

# The State of State Capacity : a review of concepts, evidence and measures

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Luciana Cingolani

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Nicolas Meisel (AFD)  
Adam Szirmai (MGSoG/UNU-Merit)

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# The State of State Capacity: a review of concepts, evidence and measures

Luciana Cingolani\*

October 10, 2013

## Abstract

What is state capacity and how does it affect development? The concept of state capacity acquired centrality during the late seventies and eighties, sponsored by a rather compact set of scholarly works. It later permeated through several disciplines and has now earned a place within the many governance dimensions affecting economic performance. The present article aims to provide a historical account of the evolution and usage of the state capacity concept, along with its various operationalizations. It examines in particular: a) the growing distance in the usage of the concept by different disciplinary and thematic fields; b) the process of ‘branching out’ of the concept from restricted to more multidimensional definitions; c) the problems with construct validity and concept stretching, and d) the generalized lack of clarity that exists regarding the institutional sources of state capacity.

**Keywords:** state capacity - statebuilding - fiscal performance - bureaucracies - neopatrimonialism

**JEL codes:** D73 - D74 - H10 - H20

## 1 Introduction

*“The state has been brought back in. It now lumbers through the halls of academe, a great clumsy creature that no one quite knows what to do with.”*

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The great clumsy creature portrayed by Geddes in her 1996 *Politician's Dilemma* continues to create puzzlement today. Although it is well acknowledged that state structures and behavior are critical to development, efforts in dissecting and scrutinizing this 'creature' have run short. In an article titled *The Strange Absence of the State in Political Science*, Fukuyama (2012) contends that while many scholars are keen to do research on power-checking institutions, very few pay attention to the way the state actually accumulates and exercises power through its executive branch and bureaucracy. Part of the explanation, he argues, is that the predatory reputation of states among political economy scholars has turned the attention towards power limitation (Fukuyama 2013), or perhaps simply that assessing checks is methodologically easier than assessing execution potential.

Although much has changed since Geddes' book was published, the versatility of the literature on state capacity is largely reflective of her initial statement. In its various forms, state capacity has been linked to different outcomes: growth and economic performance (Evans and Rauch 1999; Hamm and King 2010; Hamm, King and Stuckler 2012; Dincecco and Katz 2012; Dincecco and Prado 2012), industrialization (Evans 1995), innovation (Weiss 1998), levels of violence (Huntington 1968), prevention of civil wars and conflict (Fearon and Laitin 2003, Fearon 2005; DeRouen and Sobek 2004; DeRouen et. al. 2010), war contagion (Braithwaite 2010); the implementation of peace agreements (DeRouen et. al. 2010), among others. But while empirical works on the determinants and consequences of state capacity have flourished in particular in the recent years, questions about what state capacity truly is, how it should be captured, and other several methodological challenges associated with it are much less resolved.

This article has the objective of providing a comprehensive review of the state capacity literature throughout many years and disciplines. It seeks to better unravel how scholars have conceptualized and measured state capacity, as well as the existing evidence regarding both its determinants and its consequences for development. It hopes to offer a critical analysis of the strengths and weaknesses associated to the concept and a benchmark to disentangle better and worse operational alternatives.

The next section reviews some of the pioneering works, mostly from classic political sociology and economic history. The third section provides a comprehensive analysis of the existing evidence on causes and effects of state capacity, clustered according to the different topics at hand. Section 4 provides a systematic overview of the conceptualizations and measurements in the literature, looking at the many

dimensions of capacity. The fifth section discusses some of the methodological and empirical challenges at stake. Section 6 outlines some of the lessons learned.

Several conclusions arise from this examination. The first and most salient one is perhaps the difficulty of invoking state capacity as a generic concept. There are multiple aspects of capacity, suggesting that a naive understanding of it might overlook important tradeoffs and contradictions. Also, there are broad and narrow definitions, where the former often fail to distinguish themselves from other constructs such as rule of law, governance or quality of government. Issues of concept stretching and construct validity arise as the versatility of the concept increases. In spite of this, there is some convergence in the conceptualization of state capacity over time that looks promising. Finally, measuring state capacity represents the most important challenge for research, in particular for time series analysis and large N comparisons.

## **2 The pioneering works on state capacity: political sociology and economic history**

The concept of state capacity is born out of the interest in understanding the role of the state in development, a highly positioned objective in the agenda of the political sociology of the second half of the twentieth century. Before that, the state as a primary object of study was subject to oblivion. According to Jessop (2001) the state's relevance was reinstated in two waves of political sociology scholarship: in the sixties, through the neo-Marxist theories on the capitalist state, and in the late seventies and eighties through the 'statist' institutional movement. In these works, discussions about state formation and state autonomy act as precursors of more systematic conceptualizations of state capacity.

The first wave took place in Europe, and was motivated by the need to reassess the traditional Marxist view of the state, against the backdrop of an emerging welfare economy. While traditional Marxism takes on an instrumentalist view of the state by which elites make use of it to fully regulate and reproduce the capitalist system to their benefit, there are now renewed concerns regarding state autonomy. The redistributive effects of welfare policies start to suggest that the state apparatus is endowed with 'relative autonomy' from the dominant class (Poulantzas 1974; Miliband 1969, Offe 1972)<sup>1</sup>. In spite of internal disagreements, this neo-Marxist literature agrees that the state acts as a stabilizer of capital-labor relations, helping

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<sup>1</sup>The argument is that the state needs this relative autonomy in order to truly fulfill the interests of the entire dominant class (Skocpol 1979: 27).

the elite conceal potential contradictions within the system.

The second wave takes place in the U.S., and adopts a perspective that deviates both from previous Marxist and behavioralist approaches in the study of governmental action. It represents a change of paradigm from society-centrism towards state-centrism, and the possibility of autonomic action within the state. It is strongly rooted in the Weberian tradition of modern states (e.g. Weber 1978), where two salient characteristics acquire centrality: the importance of coercive power monopolization by the central administration and the formation of professional, permanent and insulated civil service cadres. The remainder of this section focuses on the ‘statist’ movement and its derivations.

One salient early work within this scholarship is the highly detailed historical account of Charles Tilly *The Formation of National States in Western Europe* (1975), a collection of essays that looks into the role of war in the formation of national states in Western Europe<sup>2</sup>. The pivotal objective of the book is to show that variations in state formation processes respond to different countries’ military needs for warmaking (mainly in France, England and Germany), by means of securing an efficient and centralized revenue extracting apparatus. These efforts are complemented and extended in *Coercion, Capital and European States, AD 990-1992* (1992). In Tilly’s work, stateness in Western Europe is defined by formal autonomy, differentiation from nongovernmental organizations, centralization and internal coordination (1975: 35). The level of stateness is in turn determined by the state’s capacity to raise tax, that is, the capacity to “*build an apparatus which effectively drew the necessary resources from the local population and checked the population’s efforts to resist the extraction of resources*” (1975: 40).<sup>3</sup> The importance of conflict and revenue extraction in determining state features initiated a long-lived stream of research more recently reappraised by political economy and

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<sup>2</sup>Previous classic contributions to the study of state formation in Western Europe include *The Civilizing Process. Vol II State Formation and Civilization* by Norbert Elias (1982, first edition 1939) and *The Social Origins of Democracy and Dictatorship* by Barrington Moore (1966). The first provides a detailed account of the long historical evolution in Western Europe from a fragmented network of feuds into centralized absolutist regimes successfully claiming the monopoly of coercive power. The volume narrates the interactive and reinforcing nature of changes in microsocial behavior and culture, and more structural and permanent political transformations. The second resorts to a comparative historical analysis in order to show how endowments and productive structures determine the shaping of different political regimes in modern economies such as the U.S., Germany and France.

<sup>3</sup>The work of Tilly is vast, so his conceptualization of state capacity evolved likewise. In the book *Democracy* (2007), where he studies the interaction between democracy and state capacity, the latter is defined in a broader way as “*the extent to which interventions of state agents in existing non-state resources, activities and interpersonal connections alter existing distributions of those resources, activities and interpersonal connections as well as relations among those distributions*” (: 16).

conflict studies.

Another prominent early work on the state comes from the classic by Theda Skocpol (1979) *States and Social Revolutions: a comparative analysis of France, Russia and China*, a book that revives debates about the linkage between state autonomy and development. It analyzes how the state plays a role in the outbreak of revolutions in the three countries, by comparatively and historically assessing the interactions between the state apparatus and the ruling elites, and between bureaucratic actors themselves. The nature of these interactions determines the state's autonomic power. Although Skocpol focuses on the administrative capacity to carry out central policies, she acknowledges other dimensions too, such as coercive and extractive capacity: *"Obviously, sheer sovereign integrity and the stable administrative-military control of a given territory are preconditions for any state's ability to implement policies. Beyond this, loyal and skilled officials and plentiful financial resources are basic to state effectiveness in attaining all sorts of goals."* (Skocpol 1979: 16). The work shows that state structures affect the nature of revolutions, and these, in turn, shape historical processes of state formation: *"strengthened states -more centralized, bureaucratic and autonomously powerful-emerged from all three Revolutions"* (: 285). Her work is ground-breaking in the study of revolutions, since it escapes a purposive perspective and looks at deeply rooted structural factors.

A more micro-political approach to state capacity is taken in Skocpol and Finegold (1982), where two U. S. governmental programs of the post-depression in the 30s are examined in detail: the National Industrial Recovery Act (NIRA) and the Agricultural Adjustment Act. The administration of these two take opposing trajectories: while the first soon collapses under conflict and confusion, the second endures and becomes institutionalized. The explanation of the differences is centered around bureaucratic capacity: while the Agricultural Adjustment Act could rely on a capable administrative leadership, organizational unity and successful political learning, the NIRA run short of all of these.

A similar perspective is presented in *Bringing the state back in* by Evans, Rueschemayer and Skocpol (1985). This compilation of articles is fully centered around the purpose of showing the mechanisms by which the autonomous power of the state operates. In the introduction, Skocpol (1985) defines state capacity as whether a state is able to *"implement official goals, especially over the actual or potential opposition of powerful social groups or in the face of recalcitrant socioeconomic circumstances"* (: 9). Autonomy, on the other hand, is present when: *"[state] organizations claiming control over territories and people may formulate and pursue goals that are not simply reflective of the demands or interests of social groups, classes or society"* (: 9). Although the authors recognize that the state is not a



single, monolithic unit, they also argue that it is neither a simple arena for resource allocation, as it is portrayed in the pluralist scholarship. They call for an inductive approach to the study of the state, as they contend is the best way to capture the complexity of state-society relations. In this book, Rueschemeyer and Evans (1985) place the effectiveness of state intervention in the economy at the center of the scene. From a Weberian approach, they contend that a balanced combination of professional cadres in the bureaucracy and proper levels of intra-state agency coordination are the key to economic transformative capacity, an idea that would be more extensively explored in Evans (1995).

At the core of the Weberian tradition also lay the debates on the neopatrimonial state, albeit not always placing state capacity at the center. The meaning of neopatrimonialism is highly contested and controversial<sup>4</sup>, but is generally understood as a political setting in which-following Weber's typologies-, principles of both rational-legal and patrimonial state administrations coexist in a complex manner. The concept is often closely related and intertwined with patron-client networks, patronage and the notion of 'rentier state' in political economy studies<sup>5</sup>. Although formal rules have been put in place in neopatrimonial states, informality permeates the system and strong patrons strategically centralize and allocate political and economic resources to maximize private gains and maintain their privileged positions at the same time. In public administration studies, a particular strand has given special attention to the existence of so called "pockets of efficiency" (also "pockets of effectiveness") in national bureaucracies (Evans 1989), administrative strongholds where bureaucratic action is successfully isolated from electoral or patronage politics and reproduces itself over time on the basis of rational-legal rule (see for example Hout 2007, Roll 2011).

Other scholarly endeavors have contributed to the systematization of the state capacities literature. Nordlinger (1982) shows that public officials have the power to define public policy autonomously within democratic contexts. Skowronek (1982) explores how the fragmented and localistic state capacities of the United States in the 19th century shaped the industrialization process. Wildavsky (1986) analyzes the inertial evolution of the public sector. According to Krasner (1984), most of these statist approaches are persuasive in the idea that state structures can constitute valid explanatory variables for development outcomes.

Beyond the most well-known state-centered perspectives on state capacity, other

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<sup>4</sup>A critical and systematic discussion on the concept of neopatrimonialism and its derivations can be found in Erdmann and Engel (2007) and for Africa in particular in Bach (2011).

<sup>5</sup>Rentier states are defined as those that rely fiscally on the rents derived from the export of natural local resources (Chaudhry 1989, Karl 1997; Ross 1999, Kohli 2004). Some of this literature is later referenced in conflict studies.

classic works have persuasively framed discussions in terms of the implementation power of the state. In particular, Joel Migdal and Michael Mann present a relational approach on the mechanisms of power execution, by which the interactive and mutually reinforcing exchanges between state and society shape the historical processes of state capacity building.

The books by Migdal, *Strong States, Weak Societies* (1988) is illuminating in terms of how state capacities are configured in developing countries. In contrast to the statist view, Migdal's sociocentric perspective sees the development of the state apparatus as determined by the type of the social structures it seeks to regulate. He contends that the state-centric perspective is not instructive in developing countries, as the core issue of state autonomy and strength cannot be presupposed. Migdal simply defines state capacity as "*the abilities of state leaders to use the agencies of the state to get the people in the society to do what they want them to do*" (1988: prologue), or otherwise to "*achieve the kinds of changes in society that their leaders sought through state planning, policies and actions.*" (: 4). In this context, his perspective prioritizes the capacities to extract resources, regulate social relationships and penetrate the territory. He resorts to the dichotomous typology of weak and strong states, the former having high capabilities to complete these tasks, the latter unable to perform them<sup>6</sup>. The main question at stake in the book is why some countries were able to establish effective behavioral rules for societies, while others failed. Methodologically, the work takes on a qualitative-comparative approach to examine the cases of Egypt, India, Israel, Mexico and Sierra Leone through a most-different cases research design. He finds that the key to explaining state capacities is the distribution of social control among many organizations, including the state. In order to build a strong state (for example Israel), it is needed that colonial powers centralize social control and resources within a governmental organization instead of diffusing control through local chiefs. The latter option favors strong societies and weak states, and facilitates state capture. While strong societies are conducive to democracy, they hinder 'stateness', and therefore, the formation of a strong states.

In *The sources of social power* (1986 and 1993), Michael Mann introduces some innovative concepts in the field of state capacities. He studies power relations in terms of multiple and intersecting networks of influence, which represent organizational means of obtaining human goals. He defines four so-called sources of social power: ideological, economic, military and political, the latter being the state's domain. He contends, in turn, that states exert two types of power: despotic

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<sup>6</sup>A similar typology depicting "soft states" was previously introduced by Gunnar Myrdal (1968). The weak-strong classification has been largely criticized for being inaccurate and too simplistic (e. g. Evans and Rauch 1999), but its general terms still persist in the states capacity literature (e.g. Fukuyama 2004, Acemoglu 2005).

and infrastructural. Despotic power is the state's power to impose mandates over society, or "*the range of actions the state elite is empowered to undertake without routine negotiation with civil society groups*" (Mann, 1988: 59), while infrastructural power refers to "*the institutional capacity of a central state, despotic or not, to penetrate its territories and logistically implement decisions*" (: 59). The distinction introduced by Mann generated new debates, as despotic power was until then the most frequent interpretation of state power <sup>7</sup>.

Relational approaches to state capacity gained important terrain in moving beyond organizational views of the state, which in turn fostered theoretical discussions about governance as a broader concept than government (see, for example, Robinson 2008 as an example of state capacity analyzed in terms of socio-economic engagement).

### **3 Determinants and effects of state capacity: debates and evidence**

Following the classic literature on state capacity of the eighties, a large stream of works have flourished regarding both the effects as well as the determinants of state capacity. On occasions these works follow the interests and theoretical insights of the early literature, and on others the conceptualizations are somewhat weaker, based on a more intuitive understanding of state capacity.

In general, the interest in state capacity was channeled through four distinct - yet interlinked- thematic/disciplinary fields: development economics and economic history, comparative politics, conflict studies and game-theoretic political economy. At the risk of oversimplifying, it can be said that debates on state capacity, growth and industrialization are examples of the first; the role of state strength in conflict onset is an example of the second; the interest in the effects of micro and macro political factors on state professionalization is an example of the third; and the study of the incentives for actors to invest in state capacity is an example of the last disciplinary field (the last two have tended to converge progressively). The present section examines some of these works and their evidence. It starts by exploring the effects of state capacity on economic outcomes, followed by its effects on conflict and political outcomes. It later moves on to assess the literature on the historical and economic determinants of state capacity, and finishes with a review of its political and institutional determinants.

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<sup>7</sup>Soifer (2008) makes a detailed account of the ramifications of the different interpretations of infrastructural power in the literature.

## 3.1 How state capacity affects development outcomes

### 3.1.1 Bureaucratic capacity, Innovation and Industrialization

In *Embedded Autonomy* (1995) Peter Evans analyzes the ways in which state behavior has the power to shape structural change and promote industrial growth through its transformative capacity. He focuses on the information technology (IT) sector of newly-industrializing countries (NICs) such as Brazil, India, and South Korea during the seventies and eighties. The main question explored is how can the state play an active role in helping modern economies fit the global division of labor. He posits that the range of actions a government can take depends on the kinds of state structures in place. More precisely, the secret to a developmental state is the existence of high levels of *embedded autonomy*, a combination of internal bureaucratic coherence within agencies and external connectedness with key industrial sectors. The case of Korea is the one that fits more closely the ideal of embedded autonomy, while Brazil and India represent cases of partial success. In predatory states -exemplified by the case of Zaire-, civil servants pursue their own goals, overall individual maximization predominates over collective goals, and frail bureaucracies fail to create a virtuous association with key industrial sectors<sup>8</sup>. *Embedded Autonomy* manages to enrich discussions on how exactly states intervene in the economy, by bringing forward another typology of state behavior. According to it, states can take on four main roles: a policing role of ‘custodian’ or general regulator; a ‘demiurge’ role of providing goods and services, a ‘midwifery’ role of attracting capital to new sectors; and a ‘husbandry’ role of nurturing and developing these sectors. Developmental outcomes depend on how these roles are combined. For the IT industry in particular, the book illustrates that a proper combination of midwifery and husbandry steering tends to be more successful than any of the other two ideal types.

Linda Weiss (1998) follows the path of Evans (1995) by exploring the transformative capacity of states against the backdrop of globalization, and challenging mainstream views about the demise of the state in this new type of world (e.g. Strange 1996). Similarly, she contends that the level of state intervention is not informative of its power, but transformative capacity is. The latter is conceived as “*the ability [of the state] to coordinate industrial change to meet the changing context of international competition*” (: 7). As a step further from Evans, Weiss studies the somewhat contradictory relationship between transformative and distributive capacity through five case studies: Taiwan, Japan, South Korea, Swe-

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<sup>8</sup>The typology that depicts states as predatory, intermediate or developmental is extensively explored in a previous work (Evans 1989), where Evans argues largely against the Neo-utilitarian perspective conceiving the state as inherently antidevelopmental.

den, and Germany. In her cases, transformative capacity dominates the emerging economies of Taiwan and South Korea, whereas distributive capacity remains at the core of the Swedish economy. Germany and Japan, on the other hand, are two cases with a proper combination of both capacities. She finds that while distributive capacity grants high density to state-society relations, it hinders innovation within the industrial sector.

### 3.1.2 State capacity and growth

Following the line of state capacity as bureaucratic professionalization, Evans and Rauch (1999) and Rauch and Evans (2000) represent seminal empirical assessments of the impact of bureaucratic ‘Weberianness’ on economic growth. They design and construct the Weberian State Dataset, a dataset made of surveys examining bureaucratic features such as meritocratic recruitment, salary arrangements and career paths in 35 developing (semi-industrialized) countries for the period 1970-1990 (time-invariant). The surveys required the assessment of either 2 or 3 experts in each country, who answered questions about objective aspects of the different bureaucratic features. Making use of this novel source of data, they present evidence showing strong associations between ‘Weberianness’ and economic growth in these emerging economies (Evans and Rauch 1999). Also, Rauch and Evans (2000) find significant associations between levels of bureaucratic ‘Weberianness’ taken from their survey and notions of state effectiveness, as measured in other sources of data.

Bockstette, Chanda and Putterman (2002) develop an index of state antiquity for a large set of countries that they later associate positively with GDP per capita levels and economic growth, among other things. The article shows and reinforces the idea that early state formation and institution building is an advantage in achieving higher performance for development.

The work by Hamm and King (2010) concentrates on the role of state capacity as a mediating variable between growth and development. They seek to complement debates on the effects of Foreign Direct Investment (FDI) on national economies, where existing evidence has been ambiguous. In this article, they aim at providing an empirical analysis assessing the comparative impacts of FDI and domestic investment in post-soviet transition countries over time, mediated by institutional aspects. They assess the link between FDI and growth in a panel of 31 post-soviet transition economies between 1989 and 2004 through a series of fixed effect regressions, and instrument FDI with foreign aid measures in order to minimize endogeneity. Given the lack of relevant data for these countries, state capacity is operationalized through national murder rates, as they argue is a good proxy

for the governments' ability to provide stability and good enforcement, following Popov (2001). They find that FDI levels have a positive effect on GDP per capita only contingent upon high levels of state capacity, and moreover, that whenever a well-functioning state is not in place, FDI impacts can be negative. On the contrary, there is no evidence of the same positive effects on growth of domestic investment. They suggest these different impacts occur through several channels: a) the lack of predictable legal systems; b) the state's incapability to regulate capital to enhance national welfare; c) the incapability to protect and enforce property rights, which encourages short-term investments and fast capital repatriation; and d) the lack of a strong bureaucracy, which creates a fertile ground for extended corruption.

Hamm, King and Stuckler (2012) further develop the causal mechanisms by which FDI affects differently transition countries in the post-Soviet era. They challenge traditional market-centered explanations by proposing a neo-Weberian explanation for the variance in outcomes, one that focuses on the bureaucratic capacity of the state. State capacity is understood as the existence of infrastructural power (Mann 1986): the ability of the state to penetrate society and realize its objectives. They pursue two empirical strategies in order to show that reform initiatives such as mass privatization impacted negatively on state capacity and growth. The first one is a time-series analysis for 25 post-communist countries between 1990 and 2000, exploring the effect of mass privatization on two response variables: GDP per capita and state capacity. State capacity is measured here through an objective indicator of fiscal capacity: changes in total government spending between 1992 and 2000 (government spending in 2000 U. S. dollars expressed as the share of 1992 spending). Mass privatization is captured through a novel indicator taken from the European Bank for Reconstruction and Development Transition Report Series. The second empirical strategy is a cross-sectional analysis of the impacts of mass privatization and price liberalization on state capacity through logistic regressions. In this case, state capacity is measured through three subjective indicators from BEEPS firm-level surveys from 3550 firms across 24 countries (World Bank/EBRD Business Environment and Enterprise Performance Surveys), as well as total government spending. The survey coded firm managers' answers on whether they thought the state was efficient, whether it respected property rights and whether higher corruption existed. The resulting evidence from both strategies shows that mass privatization programs hindered state capacity, and the latter affected growth negatively. The authors argue that shock therapy instrumented through privatization, price liberalization, fiscal and monetary austerity and free trade lowered fiscal capacity in countries where it occurred faster, and subsequently decelerated growth. Mass privatization affected state capacity directly by eliminating profits coming from state owned enterprises, which augmented budget

deficits; and indirectly by creating agency problems due to the increasing dispersion of firm ownership, which fostered overall non-compliance by enterprises. Also, mass privatized firms were less likely to be endowed with strategic expertise and resources, and therefore failed to undertake successful restructuring programs. As a consequence of several factors, these firms preferred entering the black market (nonmarket activities), and therefore paid less tax to the state, reinforcing the vicious circle.

The articles by Dincecco and Katz (2012) and Dincecco and Prado (2012) explore the impacts of state capacity on long-run economic performance in Europe. Following the line of Dincecco (2011), they consider that state capacity is a combination of tax extraction centralization and executive power limitation through institutional checks. After arguing that different institutional reforms represented exogenous shocks to these two (uniform tax systems were implemented after foreign conquest, power limitation reforms occurred in a series of historical junctures), they analyze their impacts on a series of economic outcome measures.

Dincecco and Katz (2012) present two sets of simultaneous equation models where state capacity is proxied through levels of tax extraction and productive expenditure. A full-period model accounts for the endogeneity between performance (measured in GDP per capita in 1990) and government revenue (1650-1913). A second partial sample includes government spending as a measure of state capacity in addition to revenue (1816-1913). Both models include regime type dummies (centralized-limited, fragmented, centralized absolutist), arguing that these are exogenous. In their conclusions, they suggest that the causal direction is such that regime type affects tax revenue extraction and spending quality in the first place, and through this channel is then performance affected (: 18).

Dincecco and Prado (2012) present an empirical strategy that uses exogenous variation in fiscal capacity in order to assess its effects on productivity. Their measure of performance is the log of GDP per worker, and their measure of fiscal capacity is the share of total tax revenues from direct taxes (income, social security, payroll, property taxes). In order to find exogenous variance, they instrument fiscal capacity with war casualties, and construct three instruments: total casualties on major external conflicts between 1816 and 1913 another between 1700 and 1788 from Clodfelter (2002) and a third with casualties on major external conflicts between 1816 and 1913 from Correlates of War. They argue that through war, states made fiscal innovations that persisted in time and can explain performance. Additionally, they use the ratio of total tax revenue to GDP. After two-stage least squares estimations are run, the evidence suggests strong positive effects of state capacity on productivity.

### 3.1.3 State capacity, Conflict and Fragile States

After numerous incidents of state collapse at the beginning of the 21st century, the conflict literature in international relations started to take a special interest in state strength and capacity as potentially powerful explanatory variables behind the breakout of violence, in particular in Sub-Saharan countries. Several works account for this.

Fearon and Laitin (2003) show that among the factors that facilitate guerrilla warfare and insurgency are low financial, organizational, and political state capacities. Somewhat later, Fearon (2005) responds to Collier and Hoeffler's argument (2004) that the share of primary commodity exports is a determinant of civil war, by showing that this mechanism runs only through low state capacity. DeRouen and Sobek (2004) take a similar perspective. They find that state capacity is at the core of civil war outcomes and duration. They argue, however, that while a more effective bureaucracy favors the government, higher coercive power from the state does not necessarily have the same effect.

The relationship between conflict and state capacity is further and extensively explored in a special issue by the Journal of Peace Research. There, Sobek (2010) shows that more capable states provide lesser opportunities for rebels to initiate violence, as they are able to channel social demands in a way that limits the possibilities of rebels to achieve collective action. In the event of violence, capable states are more prone to choose bargaining as a way out. Braithwaite (2010) contends that state capacity affects the probabilities of contagion from neighboring countries. Lower state capacity gives a lesser chance to resist the spread of regional conflict, as exemplified in the case of the collapse of Zaire after massive influx of refugees during the 1994 Rwandan genocide. Using a simultaneous equation framework, Thies (2010), in contrast, finds no direct effect from state capacity on conflict onset, but an inverse relationship. DeRouen et. al. (2010), in turn, examine the importance of state capacity in the implementation of 14 peace agreements in Northern Island, Indonesia, Burundi, Mali and Somalia. Interestingly, state capacity is here *"the states' ability to accomplish those goals it pursues, possibly in the face of resistance by actors within the state"* (: 335). The authors find that state capacity is indeed an important determinant of both the enactment and implementation of peace agreements, and that the interaction between capacity and third-party intervention is more significant in low capacity countries.

McBride, Milante and Skaperdas (2011) present a dynamic game-theory approach to analyze the role of state capacity as a commitment-enabling institution in conflict resolution. Given a certain conflict, they analyze how different levels of state capacity affect the likelihood for peace to prevail versus the continuation of conflict.



State capacity is understood as the quality of institutions that allow commitment enforcement, by protecting a portion of the disputed rents from being captured by war. In this model, each party needs to decide how much to spend in arming, given the expected payoff from winning the disputed rent, versus the protection of rents determined by the level of state capacity. Given these levels of arming and state capacity, each party determines whether to accept peace or not. The article proposes two versions of the model, one with exogenous state capacity and the other endogenizing this capacity, subject to three determinants: the type of intervention exerted by external forces; the history of interactions between the parties; and the past investments made in state capacities by adversaries. The main question at stake is: under what conditions will the parties invest in state capacity in order to reach the needed threshold for peace to be self-enforcing? The derivations of the model show that only when state capacity is sufficiently large peace is self-reinforcing.

## 3.2 Determinants of state capacity

### 3.2.1 State formation and the historical determinants of state capacity

The so called ‘bellicist’ hypothesis of Charles Tilly (1975 1992) fostered many works on the historical determinants of state capacity, in particular regarding the impact of war in state formation.

The book by Centeno (2002), for example, seeks to unravel the impact of internal and external war in state effectiveness in Latin America. In contrast to the European case, organized violence in the form of state war in this continent is a rare occurrence, while state capacity is infrastructurally weak, presenting an interesting case of analysis in the light of the bellicist approach to statebuilding. In this framework, state capacity is understood as *“the ability of the relevant political authority to enforce its wishes and implement policies”* (: 3). The book first analyzes why violence is a rare occurrence, and then why the lack of violence and low state capacity reinforce each other over time. To answer the first, Centeno points at different factors: a) the fact that Latin America fought ‘limited wars’ instead of mass wars; b) it minimized border conflict by accepting colonially imposed borders; c) external powers mediated in wars; d) domestic elites were more divided than in Europe; e) more caste divisions existed, f) administrative chaos followed decolonization (: 22-23). After these initial conditions in which Latin America went through independence from colonial rule, a path-dependent story followed, where the lack of centralized violence led to weak statebuilding. The bellicist

theory suggests several channels through which wars build states: by centralizing power and revenue extraction, by creating a higher level of national belonging that fosters more cooperation from society towards the state; through war success as a way to grant state legitimacy; through mass conscription, which improves organizational capacity and further centralization. Centeno explains why in Latin America these channels are broken. While administrative capacity barely existed at the moment of independence, partial wars did not encourage mass mobilization of armies, therefore discouraging its professionalization. Also, social divisions were above national sentiment and the results of war were mostly negative: debt, breakdown and chaos. Yet, within this universe he finds variations in the continent: the centralizing power of war was stronger in Chile, Mexico and Argentina. In the conclusions, Centeno suggests thinking about treating Europe as an exception instead of a rule. Thies (2005) further explores the relationship between wars and statebuilding in Latin America by empirically testing Centeno's theory. He finds that indeed in Latin America the occurrence of external war does not have a positive impact on taxation, while civil war has a strong negative one.

Cardenas (2010) offers further theoretical insights regarding the determinants of state capacity building in Latin America. In line with Centeno (2002) he argues that the Latin American state has been "*extremely weak in terms of the most basic capacity measures*" (: 2). Although initially capacity is understood as the "*professionalization of the state bureaucracy, its ability to protect property rights and make credible commitments to private investors, as well as its ability to raise revenue from the society*" (: 2), later fiscal capacity takes the main role: "*state capacity is defined as the state's ability to generate tax revenue from the public*" (: 15). The article presents a game-theoretic framework based on Cardenas and Tuzemen (2010 2011) that models the impact of four factors in state building: two traditional ones in bellicist accounts like internal and external war, and two novel ones, political and economic inequality. Capacity accumulation is modeled as investments under uncertainty, in the same vein of Besley and Persson (various). In a nutshell, whoever is in power (the citizens or the elite) has to make decisions on how much to invest in state capacity for the future, how much to tax, and the amount dedicated to providing public goods. Investments in state capacity are risky because they take away resources from private consumption, and can be used by the opposition at a later point in time for redistribution. There is uncertainty on how much society will value public goods in the second period, because it is determined by exogenous factors (e. g. internal or external wars). Each sector derives utility depending on the value of public goods and the resources left for private consumption after tax. The government makes the three decisions based on the maximization of the sum of weighted utilities of the two groups (the weight depends on whether the government is utilitarian or group-biased) plus the

expected payoff for the second period, for the group who is in power in the first period. The decision on how much to invest in state capacity for period 2 depends on two unknown variables: the future value of public goods, and who will hold power, in addition to the expected net payoff. The result is that the optimal level of investment depends on the value for public goods in both periods, as well as the level of group-bias (the weight given to the value of private consumption for the ruling group). While conflict affects the first, political and economic inequality affect the second. The results show that political and economic inequalities lower the incentives to invest in state capacity. These deductions are contrasted empirically as well. The article resorts to a cross-sectional empirical strategy with 125 countries in order to see how each of the four variables is associated to state capacity. In line with Hendrix (2010) Cardenas retains only administrative and fiscal capacity<sup>9</sup>. The overall results suggest a strong positive association between the eight state capacity measures and political equality and external war; and a negative and significant association with internal conflict. The results for economic equality are more ambiguous. The role of external wars loses some significance when the estimations are run comprising only the last 50 years, therefore challenging somewhat the bellicist argument: while it seems true that intrastate conflict has hindered capacity in Latin America, external conflict does not explain capacity improvements in the region. Cardenas argues that this hypothesis might hold for the US and Europe, but not other regions, and not for the last 50 years in a cross section of countries.

Cardenas, Eslava and Ramirez (2011) aim to test the hypotheses that external conflict has a positive impact on state capacity and internal conflict has a negative one with time-series data. They run GMM estimations on two panels: one covering 188 countries between (1975-2004) and another covering Colombian municipalities, accounting for conflict intensity and conflict type, and using mainly fiscal and legal capacity measures. They find that internal conflict has a negative impact on fiscal capacity and public goods provision, while the intensity of the conflict exerts the expected effect. There is no evidence that external conflicts, on the other hand, have a significant impact.

The work of Dincecco (2009, 2010, 2011) has extensively studied the historical determinants of fiscal capacity in Europe, in a different vein of war-centered explanations. Dincecco (2009) analyses the mechanisms by which fiscal centralization and limited government reduce sovereign credit risk. Dincecco (2010) argues that

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<sup>9</sup>There are in total eight measures of state capacity, the first three fiscal, the last five administrative): i) GDP share of total revenue, ii) GDP share of income tax revenues, and iii) total tax share of domestic tax revenue; iv) outright confiscation and forced nationalization; v) ease of doing business; vi) government effectiveness; vii) question 21 from the State Capacity Survey from Columbia University; vii) state capacity measures from IADB.

the mechanism through which regime type reduces sovereign credit risk is a reduction of budget deficit. Dincecco (2011) explores the historical determinants of fiscal capacity in Europe between 1650 and 1913. The book assumes that states are predatory and that parliaments and institutions help set limits to expropriation. The main hypothesis is that the secret of wealthy countries is to have evolved towards building centralized powerful extractive systems, while developing institutions to control the expenses of the executive power at the same time. He shows and explains that throughout the period there is a passage from weak monarchic control over tax collection and strong control over expenditures towards strong extraction control and limits to spending, and explains how this passage happens. The book also examines empirically through panel estimations and structural breaks models the effects of institutional changes on government revenue and fiscal prudence, showing that both contribute to better fiscal standards.

Charron, Dahlstrom, Lapuente (2012) offer yet another perspective on how state formation affects subsequent types of administrative infrastructure. They observe from the scholarly work on state formation in Europe between the 16th and 18th centuries that different historical processes derived in either patrimonial or bureaucratic state infrastructures, in the terms of Ertman's typology (1997). Patrimonial administrations were directly accountable to the leader (as is the case of France, Spain, Portugal, Poland and Hungary), while bureaucratic ones extended the base of meritocratic appointments (Germany, Britain, Denmark). They argue that the type of functioning state originally instated creates a path dependency that will affect other institutions, and will also shape the effect that any legal framework will have. They do not contradict the legal origins theory of La Porta et al. (1999), but argue that the ultimate cause of institutional quality is the type of administration built. In their opinion, the selection of legal tradition between Common Law and Civil Law, is not entirely exogenous, as it is a voluntary decision that depends on the existing state, and it is therefore politically-motivated. As an example they mention that Latin American states were formed after the legal tradition was established in the conquest. Through OLS regressions, the article compares the importance of state infrastructure versus legal origin in explaining 16 institutional indicators grouped in four areas: 1) government regulation; 2) judicial institutions; 3) financial institutions and 4) governance in 31 OECD countries. The findings show positive and significant associations in 11 of the 16 dependent variables when all countries are in the same sample. They also run separate t-tests to assess the statistical significance of the difference in the institutional indicators between groups of legal origin and find mixed evidence.

### 3.2.2 Investments in state capacity

There is a fast growing strand of game-theoretic literature looking at the incentives to invest in state capacity, which partially overlaps with the economic history works on state formation (e.g. Cardenas 2010). Much of this strand is embedded in the ‘limited state’ literature, where the subject of state capacity is indirectly addressed by the interaction between institutions and property rights enforcement (North 1981 1990). In general, it is assumed that contracting institutions are essential in order to provide the adequate environment for investment and innovation. The enforcement of property rights requires a strong legal system that constrains the ruling elite’s expropriation potential, through predictability and rule of law. In this respect, state capacity is understood mainly as legal capacity, and it is associated with less intervention potential.

While Acemoglu and Verdier (1998) and Acemoglu (2005) gauge the effect of enforcement capacity and state strength in the economy, the subsequent works look deeper into how state capacity is built, and what are the incentives actors face in order to invest in it.

Acemoglu and Verdier (1998) study the relationship between investments, bureaucratic corruption and the enforcement of contracts. In contrast to other works within this literature, both the enforcement of property rights and bureaucratic corruption are now endogenized. In this framework, investment decisions are contingent upon the degree of property rights contracts enforcement, and this, in turn, depends on the level of bureaucratic corruption, as enforcement needs a certain degree of non-corruption. More precisely, the decision to invest depends indirectly on three factors regarding the bureaucracy: its size, its degree of corruption, and the probabilities of corruption being detected. Quite clearly, corruption levels depend on the latter variable, plus the level of public wages. If bureaucrats are caught taking bribes, they lose their wages and the bribes. But paying high wages is costly, because it attracts talents with no comparative advantage for the public sector. In sum, the paper presents the tradeoff between property rights contract enforcement and the allocation of talent, understood as more people applying to the private sector. The result of the optimization made by a social planner is to set the wages at the maximum degree of bureaucratic corruption that still allows the enforcement of property rights and investment. This is even more pronounced when productivity is lower, as is the case in many of the less developed countries. Only under certain conditions there is a so called “free-lunch” effect, where higher wages result in: a) less corruption; b) a smaller bureaucracy and a larger number of agents who work in directly productive jobs and c) a better allocation of talent.

Acemoglu (2005) presents a model seeking to outline the effects of state strength on the economy. The article attempts to fill the gap regarding the tradeoff between the distortions posed by self-interested rulers with taxation power, and the inefficiencies that arise from the lack of state authority. For this, it builds on the typology by Migdal (1988) on weak and strong states, and the tradeoff between the power of the state versus the power of society. A state can be weak or strong both politically and economically: in politically weak states rulers can be replaced easily, while economically weak states have low capacity to tax. Rulers need to choose between the use of public resources for their own consumption or devoting them to the provision of public goods. In this model, too weak and too strong states (both economically and politically) create distortions. In weak states rulers cannot derive high future benefits from public investments, and therefore choose to underinvest in public goods and state capacity. When states are too strong they can impose such high taxes that the economy can lose vigor. The ideal scenario is somewhere in the middle, a situation in which rulers can tax and have incentives to invest in public goods. An equilibrium named *consensually strong state* exists if the state is politically weak but high taxes are imposed. This state explains the inverse relationship commonly observed between taxing capacity and executive constraints, and it emerges when decreases in political power raise investments in public goods, and as a consequence citizens agree to pay higher taxes.

Acemoglu, Ticchi and Vindigni (2006 2011) present a model showing some mechanisms by which inefficient states arise and persist as a consequence of patronage politics. They consider that “*societies with limited state capacity are those that invest relatively little in public goods and do not adopt policies that redistribute resources to the poor*” (: 1). State capacity and state efficiency are somewhat equated and involve the abilities of a central authority to monitor bureaucrats. This capacity is in turn dependent on the previous year investments. Starting from a non-democratic regime, the article claims that a transition to democracy might foster the selection of an inefficient state by the rich elite in control. This happens as the elite captures democratic demands through patronage, and avoids redistribution demands. The use of patronage can become self-reinforcing and thus explain the persistence of inefficient states. After democratization, bureaucrats can vote for either the pro-poor or the pro-elite party. The electoral support of the bureaucracy is key to winning elections. Although the bureaucrats are by assumption poor, they find it more convenient to vote for the pro-elite party, as they foresee that the poor will demand changes in the bureaucracy in order to better redistribute rents through taxing policy. If the elite wins, bureaucrats receive convenient rents from the elite that would otherwise lose after efficiency-oriented reforms. The elite also gains from an inefficient state, as it avoids more taxes and redistribution. The emergence and persistence of inefficient states is more likely

to occur when inequality between rich and poor is higher, because the rich elite is more prone to avoid redistribution and therefore allow higher rents for the bureaucracy. On the other hand, if rents are too high and become too costly for the elite, the latter might simply prefer to redistribute, pushing bureaucrats to adapt their demands accordingly.

Besley and Persson (2007 2008 2009) do extensive work on unraveling the determinants of state capacity. In this setting, capacity building is seen as an investment made by incumbents as a function of future levels of social valuation for public goods. These levels are allowed to vary exogenously according to different political and historical circumstances, so that capacity building acquires the format of investments under uncertainty.

In Besley and Persson (2008) they analyze how self-interested incumbents decide to use part of the government's revenue to invest in fiscal capacities that enable higher tax extraction from the society in the future. Raising public revenue is key to providing a higher level (or a better quality) of public goods, in this case exemplified by defense against external threats. They analyze how two types of exogenous conflicts, internal insurgency and external war, affect the value that society grants to public goods, and as a consequence, the relevance of investing in fiscal capacities. The model predicts that the expectation of future external conflict will raise today's investments in fiscal capacity, and all sectors of society will be taxed equally, such that revenue raising is optimized. In contrast, the expectation of future internal conflict has the opposite effect: as all fiscal capacity is destroyed when internal conflict occurs, the value of public goods decreases, incumbents favor their own group in society with redistribution, and no public goods are provided.

In an extended model (Besley and Persson 2007, 2009) they also analyze investments in legal capacity as an endogenous policy decision. Legal capacity is understood as the capacity to protect and enforce property rights, a market-supporting institution. Apart from conditioning investments on internal and external conflict, they also show that other political factors can change the value of public goods, such as the level of inclusiveness of institutions (capturing political polarization), the level of political stability, and whether the political regime resembles that of a utilitarian planner or a politically-controlled one. Several derivations arise from their model: investments in legal and fiscal capacity are complementary; wealthier countries choose higher levels of both types of capacity; greater political stability raises investments in state capacity; a more representative political system (meaning, closer to the utilitarian planner ideal) also raises investments in both capacities; and finally, the higher the wealth of the ruling group, the higher the investments in legal capacity, and the lower in fiscal capacity.

One of the novelties of Besley and Persson's (2011) *Pillars of Prosperity* is that it includes the role of violence in the previous models and seeks to interact more closely with the literature on conflict and fragile states. It further adds complexity on the conceptualization of state capacity, and makes a special effort to distinguish policies from institutions. State capacity is seen as capital investment, and it has four dimensions: a) taxing, b) contract enforcing (called productive capacity); c) coercive (peace and order); d) regulatory/distributive: public goods provision. The authors point out that while most of the economic development literature takes for granted the ability of the state to perform these tasks, this is very much different for the development community on weak and fragile states. The book asks what determines the building of different capacities, and why are they complementary. In this framework, self-interested governments decide upon policy depending on a set of constraints posed by the political institutions, and always seek to be re-elected. At the same time, their re-election depends on investments on violence, similarly to those who are out of power and maximize their opportunities to re-gain it. The conclusions show that stable politics, along with consensual institutions and a higher demand for public goods are more conducive to greater investments in state capacities. There is a particular emphasis on the importance of cohesive institutions. There are three resulting state types: a) common interest states; b) redistributive states and c) weak states (this typology is closely explored in Besley 2011). At the same time, the book explains the empirical pattern of clusterization of low income, fragile states and violence, by the existence of complementarities between state capacities. One very interesting angle of the book is that it explains how different types of foreign aid can affect state-building. For example, cash aid can help common-interest states, but has no effect when states are redistributive or weak. Infrastructure aid can raise private incomes and help stress the importance to build the state. Differently, military assistance can reinforce the power of the incumbent, and increase violence.

### **3.2.3 Political and behavioral determinants of state capacity**

During the nineties, political science also advanced discussions on the determinants of state capacity, in this case centered around how different features of the political system such as constitutions, party systems, party discipline, or political survival, affect bureaucratic professionalization and policymaking capacity.

For Margaret Levi (1988), state capacity is the state's ability to provide collective goods by raising revenue. She follows the line of Tilly by studying the determinants of fiscal capacity, not subject to external conflict, but to internal political conditions instead. Taking on a rational choice approach, Levi contends that lead-



ers are self-interested and revenue-maximizers for the whole of their tenure, as revenue “*enhances the ability to extend rule*” (: 2). The main hypothesis is that the chances to raise revenue and the organizational structures favored are affected by three main constraints. First, the insecurity of the leader’s mandate duration. Leaders discount the future based on their expectations to remain in power, and normally political rivalries and insecurity lead to high discount rates. In these settings, extraction policy tends to be less concerned with damaging economic performance. Second, the transaction costs associated with revenue raising. It is assumed that agents will break contracts whenever it is convenient, depending on the costs associated to the changes. Policymakers need to lower transaction costs, as a tradeoff exists between revenue extraction and transaction costs. The latter are defined as “*the costs of measuring, monitoring, creating and enforcing compliance*” (: 12). A third constraint is the bargaining power of rulers. Rulers have more bargaining power if they can monopolize coercive, economic and political resources. Given these factors, creating compliance is a continuous interaction between rulers and citizens in the form of collective action problem. The book’s main hypotheses find support through an empirical strategy that explores the variation in major tax policy choices as a consequence of changes in the three political constraints mentioned above. The historical case studies are chosen according to different levels of state development and the fact that all of them are in the midst of historical change: Ancient Rome, medieval England and France, Britain during the industrial revolution and post-World War II Australia <sup>10</sup>.

Similarly, the book by Barbara Geddes *Politician’s Dilemma* (1996) is a salient initiator of debates on how political institutions shape politicians’ incentives to build administrative competence in Latin America. Her model lies somewhere in between intentional and structural approaches, where certain institutions constrain politicians’ choices regarding administrative reform, and these choices, in turn, have an impact on the structure of the politics-bureaucracy interaction in the future. Geddes considers state capacity to be equated to the implementation power of the state, a task that falls inherently under the bureaucracy and is as important as decision-making. This implementation power depends on the possibility to count on a politically-insulated bureaucracy<sup>11</sup>, and the advancements in terms of merit-oriented administrative reform: “*the capacity to implement state-initiated policies depends on the ability to tax, coerce, shape the incentives facing private actors, and make effective bureaucratic decisions during the course of implementation. All of*

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<sup>10</sup>An interesting operationalization of Levi’s model can be found in Young (2009).

<sup>11</sup>The political insulation of agencies is a different idea from autonomy from societal and economic interests. Geddes considers that an efficient administration is not an administration that is autonomous from social or class demands, but an administration that is unaffected by particularistic political interests.

*these abilities depend in turn on the existence of effective bureaucratic organizations.*" (: 14). It is worth noting that in Geddes' understanding the state is not an actor with relatively autonomous preferences, but an entity consisting of self-interested individuals (presidents, legislators, party leaders and bureaucrats) who seek to maximize their career opportunities, somewhat similarly to Levi (1988). In this sense, the responses of these four types of politicians can be different depending on their career incentives. In unreformed systems, politicians can influence their reelection opportunities by using state resources (primarily jobs) in order to buy loyalties. When analyzing Latin American presidents' efforts to build state capacities, the author introduces the notion of *politician's dilemma*: a president faces a tradeoff between appointing competent state managers who increase the chances of fostering growth and development, and appointing partisan managers to reassure their support. Both dimensions contribute to their career prospects, even in systems where immediate re-election is forbidden<sup>12</sup>. Administrative reform is seen as a collective action problem of the type iterated prisoner's dilemma, where cooperation to minimize the role of patronage through reform happens only if others are willing to cooperate as well: "*Politicians who might otherwise consider offering reforms as a strategy for attracting support will not be able to afford the cost in lost political resources as long as they compete with others able to use such resources in the struggle for votes. This is the politician's dilemma. A politician might in some circumstances, however, be willing to give up this resource if everyone else were also willing.*" (: 42). Several interesting propositions arise from Geddes' model. First, whenever large parties are evenly represented in Congress -and therefore have equal access to patronage-, legislators will feel more inclined to pass administrative reforms. In the cases when this happens, and parties' strength remains stable over time, the likelihood of furthering and enhancing reforms also increases. In contrast, when some parties have a privileged access to patronage, it becomes rather easy for them to block reform, given the high costs of organizing collective action for the opposition. This situation is exemplified by the Brazilian case between 1946 and 1964, when the PSD-PTB governing coalition had an asymmetric access to patronage, and minority reform-oriented parties such as the UDN failed in bringing about reform. Second, those feeling in a more secure position within their parties will tend to promote reforms, while the weaker ones will need to use more state resources in order to buy or reassure political loyalties. Third, minority parties will always prefer reform preventing big parties from using patronage. Fourth, presidents coming from parties with greater party discipline will tend to favor reform more frequently. Fifth, electoral systems favoring personalized voting grant more value to patronage, and therefore

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<sup>12</sup>The assumption is that presidents will want to run for elections at a later point, and having fostered growth in the past increases their chances of winning office again.

disincentive reform. Sixth, presidents coming from new parties need to rely more on patronage to consolidate their organizational base, and thus the gains from reform are lower. Finally, when patronage is not evenly distributed, but there is strong pressure from society to introduce reform due to some political event, then political entrepreneurs gain substantially from reform in terms of career perspectives, regardless of how asymmetric the access to patronage is, and reform is also likely. Apart from the Brazilian case, Geddes offers empirical test for her predictions with other four Latin American countries: Chile, Uruguay, Colombia and Venezuela after 1930. In order to operationalize capacity, Geddes (1996) resorts to the Appointment Strategy Index, which consists of eight questions applied to forty-four Latin American constitutional governments.<sup>13</sup>

Weaver and Rockman (1993) compile a series of articles that present yet another approach to state capacities. In this case, state capacities are conceived as policy-making / governing capacities, which depend on the constraints and possibilities of the fundamental institutions embedded in the political system. The most important capacities are: a) to establish and maintain priorities among multiple and contradictory demands; b) to allocate resources in an optimal manner; c) to innovate when old policies fail; d) to coordinate contrasting objectives into a coherent whole; e) to be able to impose losses on powerful groups; f) to represent diffuse interests; g) to guarantee an effective implementation of policies; h) to guarantee some level of policy stability; i) to formulate and sustain international commitments regarding trade and national defense; j) to manage societal divisions in order to avoid internal war. These capacities will depend on certain constitutional features of the political system such as power division arrangements, the organizational autonomy of bureaucracies, federalism, the electoral rules, and the number of congressional chambers, among others. A series of case studies illustrate the causal mechanisms at work across several modern economies and different policy areas. In their conclusions, Weaver and Rockman argue that some tradeoffs exist between state capacities, as in the case, for example, of policy stability and policy innovation. Countries with separation of powers or coalition governments offer good opportunities for policy stability but less for policy innovation. In contrast, countries with single party domination (such as the UK), grant opportunities for policy innovation, as a substantial proportion of the political elite changes with

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<sup>13</sup>These questions assess: a) whether the finance minister was chosen on the basis of partisanship or competence; b) whether at least 90 per cent of ministers belong to the president or coalition's party; c) whether second-tier appointments were concentrated among party or coalition members; d) whether party members voiced complaints regarding appointment strategies; e) whether the public sector jobs of party member were protected; f) whether hiring in previously unpoliticized government entities or recently nationalized industries depend on partisan criteria; g) whether there was progress in insulating previously uninsulated agencies; and h) whether scandals regarding partisan hiring appeared in the press.

every election. The book highlights other important findings: the impact of the political system on policymaking capacity depends greatly on the policy area; and policy inheritances also explain many of these results (: 446-461).

The essay by Guy Peters (1996) *The Policy Capacity of Government* seeks to offer a comprehensive understanding of the many factors hindering central governments' capacity to design and implement policies that meet their goals, a seemingly contemporary challenge of industrial democracies in comparison to the sixties and seventies. The essay argues that this erosion occurs as a result of increasing globalization, which impedes full domestic control over policies and programs, in addition to increased pressures from the private sector. Another reason points at the fact that policymaking has become more politicized and ideological over time; that public servants emphasize now implementation goals instead of good policy analysis; and that more public participation leaves less ground for autonomous policymaking.

Parallel to the importance given to autonomous policymaking, the work of Bo Rothstein *Social Traps and the Problem of Trust* (2005) centers on the relevance of impartial and universal policymaking as critical features of state capacity building and good governance, two concepts largely intertwined. He proposes a series of feedback mechanisms between individual and institutional trust and the ways in which appropriate state intervention can foster both. The argument suggests that corruption and lack of good governance stems from low social capital understood as low inter-personal trust, which leads to the failure of cooperation between citizens, even when it could be beneficial for all. This situation is characterized as a 'social trap', a recurrent phenomenon in poor institutional settings spanning many aspects of life, which reinforces the generalized mistrust at the institutional level.

At the same time, these low social capital levels have their origins in low levels of both equality of substance and equality of opportunity, the latter defined as "*the establishment of public policies that are intended to create equal conditions for citizens regardless of their income, ethnic/religious background, sex, and race in areas such as health care, education, and social security and legal protection ('equality before the law')*." (Rothstein and Uslaner 2005: 42). So although the mistrust is born out of individual beliefs, certain interventions "from above" by state officials can instill more trust by equalizing conditions among citizens, through universal policies and impartial administration. Universal programs increase social trust in three ways: by representing more redistributive options than focal policy; by minimizing bureaucratic discretion and increasing the sense of "equal opportunity"; and by minimizing in-group trust in favor of generalized trust (Rothstein and Uslaner 2005: 43). The rationale is supported by a detailed historical account of Swedish capital-labor relations as examples of corporatist mechanisms for promot-

ing social trust, as well as a set of cross sectional estimations on the link between social trust and trust in institutions.

Van de Walle and Scott (2009) analyze three mechanisms by which public services have an impact on state-building process in Western Europe during the 17th - 19th centuries. A first mechanism is penetration, where public services serve the purpose of consolidating presence and authority over a territory; standarization, helping create a shared set of habits and cultural traits; and accommodation, a mechanism aimed at optimizing the exchanges between the state and the citizens according to different idiosyncratic features.

Bäck and Hadenius (2008) present a statistical analysis of the relationship between democracy and state capacities. There, they find a J-shaped relationship between the two, by which democracy has a negative effect on state capacity at low levels of democracy, and strongly positive at high levels. In a study of the evolution of state capacity in 26 post-communist countries, Fortin (2010) finds that the initial level of state capacity is the strongest determinant of subsequent levels, measured through a five-item index of capacity.

Dahlström and Lapuente (2010) analyze how the separation of interest between those who benefit from public administration incentives (politicians) and those who manage them (civil servants) affects the chances of introducing performance-related pays (PRP), a characteristic feature of New Public Management reforms. They argue that the clearer the separation of interest, the higher the probability of engaging in PRP, as it helps overcome time-inconsistency problems. Employers will be more likely to trust and commit to produce whenever they know that the 'owners' cannot manage (in this case change) the payment arrangements ex-post. They test these predictions with data from 25 OECD countries.

Charron and Lapuente (2010) analyze the effect of democracy on quality of government, against the backdrop of the non-linear relationship previously found in the literature. Quality of government is used interchangeably with state capacity and is defined as: *"the capacity of a state to perform its activities in an efficient way and without corruption"*. The article posits that the effect of democracy on quality of government is conditional on countries' wealth. Below a certain wealth threshold, governments have no incentives to invest in bureaucratic endowments, while in richer countries this becomes more sensible. This is tested and supported with time-series and cross-sectional data for a large number of countries, where quality of government is measured through the combination of Control of Corruption and Bureaucratic Quality from ICRG, following Bäck and Hadenius (2008), and democracy is measured through the average of Freedom House and Polity Scores taken from the Quality of Government Institute (Teorell et al. 2008).

The work of Knutsen (2013) links economic and political factors by presenting an empirical analysis of the separate and combined effects of regime type and state capacity levels on growth. It understands state capacity as the successful implementation of public policies through an efficient rule-following bureaucracy. This definition aims to include administrative, legal and fiscal dimensions of capacity (: 4), and is operationalized using the ICRG Bureaucratic Quality Index and the Statehist5 indicator of antiquity from Bockstette et. al. (2002)<sup>14</sup>. Time-series estimations from a group of 45 Sub-Saharan countries suggest that democracy has a higher effect on growth in low-capacity countries than in dictatorships, whereas political regime has an insignificant effect in high capacity states. The interaction effects are also found after testing different linear transformations of BQI and Statehist5. These findings challenge common views pointing at the detrimental effects of democracy in low capacity states (for the African case, for instance, Chabal and Daloz 1999; Lumumba-Kasongo 2005). Knutsen argues that democracy limits survival-oriented behavior in low capacity states, as there is a substitutability relationship between democracy (vertical accountability) and state capacity (horizontal accountability).

## 4 State capacities: concepts and measures

The previous section provided an overview some of the most relevant works estimating the determinants and consequences of state capacity in development economics, international relations, political economy and comparative politics. The present section presents a schematic summary of the conceptualizations and measurements, in order to better judge the methodological challenges ahead. The measures of state capacity seen in the literature also show a great deal of variation. Some of them acknowledge the existence of several aspects or dimensions, while others aim to capture state capacity in a generic way.

### 4.1 A multidimensional concept

In general, state capacity refers to one or a combination of the following dimensions of state power: a) coercive/ military; b) fiscal; c) administrative / implementation; d) transformative or industrializing; e) relational/territorial coverage; f) legal; g) political. A chronological list of the conceptualizations can be found in Figure 1,

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<sup>14</sup>For robustness purposes it also resorts to a measure of fiscal capacity (1-Trade Tax/Government Revenue).

while Figure 2 shows a list of some of the most popular measures used for empirical work.

#### **4.1.1 Coercive capacity**

The most basic attribute of stateness in virtually every definition, is the state's capacity to monopolize the administration of coercive power. Although this dimension was the center of classic macrohistorical accounts on state formation, it was largely forgotten until it resurfaced in the early 2000's after the world witnessed multiple events of state collapse. The conflict literature in international relations started to reassess the military capacity of states to control the territory by both discouraging internal conflict and protecting the borders from external invasion. Much of the economic literature that looked at limited government as a synonym of institutional maturity started to acknowledge that an effective state has to exist in first place, in order to discuss property rights and executive constraints. For this purpose several sources of information were compiled within the state fragility literature, such as the State Failure Index (Polity IV); the State Fragility Index, the Index of State Weakness, the Fragility Index (from Country Indicators for Foreign Policy), the Failed State Index, Failure of Task Force, Forecast of State Failure (Fortin 2010).

#### **4.1.2 Fiscal capacity**

This dimension emphasises the state's power to extract resources from the society, mainly in the form of tax. Occasionally, it also refers to the efficiency of government spending (e. g. Dincecco 2011). In some strands of literature, the origins of this extractive capacity are closely linked to the building of a repressive apparatus and war (Tilly 1975), while in others it is associated more generally with the provision of public goods (e. g. Levi 1988). The historical processes by which states are able to centralize the tax system and enforce it on the larger population are key to state capacity building in these works, and measures of revenue raising are the usual proxies for capacity (Besley and Persson, various).

#### **4.1.3 Administrative / Implementation capacity**

The administrative capacity of the state is rooted in the Weberian tradition regarding the modern state and the existence of a professional and insulated bureaucracy (e. g. Weber 1978). This type of bureaucracy outlives rulers and is deemed as

Figure 1: State capacity conceptualizations in the literature

Scholars	Conceptualization of state capacity	Dimension emphasized
Huntington (1968)	State capacity is the durability, complexity, adaptability, coherence and autonomy of organizations and procedures (: 12 in Hanson and Sigman 2011: 5)	Bureaucratic / administrative
Tilly (1975)	In the process of state formation in Western Europe, Stateness is defined by the building of a repressive state apparatus that "effectively drew the necessary resources from the local population and checked the population's efforts to resist the extraction of resources" (: 40).	Coercive and fiscal
Skocpol (1979)	"Sovereign integrity and the stable administrative-military control of a given territory are preconditions for any state's ability to implement policies. Beyond this, loyal and skilled officials and plentiful financial resources are basic to state effectiveness in attaining all sorts of goals." (:16).	Bureaucratic / administrative
Skocpol (1985)	State capacity is the capacity to "implement official goals, especially over the actual or potential opposition of powerful social groups or in the face of recalcitrant socioeconomic circumstances" (: 9).	Bureaucratic / administrative, fiscal and coercive
Rueschemeyer and Evans (1985)	Effectiveness of state intervention in the economy. Effective intervention requires a capable bureaucracy and good coordination and coherence among state organizations.	Transformative and administrative
Levi (1988)	The state's ability to provide collective goods by raising revenue.	Fiscal
Evans (1986 1995)	The key to state capacity is 'embedded autonomy': a combination of administrative insulation power and a certain level of state embeddedness in the productive structure.	Relational, transformative and bureaucratic
Mann (1986 1993)	Despotic power is "the range of actions the state elite is empowered to undertake without routine, institutionalized negotiations with civil society groups (Mann, 1988: 59). Infrastructural power, on the other hand, is "the capacity to actually penetrate civil society and to implement political decisions throughout the realm" (: 59).	Administrative, relational and territorial reach
Migdal (1988)	Capacities are "the abilities of state leaders to use the agencies of the state to get the people in the society to do what they want them to do" (1988: prologue), or to "achieve the kinds of changes in society that their leaders sought through state planning, policies and actions" (: 4). These include "the capacities to penetrate society, regulate social relationships, extract resources and appropriate or use resources in determined ways" (: 4).	Relational and territorial reach
Weaver and Rockman (1993)	They list ten universal state capacities, among which are to maintain priorities; to innovate when old policies fail and to guarantee effective implementation of policies.	Political and relational
Geddes (1996)	"The capacity to implement state-initiated policies depends on the ability to tax, coerce, shape the incentives facing private actors, and make effective bureaucratic decisions during the course of implementation. All of these abilities depend in turn on the existence of effective bureaucratic organizations." (: 14)	Fiscal, coercive and administrative
World Bank (1997)	State's capability is defined as: the ability to undertake and promote collective action efficiently (: 3).	Political and relational
Weiss (1998)	The ability to "device and implement policies that augment a society's investible surplus" (: 16) or, as mentioned earlier, "the ability to coordinate industrial change to meet the changing context of international competition" (: 7).	Transformative
Evans and Rauch (1999)	Weberianess is the degree to which core state agencies are characterized by meritocratic recruitment and offer predictable, rewarding long-term careers.	Administrative
Centeno (2002)	State capacity is "the ability of the relevant political authority to enforce its wishes and	Administrative and political
Fearon and Laitin (2003)	State capacity is "the government's police and military capabilities and the reach of government institutions into rural areas" (: 80).	Coercive and territorial reach
Fukuyama (2004)	State capacity as "the ability of states to plan and execute policies and enforce laws cleanly and transparently" (: 9).	Administrative and legal



Figure 1: State capacity conceptualizations in the literature (cont.)

Scholars	Conceptualization of state capacity	Dimension emphasized
Acemoglu, Ticchi and Vindigni (2006 2011)	State efficiency involves the abilities of a central authority to monitor bureaucrats.	Political and legal
Besley and Persson (2007 2009)	High capacity is good enforcement of property rights and contracts (2009: 1219).	Legal and fiscal
Bäck and Hadenius (2008)	State capacity is multidimensional: monopoly of the military, monopoly of fiscal capacity, high bureaucratic autonomy, monopoly of legal capacity.	Coercive, fiscal, administrative and legal.
Soifer (2008)	Three approaches to infrastructural power: a) relationship between the state and its 'radiating' institutions; b) capability of the central administration; c) territorial reach of the state.	Relational, administrative and territorial reach.
Besley and Persson (2008)	"At the heart of state capacity lies the ability to levy taxes to finance public goods and make transfers" (: 522).	Fiscal
Robinson (2008)	Coordination of knowledge across fragmented sites of governance.	Relational
Cardenas (2010)	"State capacity is defined as the state's ability to generate tax revenue from the public" (: 15).	Fiscal
Kocher (2010)	Five features of strong states that are falsifiable: a) Centralization and unification; b) wealth and taxing capacity c) professional bureaucracy d) few constraints on the regime; e) strong army.	Coercive, fiscal, administrative and political.
DeRouen et. Al. (2010)	Capacity is "the states' ability to accomplish those goals it pursues, possibly in the face of resistance by actors within the state" (: 335).	Coercive
McBride, Milante and Skaperdas (2011)	"We employ the term state capacity to denote the level of commitment that can be achieved but which can change over time under the influence of outsiders as well as the actions of the major actors within countries" (: 448).	Legal
Dincecco and Prado (2012)	Fiscal capacity is "the ability of states to raise tax revenues" (: 172).	Fiscal
Besley and Persson (2011)	"Institutional capability of the state to carry out various policies that deliver benefits and services to household firms"(: 6).	Coercive, legal and fiscal capacity.
Hamm, King and Stuckler (2012)	State capacity is understood as the existence of infrastructural power (Mann 1986): the ability of the state to penetrate society and realize its objectives.	Infrastructural, territorial reach.
Knutsen (2012)	State capacity is understood as the successful implementation of public policies through an efficient rule-following bureaucracy.	Administrative, legal and fiscal.
Fukuyama (2013)	Capacity is defined by the inputs to the bureaucracy, such as the level of education of government officials.	Administrative.

Source: author's elaboration.

an essential for the impersonal implementation of policies. In general, it is conceived that implementation capacity occurs only after an effective establishment of sovereignty and a stable military control over territory, and requires both skilled officials and financial resources (Skocpol 1985: 16). This dimension of state capacity is perhaps the most widely referred to in the literature, and often times closely related to good governance (E.g. Fukuyama 2004, 2013).

#### **4.1.4 Transformative, industrialization capacity**

Another strand looks at the state's capacity to intervene in a productive system and shape the economy. From here stems most of the 'developmental state' literature that looks at industrialization capacity. Some of these works are also loyal to a Weberian approach by contending that a balanced combination of professional cadres in the bureaucracy, proper levels of intra-state agency coordination and a certain degree of state 'embeddedness' in the productive structure are the key to transformative capacity (Rueschemeyer and Evans, 1985; Evans 1995). On a similar vein, others look not only to transformative capacity but also distributive and innovative capacity (e.g. Weiss 1998).

#### **4.1.5 Relational / territorial coverage**

The state's relational capacity is mainly an interest of political sociology studies and is perhaps of a broader nature than other dimensions. It seeks to capture the extent to which the state actually permeate through the society and is able to internalize social interactions within its actions. The work of Migdal (1988) reflects some of this concern by assessing state's strength as a result of the type of interaction with the society. Relational capacity looks at socio-economic engagement, as opposed to the 'command-hierarchy' traditional view of the state (Robinson 2008). For example, the idea of infrastructural power (Mann 1986 1993) -the capacity to implement decisions throughout the jurisdiction- as something opposed to the despotic power to dictate legislation reflects this dimension of state capacity, perhaps closely related to implementation. According to Soifer (2008), Mann's idea of infrastructural capacity had several ramifications (see Soifer and Vom Hau 2008 and Soifer 2008). and has been understood as a) the administrative capabilities of the central state; b) territorial reach; c) the power of the state's 'radiating institutions', how the state affects and is limited by civil society. Because of all these interpretations, relational capacity often encompasses several of the other dimensions.

#### 4.1.6 Legal capacity

The legal dimension of state capacity has its roots in the ‘limited government’ strand of the literature, in which special attention is given to the limitation of state’s intervention. Limitation happens through the existence of a stable legal system that enables credible commitments and contract enforcement (North 1981, North and Weingast 1989, Besley and Persson 2007, 2009). In this strand, state capacity is usually captured through the levels of bureaucratic corruption (e. g. Acemoglu and Verdier 1998) or executive checks (Acemoglu 2001). In the latest years, however, this tradition has acknowledged the importance of the existence of a strong state as a necessary condition to foster a market economy, and thus has tended to grant parallel attention to coercive capacity in poor or fragile states (a good example is the evolution in the work of Besley and Persson 2011).

#### 4.1.7 Political capacity

In some cases, state capacity is equated to political leverage or policymaking capacity. The links with state capacity, however, are conceptually weaker than in other dimensions (see Hendrix 2010). It often refers to the level of power accumulation by elected leaders in order to enforce their policy priorities across the different institutional players (party, Congress, etc.) (Weaver and Rockman 1993; Tsebelis 1995; Gates et. al. 2006). This literature looks at veto points and executive checks, often sharing insights with the legal capacities literature.

### 4.2 Tests of dimensionality

A few works have sought to test the dimensionality of the state capacity concept within the conflict literature by pooling a large set of empirical measures and running factor analyses.

Hendrix (2010) argues that three main types of capacity have been often recognized: military capacity, administrative or bureaucratic capacity and quality and coherence of political institutions. The results of principal factor analysis on 15 cross sectional measures suggests three dimensions: administrative capacity (includes fiscal capacity), rentier autocraticness and neopatrimoniality. He concludes that state capacities should be assessed in a multidimensional way, where survey questions about the bureaucracy and tax levels are the best alternatives. In particular, he argues that bureaucratic quality is a more satisfactory measure of

Figure 2: State capacity measures in the literature

Authors	Measurements of state capacity	Source	Dimension of state capacity emphasized
Geddes (1996)	Appointment Strategy Index: a composite indicator measuring whether the criteria for executive appointments is partisan or competence-based. Also, state capacity is approximated by the number of administrative reforms.	Author's elaboration.	Bureaucratic / administrative
Evans and Rauch (1999)	'Weberianness' of the state: Weberian State Dataset, measuring meritocratic recruitment, salary arrangements and career paths.	Authors' elaboration: Weberianess Survey (UCSD)	Bureaucratic / administrative
Acemoglu, Johnson and Robinson (2001);	Constraints on the executive: Survey assessment on risk of expropriation and repudiation of government contracts.	ICRG-PRS Group.	Legal
Centeno (2002)	Date of first national census.	Goyer et. Al. (1983)	Infrastructural / generic
	Railroad density in 1900.	Mitchell (1983)	Infrastructural / generic
Bockstette, Chanda and Puttermann (2002)	Statehist5: index of state antiquity.	Authors' elaboration.	Generic
Fearon and Laitin (2003)	Log of GDP per capita.		Generic
Bäck and Hadenius (2008)	Bureaucratic Quality and Control of Corruption.	ICRG-PRS Group.	Bureaucratic / administrative
Soifer (2008)	National capabilities regarding national revenue and expenditures in Western Europe.	E.g.: Mann (1993) and Straus (2006)	Bureaucratic / administrative
	Territorial variation in the ability of the state to compel compliance.	E.g.: Kalyvas (2006), Goodwin (2001) and Soifer (2006).	Territorial control
	Effects of state policy on social identity.	E.g.: Weber (1976) and Vaughan (1997).	Relational capacity
Besley and Persson (2008)	Tax collection as share of GDP.	Baungsgaard and Keen (2005)	Fiscal / Extractive
	Income tax as share of total tax.		Fiscal / Extractive
	Average inflation rate.		Fiscal / Extractive
Besley and Persson (2009)	Private credit to GDP ratio.	King and Levine (1993)	Legal
	Access to credit (rank).	Doing Business	Legal
	Investor protection (rank).		Legal
	Index of government anti-diversion policies (sum of five different indicators).	ICRG-PRS Group.	Legal
	One minus the share of trade taxes in total taxes.	IMF / WDI	Fiscal / Extractive
	One minus the share of trade and indirect taxes in total taxes.		Fiscal / Extractive
	Share of income taxes in GDP.		Fiscal / Extractive
	Share of taxes in GDP.		Fiscal / Extractive

Figure 2: State capacity measures in the literature (cont.)

Hendrix (2010) (review)	Military personnel per capita.	Correlates of War (CoW), Material Capabilities Dataset	Coercive
	Survey assessments on bureaucratic quality.	ICRG-PRS Group.	Bureaucratic / administrative
	Risk expropriation measures.	ICRG-PRS Group.	Bureaucratic / administrative
	Primary commodity exports.	WDI	Bureaucratic / administrative
	Total tax / GDP.	WDI	Fiscal / Extractive
	Relative political capacity as the ratio of actual tax revenue to expected tax revenue.	Kugler & Arbetman (1997)	Fiscal / Extractive
	Levels of oil production and proven reserves.	BP Statistical Review of World Energy and other sources (Humphreys 2005).	Fiscal / Extractive
	Political coherence between democratic and non-democratic features.	Polity 2	Political capacity
	Executive recruitment; electoral participation and constraints to executive authority.	Scalar Index of Polities (SIP) (Gates et. al. 2006).	Political capacity
	Political democracy.	Polity 2	Political capacity
Fortin (2010)	Quality of Public Goods Provision consists of a five item index (for Europe):		
	Levels of corruption.	CPI-TI, Heritage Foundation	Bureaucratic / administrative
	Quality of property rights protection.	Heritage Foundation	Legal
	Taxing capacity: Ratio of tax revenue to GDP.	IMF	Fiscal / Extractive
	Progress in infrastructure reform, infrastructure indicators.	EBRD	Infrastructural
	Ratio of noncurrency money to total money supply (ratio of currency to money held in banks).	IMF complemented with EIU	Legal
Thies (2010)	Total revenue / GDP; total tax/ GDP; relative political capacity.	Johnson and Rabinowitz (2005)	Fiscal / Extractive
Buhaug (2010)	Relative political capacity: actual tax revenue / expected tax revenue.	Kugler and Arbetman (1997)	Fiscal / Extractive
Kocher (2010)	Power of the army.	There are empirical proposals only.	Coercive
	Professional bureaucracy.		Administrative
	Wealth and taxing capacity.		Fiscal / Extractive
	Road networks.		Infrastructural
	Constraints on the regime.		Political capacity
Hamm and King (2010)	Due to the lack of data on state capacity in post-communist countries, the authors use countries' homicide rates as a proxy for state capacity.	WHO	Generic
Cardenas (2010)	GDP share of total revenue.	Baunsgaard and Keen (2010)	Fiscal capacity
	GDP share of income tax revenues.	from GFS and IMF country documents.	Fiscal capacity
	Total tax share of domestic tax revenue.		Fiscal capacity
	Index of "outright confiscation and forced nationalization".	ICRG-PRS Group	Bureaucratic / administrative
	Ease of doing business.	Doing Business	Bureaucratic / administrative
	Government effectiveness.	WGI	Bureaucratic / administrative
	Columbia State Capacity Survey question 21.	Columbia University	Bureaucratic / administrative
	State Capabilities measure.	IADB (Berkman et. Al. 2008).	Bureaucratic / administrative

Figure 1: State capacity measures in the literature (cont.)

Authors	Measurements of state capacity	Source	Dimension of state capacity emphasized
Cardenas, Eslava and Ramirez (2011)	Cross country analysis: Total tax revenue as a percentage of GDP; income tax as a percentage of GDP; Quality of Government Index (average of law and order, corruption and bureaucratic quality from ICRG).	Baunsgaard and Keen (2010); IMF (GFS); Quality of Government Insitute; ICRG.	Fiscal and legal capacity
	Sub-national analysis for Colombia: tax revenue and expenditure in roads.	Drazen and Eslava (2010)	Infrastructural / generic
Hanson and Sigman (2011) (review)	Bureaucratic quality	PRS - ICRG	Bureaucratic / administrative
	Census frequency	UN Statistics	Territorial control
	Proportion of Contract Intensive Money (CIM)	WDI online	Legal
	Road density	International Roads Federation - WDI	Infrastructural
	State Antiquity Index	Bockstette et. Al. (2002)	Generic
	Rule of law	PRS - ICRG	Legal
	Total tax revenue	IMF - WDI	Fiscal / Extractive
	Income tax revenue	IMF - WDI	Fiscal / Extractive
	Tax revenue from goods and services	IMF - WDI	Fiscal / Extractive
	Taxes on international trade	IMF - WDI	Fiscal / Extractive
	Military personnel per capita.	Correlates of War (CoW), National Material Capabilities v.3.02	Coercive
	Military spending (as % of Government Expenditures)	CoW and CNTS	Coercive
	Military in politics	PRS - ICRG	Coercive
Besley and Persson (2011)	State Fragility index.	Polity IV	Coercive
	Legal capacity: index of protection of property rights in 1997 (ICRG data).	ICRG-PRS Group.	Legal
	Fiscal capacity: total taxes as share of GDP in 1999 (IMF data).	IMF	Fiscal
Knutsen (2012)	Index of Bureaucratic Quality	ICRG-PRS Group.	Administrative
	State Antiquity Index - Statehist5	Bockstette et. Al. (2002)	Generic
Hamm, King and Struckler (2012)	Changes in total government spending between 1992 and 2000 (government spending in 2000 U. S. dollars expressed as the share of 1992 spending).	WDI	Fiscal / Extractive
	Survey questions capturing firm managers' perceptions on state efficiency, property rights compliance and corruption levels.	EBRD Business Environment and Enterprise Performance Surveys.	Generic
Dincecco and Katz (2012)	Government revenue (1650-1913) and government spending (1816-1913).	Data compilation in Dincecco (2011).	Fiscal / Legal
Dincecco and Prado (2012)	Share of direct taxes.	IMF	Fiscal

Source: author's elaboration.

bureaucratic capacity than other popular measures, such as repudiation of government contracts or expropriation risk (: 278).

Hanson and Sigman (2011) undertake a similar endeavor, by departing from the observation that the state capacity concept has been poorly systematized. A first question that arises and should be addressed with more clarity is the nature of the referred capacity, in other words, the capacity for what. They consider that the universe of states have at least six state functions: maintenance of order, protection of property rights, enforcement of contracts, provision of public goods and services, technical competence, and coordination of information and measures. At the same time, these functions can be encompassed in three state capacity dimensions: extractive, coercive and administrative (although the latter is broad enough to include the ability to deliver services, enforce contracts, and protect property rights, thus combining bureaucratic expertise and territorial reach). They assess whether these functions can be captured in 13 common measures of state capacity through factor analysis pooling observations from 116 countries for the period 1984-2007. The results allow to identify six capacity factors: a) administrative, b) territorial reach, c) trade, d) income tax, e) goods and services tax and f) coercive potential. In this sense, the three hypothesized dimensions can be captured, as the first two correspond broadly to administrative capacity, the next three refer to extractive potential and the last to coercion power.

## 5 Methodological challenges

After revisiting some of the most salient works on state capacity coming from multiple theoretical lenses, a series of methodological considerations can be pointed out regarding concept consistency, construct validity and observability among others<sup>15</sup>.

### 5.1 Concept consistency or divergence?

According to DeRouen et. al. (2010) state capacity is a term that has been used extensively, but often without a firm definition (: 334). When looking at a wide range of works, however, it can be observed that conceptualizations of state capacity have been rather consistent, with a majority of works pointing at the implementation power of the state stemming from a professionalized bureaucracy.

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<sup>15</sup>For other critical appraisals of state capacity conceptualizations and measurements see Kjaer, Hester and Hansen (2002), Soifer (2008), Hendrix (2010), Kocher (2010), Savoia and Sen (2012).

This consistency is probably owed to the strong theoretical legacy of Weber, along with the follow up by the *statist* movement of the late seventies and eighties. Whenever definitions drift from the dominant one, they usually remain loyal to one or more of the dimensions analyzed. A slight drift occurs in the case of extractive capacity, and perhaps a bigger one with legal capacity. Coercive, extractive and implementation capacity are generally intertwined in the early literature (for example in Evans et. al. 1985), and consider higher state intervention power as higher capacity. The focus on legal capacity, property rights and contracts, on the other hand, comes from a different theoretical tradition that equates higher intervention potential with greater risk of predation and therefore lower governmental quality. This apparent contradiction between legal and implementation capacity is for the most part not really addressed, although some works have been able to offer insights that bring them together as substitutes (Acemoglu 2005) or as compliments (Besley and Persson 2009, Dincecco 2011). To a big extent, this difference is due to disciplinary and ideological differences (which are discussed later), and have implications for empirical work.

The focus on legal capacity maintains some commonalities with the mainstream definition by considering effective enforcement of property rights and contracts, also a type of implementation capacity. However, this apparent similarity masks a more fundamental question: whether the source of implementation capacity comes from power deploying institutions or from power limiting ones. Contract enforcement and property rights are linked to a sound legal system, which in turn stems from an independent judiciary and a strong legislative. Normally, these are considered power-limiting institutions, and from there the persistent emphasis on executive checks and legal security. The extractive and administrative dimensions tend to be more interested in a power-deploying institution like the bureaucracy. To some extent, what we could call the confusion between the capacity *to do* and the capacity *to refrain from doing*, also leads to an overlap between state capacity and good governance, where state capacity is proxied through common good governance indicators such as rule of law, transparency, democracy, etc.<sup>16</sup>. There is even another angle to the conceptual complexity. In some cases the source of implementation capacity is not specified, often mixing up two types of power-deploying sources, such as the circumstantial strength of elected leaders, and that of the permanent bureaucracy. The stress on coercive capacity in fragile contexts, or some of the works on political or institutional capacity might point at the first ones, while administrative or infrastructural capacity point at the second. The methodological problem arises when all the different sources lead to

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<sup>16</sup>The work of Savoia and Sen (2012) is a good example of this: it considers state capacity in a broad manner by incorporating measures of well-known ‘good’ governance indicators (property rights, regime type, checks and balances, etc.).



implementation capacity, but the sources have contrasting incentives and what makes one weaker makes the other stronger.

## 5.2 Measurements

### 5.2.1 Multidimensionality

There are in general three types of approaches to measuring state capacity: choosing single generic measures; choosing a narrow one-dimensional definition with matching proxies; and choosing a composite multi-dimensional index (or various separate measures for separate dimensions).

The first strategy is the most often encountered in economics and international relations literature, where large-N statistical studies are predominant. Some of these are rather far from the common conceptualizations of state capacity, such as the use of GDP per capita by Fearon and Laitin (2003) or murder rates (Hamm and King 2010). Kocher (2010) offers a critical analysis of generic measures of state capacity. Other generic measures, however, are more successful at capturing bureaucratic structures or some form of implementational aspect, such as railroad density (Centeno 2002), censuses conducted (Centeno 2002) and similar measures of statistical capacity (Lee and Zhang in Fukuyama 2013; Hartie School governance indicators) or some of the latest experiments, such as the one testing cross-country courier service quality (La Porta et. al. 2012). State antiquity (Bockstette et. al. 2002) is also a generic measure that has been quite extensively used as a generic proxy of state capacity.

The second strategy is perhaps the most common, where the focus of the study is bounded by the literature and the interests belonging to one aspect of capacity. Sometimes the dimension of interest matches the measures with clarity (as is normally the case of fiscal capacity), while other times the match is less straightforward (for example when legal capacity is proxied through executive constraints).

In some cases, the acknowledgment of multiple dimensions of capacity has led to composite or aggregate indicators accounting for many different aspects, a strategy to overcome the inherently broad nature of state capacity. Fortin (2010) combines corruption (often seen as administrative capacity), property rights protection and noncurrency money (legal capacity), taxing measures (fiscal capacity), infrastructure reforms (infrastructural aspects). Similarly, Kocher (2010) resorts to power of the army (coercive), bureaucratic professionalism (administrative), taxes (fiscal), road networks (infrastructural) and constraints to the executive (legal).

In any case, the lack of good conceptual frameworks can create important problems. On one hand, it can lead to blunt contradictions (for example, is the power of the army directly or inversely related to state capacity?). On the other, it can lead to the use of theoretically opposed outcome variables as alternative measures of the same concept (as for example in the case of legal and fiscal capacity in Besley and Persson 2008 2009), even if they are positively associated in the real world.

### 5.2.2 Dimensionality tests: problems

The latter point leads to favor cautious interpretations of dimensionality test results, which may lead to amorphous constructs (constructs containing very different attributes inside) on the mere basis of strongly positive associations. For example, although Dincecco (2011) shows that in Europe extractive capacity and limited government evolved in parallel, the two are different things, from any conceptual perspective. Also, the fact that the existing dimensionality tests on state capacity (Hendrix 2010; Hanson and Sigman 2011) derive such different results, suggests that there is a need for further exploration. In addition, these results may be highly sensitive to changes in the temporal scope of the variables<sup>17</sup>, which raises questions about robustness and the need to run additional sensitivity analyses.

## 5.3 Observability and circularity

On a more subtle level, the state capacity concept faces some logical challenges. Since any capacity is the potential of doing something rather than a realization, the direct observability of this ability is a concern. Output measures are normally taken as proxies, but this strategy has raised persistent criticism (see Hanson and Sigman 2011 for the problems of output measures of state capacity and Fukuyama 2013 for output measures of institutions more generally). As Kocher (2010) suggests, the main problem is the resulting quasi-tautology of the kind: *“why is there high insurgency in this country? Because there is low state capacity. How do I know that there is low state capacity? Because I observe high insurgency”*. Generic measures of state capacity reproduce this problem (e.g. GDP per capita, road density, murder rates). Similarly, Soifer (2008) highlights circularity problems in the measurement of state infrastructural power: *“scholars need to measure infrastructural power in a way that distinguishes power from its effects, and this is often*

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<sup>17</sup>As is the case in Hendrix (2010).

*difficult to do*". And moreover, "Because we have no independent measure of the increased weight of the state apparatus from its effects, a convincing demonstration that the state has had an effect requires the elimination of alternative explanations for the observed effects" (: 247). Given these problems, the literature is left with the paradoxical task of having to measure implementation capacity without being truly able to look at implementation results whenever other factors exist which mediate between these two.

## 5.4 State functions: contextual, ideological and disciplinary lenses

As several authors point out, a first important question to address regarding state capacity is: capacity for what? (Hanson and Sigman 2011). Different works define state capacity depending on the type of state function they are interested in, and sometimes capacities and functions are used interchangeably (e. g. Weaver and Rockman 1993). A careful handling of this connection is important in order to place state capacities in a broader perspective. The determination of which state functions matter depends on contextual, ideological and disciplinary aspects.

Regarding the first, certain functions can be more important in certain contexts than others, depending on the stage of development. The interest in coercive capacity, for example, becomes of relevance only in scenarios of total state collapse, although these are rare occurrences world-wide (Fortin 2010: 656).

Discussions on state functions are also largely ideological: to which extent is state intervention important and how should it be executed depends on notions of equality and freedom, among many others. Whether the state should be developmental or liberal will shape definitions and operationalizations of state capacity.

Finally, disciplinary boundaries matter in a similar fashion. According to Acemolgu (2005): "A tension has existed between political economy and political science regarding the state: whereas the former tended to promote less state intervention, the latter focused on the limitations arising from the lack of power to regulate the economy" (2005: 1199). A similar remark is made by Hanson and Sigman 2011: state capacities have been analyzed in economic development as protecting market exchanges by enforcing property rights, while in political studies, it has been associated to the maintenance of internal order. This consideration is in line with the distinction between legal capacities and the other dimensions that was outlined before.

## 5.5 Temporal scope, determinism and policy implications

It is possible to observe in the state capacity literature a noticeable lack of cross-national time series indicators, albeit some exceptions (e. g. Bureaucratic Quality from ICRG). This has to do with the difficulty in finding comparable and reliable data in time, in particular that are highly informative on relevant aspects of state capacity such as detailed bureaucratic structures and behavior<sup>18</sup>. Another reason is that much of the literature has simply focused on largely deterministic factors that by nature entail very low intertemporal variance if any at all, or a trend that makes them difficult to work with in panel estimations. The strand that focuses on war prior to the modern state, for example, is illustrative of this. The measurement of state capacity through state antiquity is another example (Bockstette, Chanda and Putterman 2002). Other proxies such as road density or statistical capacity entail similar problems.

In contrast to the historical deterministic factors, much less attention is given to the microdeterminants of state capacity, and in particular to those with potential policy implications. Works on investments in state capacity are promising, but they remain highly close to deterministic theories on war and state formation (Besley and Persson, various) and barely look at the internal structures of states<sup>19</sup>. The focus on microdeterminants might be more frequent in studies of public administration, where output variables relate more to administrative reform or NPM measures, but where the concept of state capacity becomes rather vague and all-encompassing. A good balance between concept richness and comparability anticipates the need to find a middle ground between the variables used in public administration, and the ambitions of larger-scope state capacity works to be counted in large N empirical studies on development.

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<sup>18</sup>It has been pointed out that the lack of comparable empirical measures of the bureaucracy represents the main weak point in comparative public administration (Brans 2003, Lapuente 2007, Dalström et. al. 2010).

<sup>19</sup>“*Apart from this focus on legal capacity as a somewhat exogenous feature, works on the internal organization of states is scarce in the game-theoretic development economic literature*” (Acemoglu, Ticchi, Vindigni 2006: 5). A partial exception to this is the literature on principal-agent issues in policymaking that looks into the politics-bureaucracy relation in a largely game-theoretic fashion. Yet, these are mostly micro-behavioral works not often translated into more structural arguments for development.

## 6 Lessons learned

Research on state capacity is flourishing fast, perhaps faster than what is required to achieve consistency and construct validity. Because the term ‘state capacity’ invokes an idea that can rather easily be interpreted from common sense, there is a temptation not to define it or measure it with enough care, but resort to intuitive considerations. An extensive review shows that the resulting variance in conceptualizations is rather high, although it can be circumscribed within a limited and interrelated framework of categories. A series of lessons can be drawn from the works analyzed.

First, it is important that state capacity research explains with clarity which aspects of capacity will be assessed, and that scholars acknowledge the theoretical foundations of these aspects. This allows for a clearer understanding of potential weaknesses and limitations. Second, to achieve construct validity it is advisable that operationalizations match their concepts, and thus avoid capturing the wrong phenomena. Whenever the choice favors generic measures of state capacity, it is convenient that these measures do not overlap with other aspects of governance such as democracy, rule of law or power concentration. Third, it is analytically important that measures of capacity are suitable for time-series analysis, avoiding excessive path dependency. Fourth, whenever the choice favors multiple dimensions of state capacity, it is important that works bear in mind the primary source of this capacity (bureaucratic, political, judicial, etc.) in order to address potential contradictions between dimensions. Addressing the different incentives and mechanisms of different dimensions can prevent biases when outcome variables belonging to contrasting dimensions are used in empirical analyses. In particular, research should be careful in distinguishing what we called the ‘capacity to do’ and ‘the capacity to refrain from’, that separates power deploying from power checking sources of capacity.

The outlook looks promising nevertheless. The need for methodological improvements in the measurement of capacity will likely lead to take a richer and closer examination of national and subnational bureaucracies. More even as the mainstream definition continues to follow the notion of implementation power and professionalized civil service. In that sense, the literature might encounter the limitations of comparative public administration, a field that has failed in providing powerful empirical measures for comprehensive comparative analysis. This is of course, due to the great complexity involved in finding objective benchmarks for all administrations in the world, given the largely idiosyncratic nature of administrative apparatuses. To overcome some of these problems, a middle ground will need to be reached, even at the risk of losing world-wide comparability. The famous

tradeoff between methodological extension and intension flagged by Sartori (1970) is likely to play a role, where including more or new cases to be explained under the concept of state capacity requires that definitions are adjusted correspondingly. This might favor regional level studies, where the stage of state development tends to be more comparable.

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