evading their taxes: according to the European Values Study, conducted 10 years before the financial crisis hit Greece, more than a third of Greeks (35.4%) believed that their compatriots were cheating in paying taxes, the highest level in any European country (EVS 2012). This perception has been borne out in recent years with many cases of widespread tax evasion being noted both in the media and academic literature (Artavanis, Morse and Tsoutsoura 2012; Daley 2010). As the Greek state is not a credible enforcer, the costs of free-riding are low, and the incentives to do so high. In other words, Greeks have strong incentives to defect, regardless of the fact that their state is democratic.

Greece is a compelling example in the European context; however, in a global context it is far from the most extreme example of a state that was weak when it democratized. Many developing countries are weaker than Greece in comparative terms. Consider the case of Kenya, where the total number of registered taxpayers at the end of 2007 was about 2.15% of the population (African Development Bank Group 2010, 5) and the value of unpaid taxes is \$1.32 billion or about 50% of all revenue (the Kenyan Revenue Authority quoted in Cobham 2005). Forty nine percent of Kenyans believe that most or all tax officials are corrupt (Afrobarometer Network 2009, 14). The aver-

⁵ This is not to deny the considerable literature on variation in democratic responsiveness, for example between different types of electoral system (Powell 2000). However, we see these as complimentary nuances to our argument that do not undermine the key point about the enhanced ability of citizens to constrain their governments in democracies, of all forms, as opposed to other regimes.

age pupil-teacher ratio in primary school was 57:1 in 2012 and the number of physicians per 1000 of population was .2 in 2013 (World Bank 2015). Given the poor quality of services and low levels of enforcement of tax collection it is unsurprising that citizens opt out of contributing to the production of public goods and instead buy goods privately: in 2013 public expenditure on health was 1.9% of GDP while private expenditure was 2.6% (World Bank 2015). The low capacity of the state means that for Kenyans the costs of opting out are low, and the incentives to do so high.

If democracy makes states responsive to citizens' preferences, and those are preferences to free ride because the state is not a credible enforcer, then the state gets locked into the level of state capacity that it has already achieved and thus trapped in a cycle of low compliance and low effectiveness. In the opposite scenario, if the state is already a credible enforcer then a virtuous circle can emerge as democracy completes the conditions needed to solve CAPs by providing credible enforcement leading to high effectiveness and high compliance. This means that the level of credible enforcement achieved before democratization will be a critical determinant of their governance trajectory. Contemporary states had very different levels of credible enforcement before they democratized, leading some to be trapped in the vicious cycle and others to be the beneficiaries of the virtuous cycle. Greece, discussed above, is an example of the vicious cycle. Sweden provides an example at the opposite end of the spectrum. The Swedish state had achieved a very high level of credible enforcement due to state building efforts that began in the sixteenth century. The systematic monitoring of the population and their assets dates back to the reign of Gustav Vasa who introduced taxes on individual peasant households c. 1540 and tasked royal bailiffs with compiling detailed tax registers, *jordböcker* (Hallenberg 2001, 2012, 563-565). In a further advancement, from 1628 about 12,000 large-scale maps (*geometrisk jordböcker*) of villages, freeholds and farms were created. Kain and Baigent (1992), who researched cadastral maps as an instrument of government in comparative perspective, praise the Swedish cadastral map as unparalleled in modern history, both in its ambition and implementation. Furthermore, from 1686 clergy were legally responsible for keeping records for the state of all parishioners, their records being known for their 'astonishingly high quality' (Kain and Baigent 1992, 57). Cumulatively these actions meant that 'the state bureaucracy extended its monitoring directly to peasants and labourers' (Tilly 1992, 136). This legacy of extensive state control over the population is reflected in the fact that in 1920, before the extension of the franchise, 80 percent of the economically active population was registered with the tax authority (Flora and Heidenheimer 1981, 193). Sweden is still one of the most effective and extensive tax states

with virtually no collection losses on the determined taxes and one of the lowest rates of tax avoidance (STA 2014, 19-20; 2008, 5)

The argument presented above suggests that different pathways of institutional sequencing will lead to different outcomes, with one leading to the constrained Leviathans we know to be the key to human flourishing: credible enforcement before credible commitment. According to our theory, the alternative pathway of institutional sequencing does not lead to a welfare-maximizing constrained Leviathan. Instead, tying the hands of a weak state traps societies in a sub-optimal equilibrium where citizens want to shirk on their individual contributions to public goods production and rulers cannot prevent them from doing so.

In sum, we put forward the following testable propositions:

H1: all other things being equal, polities that democratized before becoming a credible enforcer will have lower levels of state capacity today.

H2: all other things being equal, polities that democratized after becoming a credible enforcer will be more efficient providers of essential public goods.

Data and Method

Operationalizing Credible Enforcement Capacities of the State through Cadasters

To test these propositions we need an indicator of the state's strength as a credible enforcer before democratization. We operationalize this concept by focusing on monitoring capacity as this is arguably the core component of credible enforcement. As discussed above, what makes small groups effective at solving CAPs is not their greater ability to punish but their greater ability to observe each other's behavior, which deters free-riding before it can even occur, thus making punishment a secondary concern (Ostrom 1990). In large groups, equally, if the external agent is effective at monitoring, this depresses the incentive to free-ride making punishment a secondary issue. While enforcement consists of monitoring and punishment, *credible* enforcement hinges more on the probability of getting caught, which is a function of monitoring. We define monitoring as the ability of the state to gather the necessary information needed to assess individual behavior in collective endeavors.

We focus on the capacity of the state in terms of one kind of monitoring technology: cadasters. According to the definition of the International Federation of Surveyors, a cadaster is a methodically arranged inventory of data concerning land and land ownership within a certain territory, based on a survey of individual land parcels, including parcel dimensions, features and precise location (Williamson and Enemark 1996, 38-39). Modern cadastral systems usually consist of two interconnected parts: a record of interests in land parcels (e.g. rights, restrictions and responsibilities) and a geometrical (cartographic) description of land parcels. Historical cadasters did not separate these two elements, but had them in a single record. Information beyond the parcel size and location has evolved over time, and it is also differs from country to country (Williamson and Enemark 1996). Normally cadastral records contain a measurement of the size of the parcel and a quantitative estimate of its value. Cadastral maps commonly included information on the type of land (arable or pasture, forest, etc.). Early cadastral records also contained information on cultivation and normal harvest yields, assessments of the type of land (dry, firm, clay, etc.) and other assets associated with the parcel (mills, orchards, etc.).

Historical cadasters gave states detailed information on a key economic asset – land – that enabled the state to be a credible enforcer in two key areas: taxation and property rights enforcement.⁶ In terms of taxation cadastral records provided the state with a clear picture of both the main productive assets and who utilized them, enabling the state to calculate the tax liability and liable payer. Evaluating their role, Kain writes cadastral maps ‘provide a parsimonious and accurate means of both fairly assessing and permanently recording the tax liabilities of a particular parcel of land’ (2007, 710). In terms of property rights enforcement, cadasters help to formalize property rights, so that it is easier to manage, transfer and adjudicate disputes over assets (De Soto 2000). Secure property rights are argued to be a key welfare enhancing function of the state that enables development (North 1990). Overall, cadasters have been described as ‘an instrument of control which both reflects and consolidates the power of those who commission it’ (Kain and Baigent 1992, 344).

In the light of the above discussion, we operationalized credible enforcement through the extent and quality of historical cadastral records and created an original indicator *Credible Enforcement (CE)*

⁶ For the overview of the literature on the link between state capacity and taxation see Harbers (2015) and on the link between state capacity, taxation and property rights see Besley and Persson (2009).

that captures the quality and extent of cadaster and the length of time this instrument of monitoring has been in place before democratization.

Constructing the Credible Enforcement Indicator

Since we are interested in explaining the differences in performance between states that democratized at different levels of state capacity, our population is democratic countries, which is operationalized as those countries that have had Polity scores of 6+ for at least 10 years prior to 2012. There are 80 countries that satisfy this criterion, for 78 of whom the *CE* indicator was collected.⁷ For each country we identified when the first state-administered cadaster was initiated. For each year from this point we assign a score on the extent and quality of the cadaster until the year of democratization, which is the year when a country reaches score 6 or more on the combined Polity IV scale – a conventional threshold for democracy (Marshall, Gurr and Jaggers 2014). To assign the score we asked three questions: Was there a state-administered cadaster? Was this cadaster narrative or spatial? How much of the territory of the modern country was covered by the cadaster? We allocated points for each year as follows:

0.25: a narrative cadaster, covering less than 75% of the territory of the modern state⁸

0.5: a narrative cadaster, covering more than 75% of the territory of the modern state

0.75: a spatial (cartographic) cadaster, covering less than 75% of the territory of the modern state again (or not using sophisticated surveying techniques, for example in the case of the Japanese ‘*Tai-ko*’ cadasters from the 1590s).

1: a spatial (cartographic) cadaster, which extends its coverage to over 75% of the current territory.

While higher scores for the greater coverage of the cadaster is a rather straightforward decision, we give higher points to cartographic cadasters because they are more accurate in terms of both measurements and the spatial position of parcels, and are particularly effective in “linking properties on a

⁷ Only countries with a total population of 500,000 or more are included as per Polity IV.

⁸ Using a threshold for the percentage of the territory covered by the cadastre enables us not only to capture the quality of cadastre through its geographical coverage, but also to deal with the discrepancy, for some countries, between the historical and modern boundaries of the state. For example, in the case of Poland, in 1721 the extension of the Habsburg narrative cadaster to Silesia (less than 75% of the modern territory) gives a score of 0.25. In post-partition period, i.e. after 1795, the majority of territory was under Russian control without state-led cadaster, while the remainder (<75%) was covered by Prussian and Austrian mapped cadasters from 1861 giving a score of 0.75 after this year.

map to a written register on which details of the property, such as the owner's name and its area, are recorded." (Kain and Baigent 1992, xviii).

Coding in this way allows us to take into account change over time in the state's monitoring capacity, including deterioration. For example, from 1600 onwards the Ottoman Empire began to shift away from the preceding tax system and use of narrative cadastres to a system of tax farming that did not require state-administered records (Kark 1997, 53-4). Hence we code the countries under direct Ottoman rule as reverting from a score of .25 to a score of 0 after 1600. In 1858 a new Land Code was introduced which required a narrative cadastre, hence giving a score of .5 after this date. The resulting *CE* indicator is the sum of the number of years weighted by their scores. *CE* captures not only the quality of cadasters on the eve of democratization, but also the depth of experience with this monitoring application. In other words, the resulting indicator is not so much the 'flow' of state capacity, as the 'stock'. In conceiving of state capacity in these terms we follow Bockstette, Chanda and Putterman (2002), who have constructed an index of State Antiquity, the age of the state, as a way to measure 'stateness'.

To give an example: Sweden reached our Polity IV-defined democratic threshold in 1914. In 1530 rulers began to use narrative cadaster, with coverage less than 75% of modern Sweden. In 1628 the Swedish government started to produce a cadastral map, intending to cover the entire territory of the Swedish realm. Therefore, for each year between 1530 and 1628 (98 years) we assigned the score 0.5, and for each year between 1628 and 1914 (286 years) we assign 1, which gives *CE* equal to 335.

Although Sweden's project to map the realm was not finished until the 1670s, we assigned 1 to all the years since the commencement of the project in 1628 as the exact completion date is difficult to establish. It was however possible in the majority of cases to establish the intended coverage of the cadaster: partial or full. Therefore, where a cadaster is classified in our data as being partial this is because its stated ambition was to survey only part of the territory (i.e. this is not used as a measure of an incomplete cadastral project).

Sweden and Finland jointly have the highest *CE* score. On the other end of the *CE* distribution are countries like Benin, Mongolia, and Senegal ($CE = 0$), or Georgia ($CE = 4$), Chile ($CE = 9$) or

Greece ($CE = 37$), which despite their long history of statehood did not have cadasters at their disposal until the second half of the twentieth century.

The information on cadasters is taken from specialized secondary sources: the UN-sponsored Cadastral Template Project developed by the International Federation of Surveyors; documents from the Permanent Committee on Cadastres in the European Union; and specialized academic literature, in particular Kain and Baigent's (1992).

Dependent and Control Variables

To test our hypotheses we conducted a set of exercises in which zCE (standardized scores of CE for easier interpretation of the substantive effect) is regressed on a number of indicators pertaining to current state capacity and the provision of public goods and services.

First, we test the effect of zCE on four measures of current state capacity including: the existence of basic administration, professionalization of public bureaucracy, quality of government and government effectiveness from Bertelsmann Stiftung, the QoG Institute Expert Survey, the PRS Group and the World Bank. Second, we test the effect on measures of classic public goods – goods that are non-excludable and non-rival. These include public order, measured by the Failed State Index; sovereignty, measured by the threat of external interventions, and corruption, measured with three standard indicators from reputable sources. Third, we test the effect on measures of public provision of basic services that are essential for development but not pure public goods: an integrated evaluation of the quality of 11 public services from the Fund for Peace; public education provision and outcomes using measures of the quality of primary education (World Economic Forum), the 2009 OECD's Programme for International Student Assessment (PISA) average scores for maths, science and reading, and private expenditure on education; public health provision and outcomes using infant mortality and public and private health expenditure. All measurements are the latest available data for each variable. The full description of the variables and sources can be found in Appendix A.

We explore the impact of zCE in a series of OLS regressions conditional on a set of the core control variables: average level of democracy in the 2000s ($Polity_level$), the duration of democratic rule since the first instance of democratization ($Polity_years$) and recent levels of economic devel-

opment, measured through Hausmann et al's indicator of economic complexity (2008). In addition to this, the number of observations permitting, we add the following variables: legal origin (English common law or not) and population size.

Results

Table 1 reports the estimates of the conditional impact of *zCE* on measures of state capacity today. Controlling for several demanding factors, our indicator of the extent and quality of historical cadasters shows a consistently positive and statistically significant effect. Democracy, in terms of both the level and depth of experience, is significant and the direction of its impact is as predicted across all specifications. The models fit the data well: the explained variance of the outcome variables ranges between 69 (existence of basic administration) and 80 percent (government effectiveness). Overall these estimates provide strong support for H1 that higher levels of state capacity achieved before democratization are associated with higher levels of state capacity today.

TABLE 1, CREDIBLE ENFORCEMENT AND CURRENT STATE CAPACITY

VARIABLES	(1) bti_ba	(2) icrg_qog	(3) qs_proff	(4) wbgi_gee
zCE	0.35* (0.19)	0.03* (0.02)	0.35*** (0.10)	0.16** (0.06)
Dem_years	0.02* (0.01)	0.00*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
Dem_level	0.50*** (0.14)	0.03** (0.01)	0.17* (0.09)	0.17*** (0.05)
EconComplexity	1.01*** (0.24)	0.08*** (0.02)	0.11 (0.13)	0.35*** (0.08)
LegorUK	0.60 (0.50)	0.06* (0.04)	0.71*** (0.24)	0.28* (0.15)
Population	-0.00* (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.00** (0.00)
Constant	3.58*** (1.11)	0.23* (0.12)	1.81** (0.72)	-1.45*** (0.44)
Observations	44	63	62	66
R-squared	0.69	0.76	0.67	0.80

*Note: Dependent variables: the existence of basic administration, quality of government, professionalization of bureaucracy, government effectiveness. Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$*

TABLE 2, CREDIBLE ENFORCEMENT AND PUBLIC GOODS PROVISION

	(1)	(2)	(3)	(4)	(5)
VARIABLES	ffp_ext	ffp_fsi	ti_cpi	wbgi_cce	wef_dpf
zCE	-0.54*** (0.19)	-5.15*** (1.61)	0.43** (0.18)	0.19** (0.08)	0.26** (0.13)
Dem_years	-0.02*** (0.00)	-0.15*** (0.04)	0.02*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
Dem_level	-0.63*** (0.15)	-7.56*** (1.32)	0.42*** (0.14)	0.20*** (0.07)	0.06 (0.10)
EconComplex	-0.18 (0.23)	-4.28** (1.97)	0.56** (0.22)	0.26** (0.10)	0.29* (0.16)
LegorUK			0.55 (0.40)	0.18 (0.18)	0.40 (0.29)
Population	0.00 (0.00)	0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00** (0.00)
Constant	10.90*** (1.28)	130.71*** (10.94)	0.14 (1.21)	-1.90*** (0.56)	2.36*** (0.87)
Observations	66	66	66	66	66
R-squared	0.68	0.80	0.76	0.76	0.63

Note: Dependent variables: the risk of external intervention, failed state index, corruption perception index, control of corruption, diversion of public funds. Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 2 presents the results of econometric analysis of the relationship between *zCE* and public goods. Across all specifications *zCE* is significant at the 95% level and is signed as expected. Model 1 reports the estimates of the conditional impact of *zCE* on an integrated evaluation of the level of sovereignty, measured by the risk of external intervention, including foreign assistance, presence of peacekeepers, presence of UN missions, foreign military intervention, sanctions, and credit rating. The results indicate that, conditional on democracy, level of economic development and population size, countries with higher *CE* scores are at lower risk of external intervention. Model 2 reports the estimates of the conditional effect of *zCE* on the Fund for Peace's indicator of states' vulnerability to internal conflict and societal deterioration (Failed States Index, FSI). Similarly to Model 1, higher *CE* scores are associated with lower FSI values. Models 3-5 report the estimates of the conditional effect of *CE* on corruption, measured by Transparency International, the World Bank and the World Economic Forum. In addition to the controls, utilized in Models 1 and 2, in Models 3-5 we control for the common law legal tradition (LegorUK), considering the relevance of this variable for this specific outcome (La Porta et al 1999). Both measures of democracy are significant and the direction of their impact as predicted across all specifications. All five models fit the data well, explaining between 63 and 80 percent of the variance in the outcome variables. Overall

these results provide strong support for H2 that higher levels of state capacity achieved before democratization are associated with higher levels of public goods provision.

Table 3 presents the results of regression analysis of the relationship between zCE and public services, controlling for level and depth of democracy, level of economic development and also the population size, when appropriate. Model 1 shows the impact of zCE on an integrated objective indicator of the quality of 11 public services (ffp_ps).⁹ Our indicator of the levels of state capacity before democratization is significant at the 99% level and signed as expected: higher scores of the CE are associated with lower scores of ffp_ps , which stands for higher levels of overall public services provision. All other predictors enter significantly at the 99% level and with the expected signs. Together the predictors explain about 84 percent of the variance in this response variable, which diminishes concerns for omitted variables bias.

TABLE 3, CREDIBLE ENFORCEMENT AND PUBLIC SERVICES

VARIABLES	(1) ffp_ps	(2) wef_qpe	(3) pisa	(4) expedupr	(5) inf_mort	(6) exphpub	(7) expmpr
zCE	-0.55*** (0.14)	0.30*** (0.11)	11.11** (5.19)	-0.60*** (0.16)	-0.14** (0.06)	3.66* (2.09)	-0.32*** (0.08)
Dem_years	-0.01*** (0.00)	0.01*** (0.00)	0.32** (0.12)	-0.00 (0.00)	-0.00 (0.00)	0.02 (0.05)	-0.00 (0.01)
Dem_level	-0.45*** (0.11)	0.05 (0.09)	10.19 (6.54)	-0.14 (0.22)	-0.21*** (0.05)	4.48** (2.01)	-0.01 (0.09)
EconComplex	-0.77*** (0.17)	0.24* (0.13)	18.19* (9.09)	0.19 (0.26)	-0.48*** (0.07)	4.09 (2.65)	0.18 (0.12)
Population	0.00*** (0.00)	-0.00 (0.00)	-0.00 (0.00)		0.00*** (0.00)	-0.00*** (0.00)	
Constant	9.29*** (0.93)	2.87*** (0.75)	341.35*** (58.28)	1.16 (1.99)	4.33*** (0.41)	18.65 (17.11)	0.99 (0.82)
Observations	66	66	42	26	66	49	33
R-squared	0.84	0.61	0.63	0.47	0.83	0.55	0.41

Note: Dependent variables: quality of public services (lower values stand for better services); education (Models 2-4), including quality of primary education; Pisa average score in maths, reading and science; private expenditures on education (all levels, % of GDP); health care (Models 5-7), including infant mortality, public expenditure on education and private expenditure on education (all levels, % of GDP). Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

⁹ The measure, provided by the Peace Fund, is based on a computerized analysis of thousands of reports and information from around the world, collected on a daily basis. Therefore it could be regarded as an objective, rather than perception-based and subjective, indicator.

Models 2-4 Table 3 report the impact of *CE* on the extent and quality of public education services: expert-based evaluation of the quality of primary education from WEF (Model 2), average PISA scores (Model 3) and the share of private expenditure on education on all levels, as % of GDP for OECD countries only (Model 4). Across all three models *CE* is significant (at least at the 95% level) and signed as expected. On average, countries with higher levels of historical state capacity exhibit higher quality of primary education, and better educational attainment (Models 2-3). These models explain about 60 percent of the variance in the outcome variables. The negative sign of the *zCE*'s coefficient in the Model 4 suggests that today, people living in those countries where the state became a credible enforcer before democratization spend less on their education beyond their tax contributions. In other words, governments in these countries today perform the role of the public goods provider in education better than governments in other countries. A similar situation is observed with regard to the extent and quality of public health services (Table 3, Models 5-7). Countries with higher *CE* scores have lower infant mortality, higher public health expenditure and lower private health expenditures. It is noteworthy that the behavior of the measures of democracy in the public services models is not consistent: while the number of democratic years seems to be relevant to educational outcomes, it is significant in none of the health care models. At the same time, the level of democracy seems to matter for the latter outcomes, but not the former. The data provide support to H2 that higher levels of state capacity achieved before democratization are associated with higher levels of the provision of essential public services today.

Overall, the proposition that “state capacity before democratization” has a positive effect on the subsequent developmental trajectory of the countries that experienced this institutional sequencing finds support in the data. On average, countries with higher scores on the *Credible Enforcement* indicator have higher levels of state capacity and better overall provision of essential public goods and services. This association is robust to different model specifications, alternative measure for the outcome variables and the clustering by regions (not reported).¹⁰ In most of the cases, we also observe a significant positive effect of democracy both in terms of its quality and duration; however the message of this analysis is that the welfare-enhancing potential of democracy is unlocked when higher levels of state capacity are achieved before democratization.

¹⁰ For example, in the robustness checks we use an alternative operationalization of the upper boundary of the period: 20 percent (of the total population) participation rates in elections as per Vanhanen's Index of Democracy (2000), and also having more than one political party (therefore moving the upper boundary of the period for the former members of the Soviet bloc to the 1990s, although they score high on participation already in the 1950s). This sample includes 86 observations, and the data from this sample also provide strong support to the hypotheses.

Conclusion

Rational choice theories have made a profound contribution to our understanding of the conditions under which efficient social order is possible. They emphasize the need for states that are both strong and constrained. However, knowing what the optimal institutions are does not tell us how to get them. What rational choice accounts lack is a dynamic explanation of how the processes that lead to a constrained Leviathan – the accumulation of power and the constraining of power – interact over time. By synthesizing existing rational choice theories into a dynamic model, we address their ahistorical nature.

The testable proposition derived from this theory – the stronger the state as a credible enforcer before it becomes a democracy, the higher the level of public goods provision – was subjected to an empirical test with the original data on the extent and the quality of cadaster records before democratization in a universe of democratic states. Our proposition finds strong support in the data: on average, democracies with higher *Credible Enforcement* scores exhibit higher levels of state capacity today, and better provision of classical public goods and essential public services than democracies with comparatively lower levels of pre-democratization state capacity.

Our theory and empirical findings speak to both the political economy literature on efficient social order and the sequencing debate. To the former we contribute by calling into question their pessimistic outlook on the very possibility of efficient social order (Fukuyama 2014, Miller 2000). It is possible to reconcile the conflicting character of democracy and state-building by addressing the issue of time and sequencing. To the sequencing debate we contribute by developing a theoretically informed answer as to why one institutional sequence is more conducive to achieving human well-being than the other. We also introduce a theoretically grounded and novel indicator of the historical state capacity that could be used to further probe the evolution of institutions.

The argument we have presented here is analytical, rather than normative. It is much more difficult to normatively argue for ‘state-building first’ than it is to point out the analytical implications of different institutional choices. Democracy has many intrinsic values that may be more important, in normative terms, than its impact on state-building. The main policy implication from our argument is that we need to have a more realist and theoretically informed understanding of the broader implications of democratizing at lower levels of state capacity.

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APPENDICES

Appendix 1: Variables Description and Sources

DV: Current State Capacity

bti_ba: to what extent do basic administrative structures exist? 1-10, where 1 is “The administrative structures of the state are limited to keeping the peace and maintaining law and order. Their territorial scope is very limited, and broad segments of the population are not covered” and 10 is “The state has a differentiated administrative structure throughout the country which provides all basic public services. Year: 2010. Source: Bertelsmann Stiftung, The QoG standard dataset, version Jan 2015 (bti_ba).

icrg_qog: the mean value of the ICRG variables “Corruption”, “Law and Order” and “Bureaucracy Quality”, scaled 0-1 (higher values higher quality of government). Year: 2010. The QoG standard dataset, version Jan 2015 (icrg_qog).

qs_proff: professional public administration: the index, based on 4 questions from the QoG expert survey, measures to what extent the public administration is professional rather than politicized. Higher values indicate a more professionalized public administration. It is based on four questions from the survey. Year: 2011. Source: The QoG Institute Expert Survey, the The QoG standard dataset, version Jan 2015 (qs_proff).

wbgi_gee: Government effectiveness. Year: 2010. Source: World Bank (Worldwide Governance Indicators), The QoG standard dataset, version Jan 2015 (wbgi_gee).

DV: PROVISION OF PUBLIC GOODS

ffp_fsi: the failed states index includes an examination of the pressures on states, their vulnerability to internal conflict and societal deterioration. The country ratings are based on 12 indicators. The total score is the sum of the 12 indicators and is on a scale of 0-120 (the higher the score the more vulnerable). Year: 2008-2010. Source: the Fund for Peace, The QoG standard dataset, version Jan 2015 (ffp_fsi).

ffp_ext: when the state fails to meet its international or domestic obligations, external actors may intervene to provide services or to manipulate internal affairs. Includes pressures and measures related to foreign assistance, presence of peacekeepers, presence of UN missions, foreign military intervention, sanctions, and credit rating. Year: 2008-2010. Source: the Fund for Peace, The QoG standard dataset, version Jan 2015 (ffp_ext).

ti_cpi: Corruption Perception Index, higher values indicate less corruption. Year: 2007-2011. Source: TI, The QoG standard dataset, version Jan 2015 (ti_cpi).

wbgi_cce: Control of Corruption, higher values indicate less corruption. Year: 2010. Source: World Bank (Government Indicators), The QoG standard dataset, version Jan 2015 (wbgi_cce).

wef_dpf: Diversion of Public Funds: In your country, how common is diversion of public funds to companies, individuals, or groups due to corruption? [1 = very common; 7 = never occurs]. Year: 2012. Source: World Economic Forum, The QoG standard dataset, version Jan 2015 (wef_dpf).

DV: PROVISION OF PUBLIC SERVICES

ffp_ps: integrated evaluation of the following public services: policing, criminality, education, literacy, water and sanitation, infrastructure, quality healthcare, telephony, Internet access, energy reliability and roads on a scale from 1 to 10 (the lower the score, the better services). Year: 2008-2010. Source: the Fund for Peace, The QoG standard dataset, version Jan 2015 (ffp_ps).

wef_qpe: quality of primary education: How would you assess the quality of primary schools in your country? (1 = poor; 7 = excellent - among the best in the world). Year: 2012. Source: World Economic Forum, The QoG standard dataset, version Jan 2015 (wef_qpe).

pisa: the average of the country-level scores of 15-year-old school pupils' scholastic performance on reading, mathematics and science. Year: 2009. Source: OECD, Programme for International Student Assessment (PISA). <http://pisa2009.acer.edu.au/>

expedupr: private expenditure on education: all levels of education as % of GDP, ln-transformed. Year: 2009. Source: OECD Social Expenditure Database (SOCX), The QoG standard dataset, version Jan 2015 (socx_expedupr).

inf_morrt: Infant mortality rate is the number of infants dying before reaching one year of age, per 1,000 live births in a given year, ln-transformed. Year: 2010. Source: The World Bank Development Indicators, the QoG standard dataset, version Jan 2015 (wdi_mortinfot)

expendhpub: public health expenditure, consisting of recurrent and capital spending from government (central and local) budgets, external borrowings and grants (including donations from international agencies and nongovernmental organizations), and social (or compulsory) health insurance funds. Year: 2000-2010, averaged. Source: World Bank Development Indicators.

exphpr: private expenditure on health. Year: 2008-2010. Source: Source: OECD Social Expenditure Database (SOCX), The QoG standard dataset, version Jan 2015 (socx_exphpr).

IV and CONTROLS

zCE: extent and quality of state-administered cadasters, normalized. Years: from the start of cadaster until the year of democratization, varies by country. Source: Constructed by the authors

Dem_years: the number of years under democratic rule (6 or above on combined Polity's scale). Years: between the year country first reached democracy threshold until 2010. Source: Polity IV, calculated by authors.

Dem_level: Polity IV score. Years: 2000-2010, averaged (Solomon islands, 2003-2013). Source: Polity IV, calculated by the authors.

EconComplex: a measure of economic development, expressed through the complexity of exported products and the number of different export products. Year: 2000. Source: Hausmann et al 2008.

UK_law: identifies the legal origin of the company law or commercial code: 1 – English common law, 0 – otherwise. Year: 2010. Source: La Porta et al 1999, The QoG standard dataset, version Jan 2015 (pl_legor).

Population: size of the population in 1000's. Year: 2010. Source: The QoG standard dataset, version Jan 2015 (gle_pop).