# State power, state capacity, and development[*]

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## 1 Introduction

Institutions have become the hallmark of development economics (e.g. Sokoloff and Engerman 2000, Acemoglu et al. 2002, Brunnschweiler 2008, Nunn 2008, Galor and Moav 2012, Voth and Voigtlander 2015). The state constitutes a crucial institution driving the development process. This can be seen by the strong parallels in human history between the emergence of mighty states on the one hand and economic, scientific and cultural progress on the other hand (e.g. Ancient Egypt, Classic Greece, Rome). Yet while a powerful state appears as a *sine qua non* condition of development broadly defined, it is not necessarily tantamount to economic progress and prosperity as exemplified by the numerous mighty autocracies that have undermined their countries' development in contemporary Sub-Saharan Africa. *State power* is therefore defined as the state's ability to broadcast power (military, police), and *state capacity* captures the capacity of the state to collect taxes and enforce property rights (e.g. Besley and Persson 2010). State power is necessary for a government to develop state capacity, yet it is not necessarily conducive to development-friendly institutions. This short note constitutes a first attempt to clarify the distinction between the two notions, and to hint at the drivers of state power, with a particular emphasis on geography.

## 2 State formation, state power, and state capacity

Charles Tilly famously wrote that "War made the state and the state made war" (Tilly, 1975: 42), clearly emphasizing the role of warfare in state formation. His theory of state formation revolves around the concentra-

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tion of coercive power in the hands of specialists of violence who, under some circumstances, have incentives in protecting the productive assets, eventually creating a mutually beneficial situation of productive entities being shielded against the risks of aggression. This theory is echoed in Robert Bates' conception of state formation. According to Bates (2001), with the development of city states that had to import agricultural products stemming from areas at risk of pillaging and marauding, Kings and lords established themselves as the guarantors of a peaceful order which eventually generated a larger tax base. This conception of the state as being a Leviathan securing a peaceful environment for the economy to prosper is widely accepted among social scientists. Paraphrasing Max Weber, "a state is a human community that (successfully) claims the *monopoly of the legitimate use of physical force* within a given territory" (Weber 1919).

State power therefore constitutes a prerequisite for the emergence of states, while state capacity can only appear afterwards. Besley and Persson (2009, 2010, 2011a, 2011b) conceptualize state capacity as the ability of central states to raise tax revenue (fiscal capacity) and to enforce property rights (legal capacity), thereby distinguishing a state's capacity to stimulate the economy and raise revenue from its coercive capacity in the line of reasoning of Tilly and Bates. A crucial connecting element between these two concepts of state power and state capacity, is the permanency of the former. When the specialists of violence are confident that the economic activity is likely to last, their incentives to promote economic interests by securing a peaceful environment are higher. Contrast this to environments marred by uncertainty and short time horizons as is the case when the threat of violent uprising or foreign invasion is looming at the horizon, or when the economic activity is likely to quickly recede because of its nature (i.e. exploitation of exhaustible resources, foreign aid influx). The specialists of violence are then more likely to adopt a short sighted rent-seeking strategy instead of stimulating the economy. In Olson's (1993) terminology, the former type of rulers can be conceived as "stationary bandits" and the latter as "roving bandits". In either case, the "bandits" are the power wielders, and their incentives to promote economic activity depend on the expected time horizon over which the goose will continue laying golden eggs. In accordance with Besley and Persson's theories therefore, state capacity will only be developed when it is profitable to behave as a "stationary bandit", and state power and a peaceful environment constitute a necessary prerequisite.

The above theories conceptualize nations as single uniform territories, preventing us from understanding how state power and state capacity are distributed inside countries. These theories are ideal for describing the organization and functioning of strong states exemplified by the Western world *viz* weak or failed states like Mauritania or Somalia. They are much less suited, however, to understand the internal distribution of power in countries, and more specifically phenomena like the agglomeration of power in urban centers (often in the capital city) and the power vacuum in remote areas, typically in geographically isolated and border regions. Some prominent examples can be drawn from Afghanistan with the highly secured Green zone in Kabul that contrasts with the violent provinces of Helmand and Kandahar, or from similar cases in Mali, Nigeria, or Colombia, to name some. In the following sections we will analyze the role of geography in explaining the within-country variations in both state power and state capacity.

# 3 State power and geography

In the previous section we uncovered the economic reasons why state capacity develops where state power is strong. In this section we show that state capacity is not uniformly distributed within national boundaries, and we thereby attempt identifying the geographic factors that explain the underlying distribution of state power within territories.

Nations usually comprise clearly delineated geographical areas, and the power of two neighboring countries' governments is seldom the same. If state power and state capacity were uniformly distributed within countries, one would therefore expect the quality of institutions to greatly differ on either side of the border. A series of recent studies have employed regression discontinuity designs by exploiting the artificial drawing of borders, and how national institutions shaped differently homogeneous communities on either side of the frontier (e.g. Pinkovskiy 2013, Cogneau and Moradi 2014). Yet, a paper by Michalopoulos and Papaioannou (2014) raises questions regarding the external validity of such an argument. Their study focuses on the African continent which has the peculiar feature of harboring artificial borders, or as Herbst writes "In the precolonial era, population distributions yielded boundaries. In the modern era, boundaries define a people" (2000: 145). Michalopoulos and Papaioannou (2014) show that national institutions seem not to explain subnational institutional differences on average, while they equally conclude that after controlling for ethnicity there seems to be no systematic difference in the quality of institutions among communities living on either side of a separating border. So, remote areas close to the borders seem to have more in common with areas across the border, than with their urban centers or their capital; physical isolation seems to matter.

In fact, both human and physical geography explain the projection of state power. In his seminal monograph, Herbst (2000) demonstrates how the reach of the typical African state is usually limited to the areas immediately surrounding the capital city, and sometimes to the areas surrounding other big cities such as regional capitals. Hebst also emphasizes how physical geography is crucial for explaining the distribution of state power within national territories; physically remote areas could only be reached at a higher cost, thus explaining the rational decision of governments to refrain from investing in distant or difficult to access areas. In a similar vein, Scott (2009) describes at length how mountainous people of different cultures in South-East Asia have managed to remain for two thousand years outside the reach of national governments, mainly because of the relative population dispersion, of the rough terrain, and the low agricultural yields making their control unprofitable from a cost-benefit analysis.

That geography is essential for understanding the projection of state power does not deprive the central government from the capacity to broadcast power: state power is endogenous and its distribution is the result of rational decision making. This is best seen in the writings of Eugene Weber (1976) where he explains that France became a strong centralized state following conscious decisions from the central power in Paris. During the industrialization era, the government proceeded to important investments in infrastructure that significantly facilitated both the migration to and from cities and the integration of markets. These developments, in conjunction with a strong emphasis being given on education, transformed what used to be a mosaic of people, languages, and cultures, started cementing the citizens into a cohesive society and gave rise to a sentiment of common belonging to the French nation.

## 4 The case of Madagascar

To better comprehend the within-country distribution of state power and to uncover the importance of geographical isolation, with Marc Bellemare and Christine Moser we explore the interplay of geographical distance and state power in Madagascar over the period 2001-2007 (Bellemare et al. 2015). The choice of Madagascar is convenient for two reasons linked to the fact it is an island. First, this largely shields the country from external threats, and thus allows us to isolate the geographical factors driving the broadcasting of state power. Second, this reduced risk provides the government with a longer time horizon, eventually allowing it to behave as a "stationary bandit" and creating an environment where state power and state capacity go hand in hand.

Our theoretical framework takes the distribution of population as given and predicts that communes which are geographically more isolated will feature less state power, and will rely proportionally more on local revenue generation. The model embeds the fact that power projection is declining with the distance from the location of the investment. As a consequence, since the capital is more populated, the government has higher incentives to both invest in state power and to promote economic activity by providing public goods. The complementarity of state power and public good provision pushes the central government to invest less in more remote areas, incentivizing the local governing structure to substitute for the government's disengagement and to invest more in the local economy.

We empirically validate our theory with two rounds of commune censuses in Madagascar in 2001 and 2007. Over the said period, our various measures of state power deteriorated on average, while local revenue generation increased (see Table 1 for descriptive statistics). Our main explanatory variable capturing physical distance - travel time to the capital - is also time varying, thus enabling us to take advantage of the panel nature of the data. More specifically, Madagascar owns one of the poorest quality road networks in Africa, with an average of $10km$ of paved roads per $1000km^2$, way below the equivalent figure for the rest Africa ($49km/1000km^2$). Between 2001 and 2007, the road network seems on average to have improved (see Table 2), thus suggesting a potential *positive* correlation between state power and distance to the capital, and a negative one between state power and local revenue generation, thus contradicting or theory. To overcome the endogeneity of the road quality, we exploit an exogenous negative shock on the road network that was provoked by the cyclones Elita and Gafilo that hit the island in 2004. Our empirical findings concur with the theory: communes that became more isolated experienced a reduction in state power as measured by the proxies of (low) crime rates, (high) land titling, and (high) trust in tribunals, and increasingly relied on local revenue generation.

| Variable | 2001 | | 2007 | | Total | | |
|---|---|---|---|---|---|---|---|
| | Mean | (Std. Dev.) | Mean | (Std. Dev.) | Mean | (Std. Dev.) | Observations |
| Local revenue raised in commune (Ariary) | 7,050,732 | (38,300,000) | 16,400,000 | (97,800,000) | 11,800,000 | (74,500,000) | 1965 |
| Percent of total revenue from local sources | 23.55 | (22.70) | 34.96 | (27.70) | 29.27 | (25.96) | 1965 |
| Number of murders | 0.61 | (1.40) | 0.74 | (2.93) | 0.672 | (2.27) | 2614 |
| Number of murders per 100,000 residents | 5.93 | (17.54) | 6.45 | (41.68) | 6.182 | (31.77) | 2614 |
| Percent of communes in which residents believe the courts are fair and just (2007) | | | 34.73 | (0.476) | | | 1380 |
| Percent of communes reporting that residents use courts to settle major disputes(2007) | | | 7.25 | (0.259) | | | 1382 |

Figure 1: Measures of state power for Madagascar in 2001 and 2007

| Variable | 2001 | | 2007 | | Total | |
|---|---|---|---|---|---|---|
| | Mean | (Std. Dev.) | Mean | (Std. Dev.) | Mean | (Std. Dev.) |
| Travel time to the capital in the rainy season (hours) | 40.926 | (45.117) | 30.811 | (34.207) | 35.707 | (40.175) |
| No vehicle access to commune seat (dummy) | 0.231 | (0.422) | 0.193 | (0.395) | 0.212 | (0.409) |

Figure 2: Isolation measures for Madagascar in 2001 and 2007

# 5 Conclusion

One of the major impediments to economic development is the weakness of states that are unable or unwilling to take the necessary steps for promoting economic development. By developing state power, nation states ensure a safe environment in which it is profitable to develop state capacity as a means to stimulate economic activity. First, an unsafe environment increases risks and decreases the incentives for private investments, thus constraining economic growth. Second, increased risks reduce the future perspectives from the central power's viewpoint, pushing the latter to behave as a roving bandit by extracting rents in the short run and by refraining to invest in state capacity. Third, physical geography is an essential component driving the investment in state power: investing in more isolated areas and improving their connectedness to the rest of the economic network is costly, thus incentivizing governments to concentrate on urban centers, and mostly on the capital city. Fourth, human geography matters since investing in low density populations yields lower returns, thereby disincentivizing the investments in rural areas. The conjunction of these factors gives a clear picture of the distribution of state power in developing and developed nations alike. In countries with weak institutions, however, the problem is exacerbated, eventually leading to a common pattern in the developing world of some safe heavens in few urban centers, that contrast with a state of power vacuum in large parts of the country. And while local institutions do seem to substitute the absent national institutions, this comes at the expense of reduced economic efficiency and national cohesion, but also of increased rent seeking from the central power.

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