

# Institutions, Factor Prices and Taxation: Virtues of Strong States?

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While in a few societies economic institutions are designed to provide property rights protection, a level playing field, and basic public goods necessary for economic growth, in many they are structured to maximize the rents captured by the “elite,” the individuals or social groups monopolizing political power (e.g., Douglass C. North, 1981, Acemoglu, Simon Johnson and James A. Robinson, 2005, North, John J. Wallis and Barry R. Weingast, 2009, Acemoglu and Robinson, 2010). The elite often choose entry barriers, taxes and inefficient contracting institutions that retard economic growth and create resource misallocations in order to protect their economic rents and redistribute resources to themselves (e.g., Mancur Olson, 1982, Per Krusell and Jose-Victor Rios-Rull, 1996, Stephen Parente and Edward J. Prescott, 1999).<sup>2</sup> However, if resources could be redistributed to the elite with fewer distortions, a more efficient allocation of resources could be chosen and (part of) the proceeds could be redistributed to the elite. For example, when the necessary fiscal instruments and the associated state capacity are absent, the elite may choose economic institutions and policies so as to redistribute income to themselves by reducing the productivity of competing groups and thus *manipulating factor prices* (Acemoglu, 2007). Direct taxation, if feasible, would be both more efficient and more profitable for the elite.

This reasoning suggests that when the state becomes more “developed,” achieves greater “capacity,” and has access to a larger set of fiscal instruments, there will be less need for such inefficient, indirect methods of redistribution and the allocation of resources will improve (e.g., Acemoglu, 2007, Timothy J. Besley and Torsten Persson, 2010). Classic accounts of the development of the English state and economy in the 18th century are often used to support this presumption.

This paper points out that, in contrast to this argument, the availability of more efficient means of taxation is a double-edged sword because of its impact on the political equilibrium; because more efficient means of taxation increase the potential benefits of controlling the state, they also intensify

political conflict aimed at capturing this control. This indirect effect counteracts the benefits from more efficient taxation and may dominate the direct effect, so that the allocation of resources may deteriorate when the society and the state have access to additional fiscal instruments. More generally, although greater state capacity and stronger states may bring a variety of economic benefits, they will also increase the value of controlling the state and thus induce increased political conflict and infighting. Therefore, the virtues of strong states emerge when the increase in the economic strength of the state is a consequence of, or coincident with, an increase in the political accountability of rulers and politicians—not necessarily when there is an autonomous increase in the fiscal capacity of the state. This view is in fact more consistent with prominent historical examples (from England and elsewhere), which show that increases in the fiscal capacity of the state have typically been concomitant with increases in its accountability (e.g., Brewer, 1988).

I use a simple model to expost these ideas. I start with a simplified version of Acemoglu (2007), with two additional features. First, instead of a single group of elites (in addition to the middle class and workers), there are now two groups of competing elites. Second, these two groups can engage in a costly contest in order to capture state power. I provide an example in which without efficient taxation mechanisms, the group in power uses inefficient entry barriers to manipulate factor prices. The availability of tax instruments avoids this source of inefficiency in the allocation of resources. However, I also show that these tax instruments increase the costs expended in order to capture the control of the state and this may more than offset the benefits.

Naturally, these results do not imply that the increased power of the state and the availability of a richer set of fiscal instruments lead to a worse allocation of resources, since these changes often occur endogenously in response to better political controls—so that the elite are unable to use these instruments to extract greater resources from the rest of the society. This paper therefore suggests that it is important to study the development of the power of the state as part of a process in which better political institutions are built in order to control the exercise of power.

The main idea proposed in this paper is closely related to Wilson (1990) and Becker and Mulligan (1998), who suggest that politicians might want to commit to use inefficient methods in

order to reduce total redistribution. The main difference is that in the current paper the potential costs of efficient methods of redistribution are not simply greater redistribution, but the waste created in a power struggle in order to capture the now more valuable control of the state.

## I. Economic Model

Consider a static and simplified version of the model presented in Acemoglu (2007). The economy is populated by a continuum  $L + 2\theta_e + \theta_m$  of risk neutral agents. Agents are in four groups. The first comprises a total mass  $L$  of workers, who supply labor inelastically. The second is a total population  $\theta^m$  of “middle class” agents, denoted by  $m$ , and finally, there are two sets of potentially competing elites, denoted by 1 and 2. For simplicity, let us assume that each of these two groups has size  $\theta^e$ , normalized to  $\theta^e = 1$ . Middle-class and elite agents (of either group) can become entrepreneurs. Each entrepreneur can hire at most  $\lambda$  workers. The productivity of each middle class agent is  $A^m$ , while the productivity of elite agents of groups 1 and 2 are both given by  $A^e$ .<sup>3</sup> Throughout, let us focus on the more relevant case where the middle class are more productive than the elite, i.e.,

$$(A1) \quad 0 < A^e \leq A^m.$$

I assume that the elite group 1 initially controls the state. One policy tool available to the state is an entry barrier  $B^m$  affecting middle-class agents wishing to become entrepreneurs (hire labor). These entry barriers are purely wasteful and generate no revenues (whether there are also additional entry barriers applying to the other elite group has no effect on the results). In addition, they may also have access to a non-distortionary income tax,  $\tau$ . Since there is no marginal decision, such as labor supply or capital investment, this income tax is equivalent to a lump-sum tax. Tax revenues, if any, are redistributed lump-sum and in a group-specific manner, so that all the proceeds could be redistributed to the group in power.

The key economic margin in this model is the allocation of labor to different entrepreneurs. In particular, denoting the set of entrepreneurs by  $S$ , labor market clearing requires  $\int_{j \in S} l^j dj \leq L$ ,

where  $l^j$  denotes the labor hired by entrepreneur  $j$ , and with a slight abuse of notation, I also use  $l^m$  and  $l^e$  for the employment levels of middle-class and elite entrepreneurs.

Let us also assume

$$(A2) \quad 2\theta^e = 2 < \frac{L}{\lambda} < \theta^m,$$

which, combined with (A1) and the fact that each entrepreneur can employ  $\lambda$  workers, implies that there is a sufficient number of middle-class entrepreneurs to employ all workers, but there will not be “excess demand” for labor coming only from the two groups of elites.

Given this description, the structure of economic equilibrium is straightforward. When the wage rate is  $w$  and the entry barrier on middle-class entrepreneurs is  $B^m$ , then each middle-class entrepreneur will make a (net) profit of

$$\pi^m(w, B^m) = (A^m - w)l^m - B^m.$$

In contrast, each elite entrepreneur will make a profit of  $\pi^e(w) = (A^e - w)l^e$ . The equilibrium wage rate has to be such that the labor market clearing condition is met. Then in view of (A1) and (A2), the equilibrium will involve

$$(1) \quad w = \max \{A^m - B^m/\lambda, 0\},$$

since the marginal entrepreneur will always be from the middle class. In particular, if there are no entry barriers ( $B^m = 0$ ), then the equilibrium wage is simply  $w = A^m$  due to competition among middle-class entrepreneurs. If there are positive entry barriers ( $B^m > 0$ ), then each active middle-class entrepreneur will be at capacity and will have to make zero profits, which gives (1).

## II. Equilibrium Policies

Let us next turn to equilibrium policies. Suppose that elite group 1 is in power. Let us also first assume that there are no fiscal instruments and thus the only available policy instrument is entry

barriers. Given the above description of the economic equilibrium, it is clear that with  $B^m = 0$ , the elite will make zero profits. In contrast, by choosing  $B^m \geq \lambda A^m$ , they can ensure that they become entrepreneurs and also push the equilibrium wage rate down to zero—i.e., *manipulate factor prices*. In this case, each elite agent (of either group) will have an income of  $\lambda A^e > 0$ . Therefore, the equilibrium choice of policies will involve a “misallocation of resources” induced by entry barriers chosen by the elite. Total (net) output in the economy would be

$$(2) \quad Y = 2\theta^e \lambda A^e = 2\lambda A^e,$$

since either only the elite are entrepreneurs or if the middle class enter (with  $B^m = \lambda A^m$ ), all of their production is wasted on entry costs. If, in contrast, we had  $B^m = 0$  (and thus  $w = A^m$ ), total net output would be

$$(3) \quad \hat{Y} = A^m L > Y.$$

Next, suppose that the elite in power, elite group 1, have access to income taxes. Then they can set  $B^m = 0$ , allow the middle class to become entrepreneurs, and set 100% taxation to redistribute all income to themselves. Assuming that the proceeds are redistributed equally among the members of the elite group in power, each member will have an income of  $A^m L > \lambda A^e$  (where the inequality follows immediately from (A1) and (A2)). In this case, total output is  $\hat{Y}$  as given by (3) and the allocation of resources resulting from factor price manipulation disappears. This is the beneficial effect of what Acemoglu (2007) refers to as greater “state capacity” or what Besley and Persson (2009) refer to as “the genius of taxation”. However, this ignores the effect of changes in the set of fiscal instruments on the political equilibrium.

### III. Political Equilibrium

Let us next endogenize the political equilibrium, meaning the allocation of political power. To do this in the simplest possible way, suppose that only the two elite groups can compete for

power and use a contest function to represent this competition (e.g., Avinash K. Dixit, 1987). This competition takes place before the choice of policies and the determination of the economic equilibrium. Each elite group  $j \in \{1, 2\}$  chooses, without any internal conflict, an expenditure  $x_j \geq 0$ , and will gain power with probability

$$\frac{x_j^\alpha}{x_1^\alpha + x_2^\alpha},$$

where  $\alpha \leq 2$ . These expenditures are pure waste (just as resources spent on entry when there are entry barriers), and let us also assume that both elite groups have deep pockets to meet these expenditures. These modeling assumptions capture, albeit in a reduced-form manner, any kind of costly conflict to control political power between different social groups.

Then elite group  $j \in \{1, 2\}$  will choose  $x_j$  (taking  $x_{-j}$  as given) as a solution to the following maximization problem:

$$(4) \quad \max_{x_j \geq 0} \frac{x_j^\alpha}{x_1^\alpha + x_2^\alpha} V_j(j) + \left(1 - \frac{x_j^\alpha}{x_1^\alpha + x_2^\alpha}\right) V_j(-j) - x_j,$$

where  $V_j(j)$  and  $V_j(-j)$  denote the value of a representative member of group  $j$  when, respectively, its group or the other group is in power.

First consider the political equilibrium without the tax instruments. In this case, members of both elite groups have income  $\lambda A^e$  regardless of which of group is in power, i.e.,  $V_j(j) = V_j(-j) = \lambda A^e$ . Thus, the equilibrium involves  $x_1 = x_2 = 0$ , and net output is still  $Y$ , given by (2).

Next suppose that additional tax instruments are available. Then the group in power can choose these taxes to redistribute all of the income generated in the economy to itself (including the income of the other elite group), so  $V_j(j) = \hat{Y}$  as given by (3) and  $V_j(-j) = 0$ . Using these expressions, (4) and the fact that  $\alpha \leq 2$ , we can show that there exists a unique political equilibrium, in which both groups choose:<sup>4</sup>

$$(5) \quad x_1^* = x_2^* = \frac{\alpha \hat{Y}}{4}.$$

Therefore, net output in this case, after the wasteful contest spending is subtracted, is

$$(6) \quad \tilde{Y} = \frac{2 - \alpha}{2} \hat{Y},$$

with again  $\hat{Y}$  given by (3). Even though  $\hat{Y} > Y$ , there is no guarantee that  $\tilde{Y} \geq Y$ . For example, if  $A^m$  is close to  $A^e$ ,  $\lambda$  is close to 1, and  $\alpha \geq 1$ , we will necessarily have  $\tilde{Y} < Y$ . In fact, equation (6) implies that  $\tilde{Y}$  can be arbitrarily small relative to  $Y$ . Consequently, an extended set of fiscal instruments potentially improves the allocation of resources, in particular, preventing the need for manipulating factor prices; however, the increased rents that they imply for those controlling power intensify costly political conflict, which can more than offset the direct economic gains.

#### IV. The Virtues of Strong States

John Brewer (1988) documents the rise of the strong states in Britain in the 18th century. The 18th-century, and then subsequently 19th-century, British state could both spend and regulate more, and also had access to a larger set of tax instruments and to a wider tax base. Yet, the expansion of the fiscal powers was not an autonomous process, but a consequence of the Glorious Revolution, which increased the checks against the actions of the state and the arbitrary behavior of rulers and politicians. The British tax revenues increased by over three fold in the quarter of a century following the Glorious Revolution (while French revenues remained constant). Notably, these revenues were used very differently from how the marginal revenue was spent during the reign of the Stuarts before 1688: instead of financing the consumption or the retinue of the crown, they were spent to strengthen the Navy, which would then play an important role in defending the overseas interests of those in the Parliament (who in fact constituted the main checks against the power of the Hanoverian monarchs). Brewer documents why the development of the capacity of the state was important for British economic development.

The story, therefore, is not one of an “autonomous” or exogenous development of state capacity leading to a better allocation of resources in the economy. Instead, it is one of simultaneous improvements in political institutions constraining the arbitrary power of the state and rulers and

a remarkable increase in the economic power of the state (its powers to tax, spend and regulate). In fact, in the British case, it appears that the increase in the economic strength of the state was a consequence of the political developments emanating from the Glorious Revolution. What we have here, therefore, is much more reminiscent to what I referred to in Acemoglu (2005) as a “consensually strong state” in the sense that the state is endogenously becoming stronger with the consent of citizens; citizens (or in the British case, the merchants, gentry and some aristocrats) gave this consent precisely because they knew that they could rein in the power of the state if it deviates significantly from the course of action that they would like to see implemented.

In terms of the model presented here, we could easily incorporate this feature in a reduced-form way by introducing constraints on the elite in power.<sup>5</sup> Suppose, for example, that only a fraction  $\eta$  of tax revenues can be redistributed directly to the group in power, while the remaining  $1 - \eta$  has to be redistributed as a lump-sum transfer to the entire population. The analysis in Section III is a special case when  $\eta = 1$ . Then repeating the same exercise as above, we can see that as  $\eta$  declines, so that political checks on the elite in power are strengthened, there will be less infighting in order to control the state, and for  $\eta$  sufficiently small, the availability of additional tax instruments will necessarily increase net output.

## V. Concluding Remarks

Many of the most pernicious economic institutions and policies create entry barriers or manipulate factor prices indirectly to transfer resources from entrepreneurs and workers to groups that hold political power. These inefficiencies partly result from the fact that direct and efficient fiscal instruments to transfer resources from the former to the latter groups are absent. This reasoning suggests that increasing state capacity and expanding the set of available fiscal instruments should redress (some of) these inefficiencies and induce a better allocation of resources.

This paper points out why this argument needs to be qualified and why caution is necessary before increasing the fiscal capacity of the state becomes a silver bullet policy recommendation. Because the availability of more efficient means of taxation increases the potential benefits of controlling state power, it also intensifies political conflict aimed at capturing the control of the

state. This indirect effect counteracts the benefits from more efficient taxation and may dominate these direct benefits; as a consequence, the allocation of resources may deteriorate when the society and the state have access to additional fiscal instruments.

The more general lesson is that while state capacity and states with sufficient economic strength to tax, regulate and provide public goods are essential for economic development, these benefits may not get realized by an autonomous increase in the strength of the state because this will also increase the value of controlling the state and thus induce increased political conflict and infighting. Therefore, the virtues of strong states emerge when the increase in the economic strength of the state is a consequence of, or at least happens simultaneously with, an increase in the political accountability of rulers and politicians. This underscores the need for future work investigating dynamic models of the endogenous emergence of state capacity and its relationship to political accountability.

## Footnotes

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<sup>2</sup>A second, perhaps more important reason is that the elite may be afraid that a more efficient allocation of resources will reduce their political power and their future ability to obtain rents (e.g., Acemoglu and Robinson, 2000, 2006).

<sup>3</sup>Allowing these productivities to be different,  $A_1^e$  and  $A_2^e$ , would have no effect on the results.

<sup>4</sup>The first-order condition for group  $j \in \{1, 2\}$  is  $\alpha x_j^{\alpha-1} x_{-j}^\alpha V_j(j) / (x_j^\alpha + x_{-j}^\alpha)^2 = 1$ . Combining the two first-order conditions (and noting that  $V_j(j) = V_{-j}(-j) = \hat{Y}$ ) immediately gives  $x_{-j} = x_j$ , which solves uniquely for (5), and verifies the second-order condition.

<sup>5</sup>See Acemoglu (2005) for a dynamic model.

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