

September 20, 2010

**A State is Born:
Transport Infrastructure and Democracy in Somaliland**

by

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Abstract: Somaliland has recently developed an unexpected democracy after seceding from chaos-ridden Somalia, while turning its port of Berbera into a success story, competing successfully with the long established ones in the Horn of Africa. A simple game-theoretic model is used to explain why the home-grown democratic institutions that developed in Somaliland are a key factor in making Berbera a credible outlet for the external trade of neighboring landlocked Ethiopia. The model shows that redistributing some of the resources from this trade is a key condition for sustaining this efficient political equilibrium.

Acknowledgements: This paper has been presented at the “Political Economy and Development” workshop at the Paris School of Economics (June 5, 2010). Helpful comments by Gani Aldashev, Jean-Marie Baland, François Bourguignon, Elise Brezis, Cecilia Garcia-Peñalosa, Maitreesh Ghatak, Kalle Moene, Dilip Mookherjee, Jean-Philippe Platteau, Romain Rancière, Debraj Ray, and especially Adam Przeworski who was the discussant, are gratefully acknowledged. Financial support by the World Bank is gratefully acknowledged, but the views presented in this paper do not necessarily reflect those of the World Bank or its affiliated institutions.

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1. Introduction

Somaliland is a former British protectorate, on the southern shore of the Gulf of Aden, which seceded unilaterally from Somalia in 1991, after three decades of unsuccessful attempt at creating a unified country with the latter. Its population is estimated at about 3.5 million people. It has two main kinds of physical assets: its pastoral assets of grazing land and livestock, on the one hand, and its transport infrastructures, on the other hand. The latter include mainly the port of Berbera, and to a lesser extent the airport of Hargeysa, its capital city, as well as their connecting roads. The nomadic herdsmen need the port of Berbera for exporting their livestock to the Arabian Peninsula and other neighboring countries in the Middle East, which provide their main outlet. Moreover, Berbera is ideally located to give a convenient access to the Indian Ocean to neighboring landlocked Ethiopia, and there is a main road between the two¹. Berbera's traffic has been rising steadily over the last decade. For example its traffic of import containers has nearly doubled between 2003 and 2007 (MNPC, 2010). This port's promising position is confirmed by the fact that Bolloré Africa Logistics, the biggest port operator in Africa, has recently made public its project of investing massively in Berbera's port and its transport corridor with the Ethiopian capital-city Addis Ababa².

The Ogaden province across the border in Ethiopia is also peopled by Somali-speaking herdsmen, and that border is traditionally fairly porous, as might be expected in a land mostly devoted to nomadic pastoral activity. Refugees have crossed this border back and forth over the last decades, depending on the changing intensity of fighting during the Ethiopian civil war, which ended in 1991, and the one in Somalia ever since. The best grazing land called the *Haud* is straddling this border that nomadic herdsmen are also routinely crossing³. While ethnically homogenous, these Somali-speaking people of Djibouti, Ethiopia, Kenya, Somalia

¹ Markakis (1992) provides a regional perspective on the ports in the Horn of Africa.

² *WorldCargo News online*, March 15, 2010. "Bolloré proposes Berbera-Adis Ababa Transport Corridor". www.worldcargonews.com (accessed July 2, 2010, reproduced from *Medeschi*, December 10, 2009).

³ See map 6.1, p.101 in Doornbos, 1993.

and Somaliland are traditionally affiliated to different clans that straddle these countries' borders, which might at times enter into violent conflict against one another. The chaos that prevails in most of Somalia, which is engulfed in warlordism and banditry ever since the collapse of the state in 1991, testifies that the threat of violence is looming large over this people. The military government led by Siyad Barre had launched an unsuccessful invasion of the Ogaden region in neighboring Ethiopia in 1978 and eventually signed a peace agreement with the Mengistu regime in 1988, which was perceived as a disgrace by many Somalians. Many military officers from the north, mainly from the Isaaq clan, which is the largest one in Somaliland, accused Siyad Barre of having mishandled the operations. They felt that the conquest of a more limited area in the Ogaden, including mainly the grazing land used by the Isaaq clan, could have been a success. This peace agreement with Ethiopia triggered a full-blown civil war in Somalia, as many clans wanted to hang on to the pan-Somali project, which resulted in a coup d'état that toppled the military regime in 1991. Then chaos ensued, and Somalia collapsed into a stateless entity, dominated by banditry and warlordism. Nevertheless, in nearly two decades since Somaliland seceded from Somalia, it has managed to develop the port of Berbera and to enforce an acceptable level of security on the paved road linking it to Ethiopia for the traders to adopt this route. A large share of Ethiopia's international trade is now shipped via this port. This achievement stands in sharp contrast to the rest of Somalia, where the civil war has brought chaos, leaving the land under the violent domination of warlords and bandits.

The aim of this paper is to present a framework for thinking about this unexpected success and to draw some lessons for understanding state formation in general. A very simple model is presented that brings out how the political equilibrium that emerged in Somaliland is fundamentally rooted in the need to provide security to the traders who provide most of Berbera's activity. This is a *sine qua non* for the traffic through Berbera to be active and

flourishing. This model sheds some light on the fairly unusual political institutions that emerged from less than two decades of self rule by Somaliland, following the secession. Although some limited fighting occurred for a while inside Somaliland in the early 1990s, in particular over the control of the port of Berbera and the airport of Hargeysa, the Somalilanders engaged quickly in a political process that led to a fairly successful democracy in about a decade⁴. What seems very important when looking at the experience of Somaliland is that this gradual build-up of a functioning state started from the grassroots, with very little outside interference. Eubank (2010) emphasizes that the “Somaliland Republic” has not been recognized internationally, what makes it ineligible for foreign aid. In his view, this is an asset rather than a liability, as it forced the Somalilanders to develop accountable political institutions and to engage in state formation in a non-Eurocentric fashion. The aim of the present paper is to go one step further in analyzing the type of government that resulted, and in particular to explain clearly why Eubank (2010) does not find in Somaliland the “fiscal decentralization” that he is looking for. The model argues instead that the redistribution of fiscal resources from the government to the different regions lies at the heart of these peaceful and democratic institutions. The key role of redistribution in peaceful state-building in Africa has been emphasized before, in particular by Azam (2006). In Somaliland, this redistribution of fiscal resources has mainly funded a significant expansion in the education sector in all regions of the country, as well as some expansion of the health sector. Between 1997 and 2006, the number of primary schools has risen from 165 to 516, while the number of

⁴ A constitutional referendum took place on May 31, 2001. Then, district council elections took place in December 2002, Presidential elections in April 2003, and parliamentary elections in September 2005 (Bradbury, 2008). A new presidential election took place in June 2010, about two years behind schedule (Brumfield, Ben, and Mohamed Amiin Adow. 2010. “Polarized Somalia Marks 50 Years of Freedom from Colonial Rule.” www.CNN.com, June 26, 2010 (accessed June 27, 2010)). In the meantime, the main political parties were grappling with the conceptually demanding issue of defining a correct voter registration list in a country where nomadic herdsmen are wandering all over the place and often crossing the borders with neighboring countries in search of pasture. A compromise was found eventually without any violence, thanks to the strong involvement of the clans’ elders in the debate (see below). The incumbent lost to the opposition leader (Adow, Mohamed Amiin. 2010. “Opposition leader wins elections in Somaliland.” www.CNN.com, July 3, 2010 (accessed same day).

Universities has risen from 1 to 5 (MNPC, 2010). Eubank (2010) presents some plots showing the remarkable progress of school enrolment over a decade.

The model presented below argues that the “Somaliland Republic” shares many features of the “Indirect Rule” system that was widely used in the days of the British Empire, and that has been used in many developing countries since their independence. In particular, Boone (2003) shows how this system was applied quite successfully in several parts of post-colonial Francophone West Africa, where the central government delegated the task of controlling some areas to some local traditional authorities, in return for some transfers. We argue below that this system cuts through a vexing “bootstrap” problem that faces all new states: you need to have fiscal resources to extend the control of the state to various parts of your territory, but you need to have a fairly serious level of control to be able to raise those fiscal resources in the first place. This problem explains to a large extent why many African states exert in fact an extremely limited effective control over their territory, leaving *de facto* large parts of their country without any effective state presence, as emphasized by Herbst (2000). We argue that Somaliland was put on the fast track to solve this problem thanks to two of its pre-existing assets. First, this country inherited a valuable transport infrastructure, which only required establishing an efficient political regime to become competitive in the Horn of Africa. We suggest that “ports are the taxman’s best friend” in what follows, as they provide a “choke-point” where taxable resources get concentrated and make revenue collection relatively cheap. Second, the traditional institutions of this nomadic pastoral society had not been destroyed by either the British colonial rule, or the subsequent “modernizer” national government of post-colonial Somalia, despite the brutal attacks by Mogadishu’s government in the final years of Siyad Barre’s rule in the late 1980s (Lewis, 2008). That indiscriminate violence against civilians and soldiers alike probably helped the Somalilanders to achieve a consensus on the project to secede from Somalia and build a state of their own.

The Somali nomadic herdsman are still strongly affiliated to different clans, themselves subdivided into kinship groups, which are subject quite informally but firmly to the leadership of the elders. There is no real “chiefdom” among the Somali, unlike in many other African societies (Lewis, 2008), but the elders exert a significant level of authority.

The power thus exerted by the elders over their kinship group was successfully harnessed to the emerging “Somaliland Republic” by creating a House of the Elders, called *Gurti* in Somali, beside a more standard elected House of Representatives. This upper house is playing in Somaliland’s bicameral system a part close to that played by the House of Lords in Britain’s Westminster system, allowing the traditional authorities to be involved directly in running the country’s affairs. We argue below that this is one of the fundamental pillars of this country, as this is the key to establishing at a low upfront cost the required level of security for making the port of Berbera an economic success, and hence, a reliable source of fiscal revenues. The newly emerging Somaliland government is in fact delegating to the elders the task of controlling violence and banditry, with a view to protect the traders who then pay taxes in return for the transport services of Somaliland and its port. Then, the redistribution of fiscal revenues pointed out by Eubank (2010), as mentioned above, is the natural compensation for the investment made by the elders in providing the key public good that makes this lucrative trade possible. Hence, our approach to Somaliland’s state-building shares some features of the so-called “property rights” approach to the theory of the firm (Hart, 1995). The returns to the transport infrastructure inherited by Somaliland thus depend crucially on the “relationship-specific investments” (Hart, 1995) made by the elders in controlling violence and banditry, which is in turn rewarded by some redistribution of fiscal revenues. Similarly, Hart’s theory rests on “incomplete contracts theory”, which assumes that only a fraction of the observable information can be used as part of an enforceable contract, while the rest is not verifiable by a court, although it is observable by the parties to the

contract. Our model pushes this to the extreme, as there is no third party that can be called upon to enforce any agreement between the government and the clans' elders.

The solution offered here to this fundamental commitment problem brings out the key theoretical contribution made by the present model relative to Alesina and Spolaore's theory of the size of nations (Alesina and Spolaore, 2003). The latter defines the government as a country's monopoly producer of a public good that benefits its people differentially. They then raise serious doubts about the possibility of compensating people for these differential benefits by transfers, because of the lack of commitment of the democratic government that they assume. In the present model, the government is unable to produce the public good alone, and must rely on the traditional authorities that are in a position to control violence and banditry, provided their participation constraint is satisfied through a transfer. Then, the promise of this transfer can be made credible in a repeated-game framework because the recipients can punish any deviation by the government by reducing drastically its payoff in case of cheating. This implicit threat is credible because the recipient of the transfer is incurring a positive opportunity cost in delivering its part of the deal. Hence, what looks like a transfer is in fact the price paid for a productive service sold to the government.

The resulting political structure can thus be viewed as a variant of the hybrid institutional structures analyzed in Bendor and Mookherjee (1987), which combine local hierarchies with various forms of decentralization. The social control exerted by the elders in Somaliland is a form of hierarchical relationship within the clan, while the assembly of the elders provides a more horizontal form of cooperation between the clans. Hence, the political organization prevailing in Somaliland is a form of non-territorial federation of clans that accommodates the special constraints facing a nation of nomadic herdsman. Moreover, the experience of Somaliland analyzed below suggests that a key part is played by the redistribution of the gains from cooperation by transfers, a possibility that is not explored in

the Bendor-Mookherjee paper. We suggest below that the original political organization adopted in Somaliland makes this possible by helping the key players to share the required information in a credible fashion.

More generally, the state-formation theory sketched below views the state as a means to internalize some key externality that has the potential to enlarge the opportunity set of the players, provided a fair compensation is paid to the investors. This is why redistribution plays such a key role in African state building, as mentioned above. The reason for this result is that the basic negative externality that plagues African states is the threat of civil war, or more generally the threat of violence. If I get armed, then your expected welfare goes down, as there is a non-zero probability that I will use these weapons to attack you or to damage your assets. This is what the “social contract” aims at preventing, by providing a fair and credible compensation for giving up one’s weapons (Azam and Mesnard, 2003). In Somaliland, the threat was more directed at the economy, as any insecurity felt by the traders would have brought the port of Berbera to a halt. Nevertheless, this implicit threat was overcome through a gradual bottom-up process leading to the emergence of the democratic regime.

Section 2 presents the basic model, while section 3 describes the basic mechanisms that sustain the efficient political equilibrium of this model. Section 4 brings out the key differences explaining why a similar process did not take place elsewhere in Somalia. Section 5 offers some brief conclusions.

2. A Model of Traders under Threat

After the breakup of Somalia, law and order collapsed, and the country became prey to roving bandits and warlords, making trade highly risky. However, Somaliland itself managed to isolate a relative safe heaven for traders. The following model aims at bringing out the two levels of political organization that made this possible. We first analyze how the traditional system of social control was mobilized for reining in uncontrolled violence. The next section

will bring out how a higher level of political cooperation was needed to create the required level of security for making Berbera a success.

The Traders

We choose a very simple model for capturing the key part played by security in determining the level of trade going through Somaliland and Berbera. Let x be the value of the goods transported through the country by the traders. The latter potentially incur three types of costs while moving across the country: (i) there is first a resource cost involved in trucking the shipments, including fuel, labor, etc. (ii) then, they might be raided by bandits along the way. In this case, we assume that the bandits take everything away from the trader, leaving him without anything to sell at the port, and we denote π the probability that this happens. (iii) Lastly, for the lucky ones who have not been raided, we assume that they have to pay a tax when leaving the country at the fixed rate t . On the export side, we thus assume that the tax is paid at the port, and on the import side, at the end of the trip, i.e. mainly at the border for the transit trade to Ethiopia⁵. Then, assume that the government holds a tight control over corruption so that the tax rate is fixed before the other agents make their decisions, and does not respond to the observed trade flow coming through its control points. All the parameters of the model are assumed to be common knowledge, so that all the players can correctly anticipate the decisions made later on by the other players. The traders are assumed to play last, i.e., to make their decision to start the trip or not while taking t and π as given.

It is realistic to assume that there is no free entry in the trading business, mainly because of the limited warehouse capacity and restricted credit that is typical in poor

⁵ This assumption is admittedly not perfectly realistic, as the tax is in reality paid at the port both on imports and on exports. The difference with the assumption made above is that in the latter case, the importers have to pay taxes even on the goods that might be stolen by the raiders on the way to the inland border. Hence, if $x/2$ is the value of the imported goods, then the traders would incur an additional expected cost $\pi t x/2$ compared to the case prevailing under our simplifying assumption expressed above. We neglect this in what follows, for the sake of simplicity.

countries. In Africa, long-distance traders usually belong to some long-established family networks (see Grégoire and Labazée, 1993). Assuming for the sake of simplicity a quadratic cost function, then the representative trader chooses Berbera rather than any other port of the Red Sea or the Gulf of Aden area if:

$$E = \max_x (1-t)(1-\pi)x - \frac{x^2}{2\theta} \geq v, \quad (1)$$

where v is the trader's reservation profit, which he could expect to earn while using an alternative trade route. As will become clearer at (2) below, θ may be interpreted as an index of infrastructural capacity. Then, (1) assumes that the marginal cost of trading is increasing with the pressure exerted on this capacity. From the first-order condition, the amount of trade going through the country if the weak inequality in (1) holds is:

$$x = \theta(1-t)(1-\pi). \quad (2)$$

Substituting back into (1), we find that a positive level of trade will go through the country if:

$$(1-t)(1-\pi) \geq (2v)^{1/2} \theta^{-1/2}. \quad (3)$$

Assuming that $\theta > 2v$, (2) and (3) jointly imply that when this is profitable, the level of trade will be such that:

$$(2v\theta)^{1/2} \leq x \leq \theta. \quad (4)$$

Otherwise, it will fall to zero. This simple setting thus captures the idea that the competitiveness of the port of Berbera depends first on two parameters, namely v and θ , which determine respectively the profitability of doing business with the competitors and the physical transport cost inside the country, and then on two choice variables, π and t , which are determined by two key players, respectively the bandits and the tax authority. In what follows, we assume that θ is much larger than $2v$, in order to capture the geographical

advantage of Berbera over its competitors. Then, Berbera should win, provided the two key players manage to put their act together efficiently.

The Potential Bandits and the Government

Let us first analyze how the potential bandits would behave in a hypothetical society where the traditional clanic authorities would fail to organize somehow their activity. We make the simplest assumption regarding the cost of raiding the traders, namely that a fraction $0 < \gamma < 1$ of the shipment is lost in the raiding. This might capture the collateral damage of any fighting between the bandits and the traders that might be involved, or any other form of cost that the bandits incur in raiding. This is the simplest assumption, but most results below are robust to several extensions. Given this cost function, the representative bandit seeks to maximize his expected profit, simply defined as:

$$B^R = \max_{\pi, x} \pi(1-\gamma)x. \quad (5)$$

This expression implies that the bandits incur no cost at all if $\pi x = 0$, either because there is no traffic to attack, or they have chosen not to perform any raiding. Otherwise, they loose a constant fraction of the catch when they raid a trader. When the bandits are not organized, they do not take into account the externality that they inflict on other bandits when performing an attack, namely that this will in turn damage the reputation of the road and thus reduce the level of traffic that can be raided by increasing the expected loss incurred by the traders. It is then easy to check that this “roving bandit” equilibrium is characterized in this model by the absence of any traffic through the country, as:

$$\pi^R = 1 \text{ and } x^R = 0. \quad (6)$$

Against this background, we can now analyze the first contribution made by the assembly of elders in the Somali clanic society in reducing banditry. In this nomadic society, where the young men are spread all over the land in search for some fodder for their flock, collective identity is not much defined by reference to a territory while genealogy is the key

social identifier. Moreover, in this potentially violent society, where herdsmen could fight a dispute over grass or water at any time, escalation is prevented by the widespread use of “blood compensation”, or *diya* in the Somali language. This is a clever system for creating joint liability within the group of origin of the perpetrator of a violent crime, as the whole group is responsible for paying the compensation required by the victim’s group for settling the issue. According to Bradbury (2008), the *diya* for the murder of one man is 100 camels (half of this for one woman), which is a very high cost for the group. If the *diya* is not paid, then the aggrieved group is committed to launch a war against the criminal’s one. This provides a strong incentive for those involved to exert some control over their fellow clan members, so that any young man found guilty of a crime against a member of another clan would potentially be punished by his own clan, thereby avoiding inter-clanic violence as far as possible. Hence, an important service delivered by the clan is to control the violence that could be perpetrated by its own members against either the clan’s members or the members of other clans. This gives the elders a key role in the Somali society’s control of violence. This power was gradually aggregated in Somaliland during the political build up towards democracy by organizing first a large series of local meetings of elders, which then developed in a kind of pyramidal fashion, culminating with the creation of the national assembly of the elders at the *Gurti*. This process is well documented by Bradbury (2008). The most striking point about this process is that it was mainly organized and funded by the Diaspora of Somalilanders who had fled the repression under the Siyad Barre regime. These people played a key role in many other parts of Somaliland’s political development and the emergence of democracy there.

Let us first see what such a consolidation process could deliver within our model society with traders and bandits. Quite obviously, such a consolidation process would end up creating a kind of syndicated banditry, which could internalize the negative externality

involved as an increase in the raiding activity against traders would reduce the size of the trade flow itself. Now, instead of problem (5), this coalition would maximize:

$$B^S = \max_{\pi, x} \pi(1-\gamma)x, \text{ s.t. } x = \theta(1-t)(1-\pi). \quad (7)$$

It can be readily checked that this “syndicated banditry” equilibrium yields the following levels of raiding and traffic:

$$\pi^S = 1/2 \text{ and } x^S = \theta(1-t)/2. \quad (8)$$

The bottom line of this simple modeling exercise is that the mere fact of forming a coalition of clans is not sufficient in general to explain why raiding would stop. Nevertheless, the model predicts that the creation of an institution that helps the clanic traditional authorities to coordinate their action makes a positive contribution towards efficiency by reducing raiding. This institution helps the clans’ leaders to internalize the negative externalities that they would inflict on one another by raiding the traders without control, inducing them to reduce their raiding activity.

Now, absent any political arrangement that could help the government and the potential bandits to coordinate their action, the government would simply maximize its expected fiscal revenues, taking into account the traders’ best-response function (2) and the bandits’ best choice:

$$G = \max_{t, x} t(1-\pi)x, \text{ s.t. } x = \theta(1-t)(1-\pi). \quad (9)$$

Proposition 1 below describes the resulting Nash equilibrium, which prevails in this model when the two players do not coordinate their actions through some political arrangement.

Proposition 1: The uncoordinated Nash equilibrium choice of π and t by the government and the syndicated bandits, respectively, is:

$$t^N = \pi^N = 1/2, \quad (10)$$

entailing a level of traffic:

$$x^N = \theta/4, \quad (11)$$

and the following payoffs for the bandits and the government, respectively:

$$G^N = \theta/16 \text{ and } B^N = (1-\gamma)\theta/8. \quad (12)$$

The next section shows how a more inclusive political arrangement can harness this social-control mechanism provided by the clanic traditional authorities to improve efficiency still further, and reduce raiding to zero.

3. Fiscal Redistribution in the Efficient Political Equilibrium

In a clanic society, genealogy is the essence of social identity, as mentioned above. It is then natural to assume that the elders have a strong interest in the continuation of the clan, and thus care for the welfare of the next generation. This can be captured by using a dynastic family model à la Barro (1974). In this kind of models, each generation is affected by inter-generational altruism, such that the next generation's welfare is an argument in the current generation's utility function. Choi and Bowles (2007) have coined the expression "parochial altruism" to describe such an inter-generational externality, and have shown how these links across generations are an important asset for the survival of human groups in a violent society, within an evolutionary framework. Hence, the dynastic family assumption seems especially appropriate for describing the behavior of a traditional clanic society like the Somali one. In this case, it is natural to assume that the players have an infinite horizon, as their concern for the next generation creates a chain of inter-generational links up to infinity. We thus discuss the political setting in which banditry and warlordism can be eradicated by embedding the simple model of the previous section within an infinite-horizon repeated game framework. We then show how Somaliland's political institutions cater for the key mechanisms brought out by this model.

The Efficient Political Equilibrium

Let $0 < \delta^B < 1$ and $0 < \delta^G < 1$ denote the bandits'- and the government's discount factors, respectively. Then, assume that the government and the coalition of elders bargain at each period over the value of a transfer $g > 0$ to be paid by the government if the bandits refrain from raiding the traders, i.e., if the elders enforce $\pi = 0$. This implicit contract entails that the potential syndicated bandits are acting first and the government second, by delivering the transfer after having observed whether the raiding was avoided or not. Moreover, there is no third party that can enforce the promise made by the government to deliver the transfer once the potential bandits have refrained from raiding the traders. We define an efficient political equilibrium as an efficient outcome that can be sustained *ad infinitum* in the repeated game between the government and the potential bandits⁶.

Definition 1: An efficient political equilibrium is a triplet $\{t, \pi, g\}$ that (i) lies on the Pareto frontier in the game between the government and the potential syndicated bandits, and (ii) can be sustained by a standard trigger-strategy equilibrium.

In this simple setting involving a transfer, the Pareto-efficient $\{t, \pi\}$ pair can be derived by solving the following problem:

$$\max_{t, \pi} [t(1-\pi) + \pi(1-\gamma)]x, \text{ s.t. } x = \theta(1-t)(1-\pi). \quad (13)$$

Using standard maximization techniques (Kuhn and Tucker theorem with non-negativity constraints), one finds that the Pareto-efficient outcome implies the following:

$$\pi^* = 0, t^* = 1/2 \text{ and } x^* = \theta/2. \quad (14)$$

The intuition for this result is pretty straightforward. Because of the unit cost $\gamma > 0$, raiding is an inefficient way of collecting revenues from the traders. This entails that the

⁶ We do not model the precise bargaining process and we thus leave the exact value of the transfer undetermined. We focus instead on finding the conditions for the bargaining set not to be empty.

government will perform all the tax collection in the efficient equilibrium, knowing that it will redistribute part of the resulting revenue as explained below. Moreover, the chosen tax rate is the same as in the Nash equilibrium of the previous section, at the level that maximizes the Laffer curve, i.e. that maximizes $t(1-t)$. Then, the traffic level is twice as large in this equilibrium as in the uncoordinated Nash equilibrium of the previous section.

We can now prove the following:

Proposition 2: There exists at least one efficient political equilibrium with $\pi^* = 0$, $t^* = 1/2$

and:

$$(1-\gamma)\theta\left(\frac{4-3\delta^B}{8}\right) \leq g^* \leq \frac{3\theta\delta^G}{16}, \quad (15)$$

if:

$$\delta^G \geq \underline{\delta}^G = \frac{2(1-\gamma)}{3} \text{ and } \delta^B \geq \underline{\delta}^B = \frac{5-8\gamma}{6(1-\gamma)}, \quad (16)$$

and:

$$\delta^G \geq (1-\gamma)\left(\frac{8-6\delta^B}{3}\right). \quad (17)$$

The proof of proposition 2 is presented in the appendix. The key point that sustains this equilibrium is the credibility of the two implicit threats made by the two sides: (i) if the government defaults on the transfer, then the bandits will inflict a cost for ever after by raiding the traders and reducing the level of traffic that can be taxed. This is credible because restraint is costly for them; (ii) if the bandits attack the convoys, then the government will withhold the transfer for ever after, including the current period. Because all the parameters are assumed to be common knowledge, these threats do not need to be made explicit. Then conditions (16) and (17) show the lower bounds for δ^G and δ^B that ensure that the range of

acceptable values for the transfer g is not empty. If either one of δ^G and δ^B , or both of them, happened to fall below these lower bounds, then the efficient political equilibrium would not exist, because the price to pay the syndicated bandits for security would be deemed too high by the government. Notice that the second part of (16) on the right, relating to δ^B , is trivially satisfied if $\gamma \geq 5/8$, so that even very short-sighted potential bandits would abide by the political agreement if their raiding costs were prohibitively high, provided the government kept its word too.

Robustness and Relevance

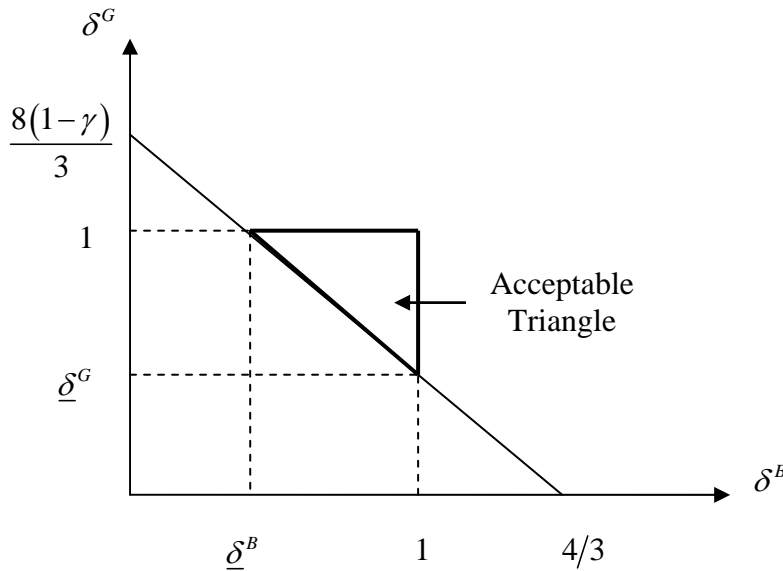


Figure 1: The Acceptable Parameter Set

Figure 1 helps us to get a more intuitive grasp of this set of conditions. The two players' discount factors δ^G and δ^B are measured along the two axes, and the downward sloping straight line represents the lower bound of (17). The set of $\{\delta^G, \delta^B\}$ pairs that are consistent with existence of the efficient political equilibrium is labeled "acceptable triangle". This assumes that $\gamma \leq 5/8$, otherwise the set of acceptable parameters is quadrilateral. Notice that this acceptable parameters' set cannot be empty as $\lim_{\gamma \rightarrow 0} \underline{\delta}^G = 2/3 < 1$.

In the case of Somaliland, because of the importance of genealogy as a social identifier and of ethnic homogeneity, we expect δ^G and δ^B to be very close to one another and pretty high. However, it is interesting to notice in the more general case that even a fairly short-sighted government, with a low δ^G , would abide by the political agreement if γ was high enough and δ^B was close enough to 1. This emphasizes the importance of the government's relative efficiency at collecting resources from the traders compared to raiding by the bandits, because it determines the level of transfer required to buy security. Inefficient bandits are cheaper to buy off than efficient ones. The two sides need to be closer in terms of $\{\delta^G, \delta^B\}$, the further away is δ^B from 1, as long as $\delta^B \geq (1-\gamma)8/3(3-2\gamma)$, and the lower is γ . The opposite case holds too, where a very long-sighted government, e.g., a hereditary monarchy, could sustain the efficient political equilibrium even if the potential bandits had a very low δ^B , e.g., because of a high mortality rate, provided γ was high enough.

The foregoing modeling exercise thus suggests that the conditions bearing on the parameters for the efficient political equilibrium to exist are not too restrictive. Then, this model sheds some light on the political institutions that have been put in place in Somaliland. The key problem to be solved was for the business-oriented elite to delegate to the traditional authorities the task of controlling violence and banditry effectively so that Berbera became an attractive outlet for the traders from Ethiopia as well as for exporting the output of the livestock sector. The first step was to help the clans' elders to cooperate by organizing several local conferences. But the model shows that this is not enough to provide the incentives for reducing banditry to zero. The second step was aimed at making credible the promise of transferring a share of the enhanced fiscal resources resulting from the increased trade flow to the clans. A bicameral system was put in place to ensure that the elders had a key role in the law-making process, by giving them a direct access to the required information, as well as

some veto power in the implicit bargaining problem. As seen above in the introductory section, the redistribution of the fiscal resources was focused on the development of the education and health sectors in all the regions, as one would expect in a country where genealogy is the key social identifier that determines each person's affiliation to a clan. The dynastic family model thus seems to apply perfectly in this case, and explains why people felt compensated for their efforts by seeing their children getting some medical protection and going to school and to university.

4. Why Not the Rest of Somalia?

The foregoing modeling exercise begs the question of why such an efficient political equilibrium did not emerge in the rest of Somalia. One answer is given by Eubank (2010), who claims that foreign aid played a detrimental role there, by relaxing the need to build accountable institutions in that part of the country. Within the above model's framework, this was yielding a good substitute for fiscal revenues that was not dependent on the elders' provision of security. Another easy culprit is the interference of foreign powers, including Ethiopia and the US behind it, emphasized by Lewis (2008). There is some merit in these two diagnoses, but it is worth going into more detail to look at the missed opportunities in eastern and southern Somalia.

The first point to notice is that without declaring secession formally, the northeastern part of Somalia built up also a bottom-up institutional solution as the "New Puntland State of Somalia", which was founded at a conference in Garowe in 1998. This promising solution started among some Darod clans, and in particular among the Mijerteyn (Lewis, 2008), but it was missing two of the key ingredients of Somaliland's success. First of all, that part of the country did not inherit an infrastructural asset of the same caliber as the port of Berbera and really had very little infrastructure instead. In fact, the Puntland ruling elite never lost sight of the nearby formal capital-city in Mogadishu in the south. That's where the infrastructural

assets are located, mostly built there during the colonial period, despite the massive destruction brought about by the war. Mogadishu has two ports, the new and the old one, and an international airport. Moreover a road to Addis Abbeba has been built, called the “Strada Imperiale”, which could be restored. Hence, the Puntlanders never severed their links to the rest of Somalia, realizing probably that they would never be in a position to levy the fiscal resources required to cement a Puntlander social contract similar to the one prevailing in Somaliland. Their strategy was clearly leaning in the opposite direction, suggesting that they were just regarding the “New Puntland State” as a mere building block to reconstruct Somalia. Second, they did not build any institutional representation of the elders, as they created a mono-cameral parliament, which did not have much resource to go round anyway. In the terms of the previous section’s model, this might be blamed on the lack of significant transport infrastructures, and thus on the lower need for security. This is illustrated by the fact that piracy is quite active off the coast of Puntland, imposing some negative externality on all the ports of the Red Sea and the Gulf of Aden. However, the failure to give the elders a large enough role in the New State of Puntland is also probably due to the towering figure of Col. Abdillahi Yusuf, who assumed first the Presidency in Puntland, up to 2001, and then won the Federal Presidency in Mogadishu, which is in fact an empty shell. According to Lewis (2008), he was to a large extent the puppet of the Ethiopian government. Col. Abdillahi Yusuf obviously failed to draw the lessons of the failure of the military regime imposed by Siyad Barre before the breakup to create top-down a viable state in Somalia, as he tried also to impose his authoritarian rule on the New State of Puntland. However, imposing the “rule of fear” also requires resources, which are dramatically lacking in Puntland, while they are somewhat higher in Mogadishu, if only because of foreign aid as mentioned above.

Southern Somalia once had the resources to support the strong authoritarian government led by Siyad Barre, who had a very destructive strategy regarding the traditional

clan system. For a while, his government was aligned with the Soviet Union, which was playing a complicated game in the Horn of Africa. Then, alliances switched, and the USA became involved. Although southern Somalia inherited a valuable infrastructural asset at independence, in addition to the sovereignty rent due to international recognition and foreign aid, it was facing a more complicated political problem than Somaliland. While the latter is very homogenous, with most of its population involved in nomadic pastoral activity, the former has a sizable agricultural area, between the Shabelle and Jubba rivers. The Somali clans living there have a distinct sedentary culture, in which territory matters at least as much as genealogy, so that the elders have a weakened role in social control relative to the other two regions. Moreover, there are some Bantu farmers in the midst of this Somali population, loosening further the ethnic ties in that part of Somalia. They first came there as slaves but are nowadays mainly acting as independent farmers. Hence, the traditional authorities are too weak in that part of Somalia for delivering the kind of social-control services available in Somaliland, on the one hand, while the government was too authoritarian to make credible promises of redistribution, for lack of checks and balances, on the other hand. Moreover, the sovereignty rent provided by foreign aid was making the need for a cooperative solution less pressing and the latter has never been tried, as Syad Barre sought to impose his rule by fear.

A temporary solution emerged recently in that land dominated by the warlords when the Islamic Courts took over. As emphasized in particular by Roberts (2003), the main reason why political Islam is enjoying so much popular support in Muslim countries is that it promises to impose an equal rule of law for all via the Sharia law, in stark contrast to Somalia's domination by warlords and bandits. These Islamic courts managed to take over in Mogadishu, ousting the warlords from the city and its infrastructures, and starting to restore the port and the airport. Unfortunately, some geo-strategic considerations did not allow this solution to endure. The US government and its Ethiopian allies feared that these Islamic

courts had links with Al Qaeda, and helped some warlords to regain control of the city with the support of the Ethiopian army (Lewis, 2008). The Islamic peace then broke down, and hundreds of civilians fled the city again, as the latter was returning to its previous state of chaos. Whether this is just one example of the counter-productive effects of external interference in Southern Somalia is debatable. According to Lewis (2008), the link with Al Qaeda has been more an excuse for reinstating a puppet warlord controlled by the Ethiopians than a proven fact. However, it is often difficult to define precisely what a “link with Al-Qaeda” really is, as the latter has a very loose kind of organizational structure. According to Orbach (2001), Al-Qaeda is just an “umbrella framework of groups” (Orbach, 2001). Nevertheless, the lethal attacks perpetrated in June and July 2010 in Somaliland and in Uganda by the Al Shabaab group, which then controlled most of central and southern Somalia, undoubtedly seem inspired by Al Qaeda’s style⁷. Moreover, the emergence of such a radical Islamist group might be a response to chaos, as no such thing happened in democratizing Somaliland. This suggests that reverse causation is probably at work here.

According to Bradbury (2008) and Lewis (2008), the most shocking manifestation of dysfunctional external interference is provided by the endless series of recurrent UN-sponsored peace conferences, where the wrong people are repeatedly invited. According to Bradbury (2008) the UN keeps inviting people who have irreversibly destroyed their reputation by collaborating with the pre-civil war dictatorship, and who are not in a position to deliver the kind of services that the clans’ elders do provide in Somaliland. He claims that these people seem only to be anybody’s “representatives” in the UN’s imagination, while they are completely cut off from the true social fabric of the Somali society. Nevertheless, this seems to have created a constituency in favor of the recurrent conferences, which would loose a lot if the war was to end because of the perks they get for attending them. Bradbury (2008)

⁷ Armstrong, Paul. 2010. “Somali militants ready to terrorize world ?” *www.CNN.com*, July 13, 2010 (accessed the next day).

suggests that these conferences are a Eurocentric toy that is only meant to further some UN officers' careers, without any hope of solving any problems in Somalia. He calls them "farical", as does Lewis (2008). Probably, the best response to this line of criticism would be to screen participants in these conferences according to the social-control services that they can deliver effectively, along the lines suggested by the experience of Somaliland.

5. Conclusion

The case study performed above of the emerging "Somaliland Republic", which is as yet unrecognized internationally, provides a natural experiment that sheds some useful light on the theory of state building. It brings out that the Hobbesian Leviathan is not the only path available for controlling violence and building up a peaceful state. It suggests that a Lockean "horizontal social contract" model may be a viable solution in some circumstances, for "breaking up" a state of anarchy, using the expression coined by Hirshleifer (1995). In Somaliland, we observe a separation of the power to control violence, which belongs to the clans' elders, on the one hand, and the power to tax and to produce some of the public goods that a modern state is expected to provide, on the other hand. Among other things, this study thus shows the benefit that political economists can get from using the work of the social anthropologists for understanding the political economy of developing countries. In return, our modeling exercise demonstrates the key part played by an inherited infrastructural asset, namely the port of Berbera and the road that links it to Ethiopia.

This model may thus be viewed as an extension of Hart's "Property Rights Approach" to the theory of the firm (Hart, 1995). The clanic authorities can invest in providing security, an asset that enters the production function for transport services as a complement to infrastructure. This insight is fundamental for understanding why a bicameral democratic institution lies at the heart of Somaliland's political institutions, for providing a balanced representation of the traditional authorities and of the business-oriented modern actors. Hence,

Somaliland's experience provides a fruitful line of arguments in favor of a qualified support for the traditional "project aid" doctrine, with its emphasis on funding infrastructural projects, which has inspired the action of the World Bank and other development agencies for decades. The qualification brought out by this case study is that a correct political setting is required, aimed at making the redistribution of the benefits from cooperation among the different actors credible. This redistribution is the compensation due to the potential bandits for refraining from raiding the traders and thus participating in the efficient political equilibrium. By contrast, the rest of Somalia seems stuck in an endless series of UN-sponsored "farcical peace conferences", as dubbed by Bradbury (2008) and Lewis (2008). This suggests that the inability to set up a correct political system, partly because of external interference but more fundamentally because of unfavorable initial conditions, is making the infrastructural assets of southern Somalia pretty useless for producing the peace. These include Mogadishu's old and new ports and its airport, the "Strada Imperiale" road that links them to Addis Abbeba. Similarly, the rent to sovereignty provided by access to foreign aid that comes with international recognition is not necessarily contributing much to that end at present.

The state-formation theory presented in this paper is well suited for explaining other cases of political settlements elsewhere in Africa. For example, the role of some transport infrastructure in sustaining a peace process is evident in the cases of Southern Chad and Southern Sudan (Azam and Djimtoingar, 2008, Jok, 2007). There the key infrastructure has been the pipeline that brings the oil extracted in the south to the Red Sea and the world market via Port Sudan in the north, in the Sudanese case, and to the Cameroonian border, in the Chadian one. For centuries, the northerners have been raiding the south for capturing slaves in these two countries, and civil war prevailed for decades between these two groups after independence (Azevedo, 1998, Burr and Collins, 2008). Then, alliances switched as oil was found in the south and became the key asset they had in the 1990s. In Chad, the northerner

Idriss Déby who emerged as the ruler from decades of civil war created an informal power-sharing agreement by giving a lot of power to the former leader of the rebellion in the south, Gen. Kamougué, including the ability to fight back in case of cheating, by keeping some units of the rebel army intact within the national army. A more obvious signaling effort was required in Sudan, as the Northerners only sought for peace after the Southerners had blown up the pipeline. Nevertheless, a similar power-sharing agreement was established soon after the required collaboration for keeping the oil flowing was thus made obvious. The downside of this mechanism is that the new political equilibrium excludes the ethnic groups whose territory is too remote from the pipelines to exert any credible threat. This is why the Tubu in northern Chad are completely marginalized and repressed by the army, while the Sudanese government is violently cutting off its ties with its former allies from Darfur (Prunier, 2007). These dramatic examples illustrate vividly how transport infrastructures play a key role in determining the politically-sustainable boundaries of the states when their efficiency depends on the goodwill of the people living around them.

Appendix: Proof of Proposition 2: Assume that both players adopt the standard trigger strategy (see e.g., Gibbons, 1992). If they choose to cooperate and refrain from raiding the traders in the hope of getting a transfer from the government g , the potential syndicated bandits get the following present value:

$$V^C = \frac{g}{1 - \delta^B}. \quad (18)$$

If they choose instead to deviate and attack the traders, the syndicated bandits will be punished first within the same period, as the government withholds the transfer g , and the static Nash equilibrium outcome will then prevail ever after. Assuming that this deviation is not expected by the traders, this yields the following present value:

$$V^D = \frac{(1-\gamma)\theta}{2} + \frac{\delta^B(1-\gamma)\theta}{8(1-\delta^B)}. \quad (19)$$

The potential syndicated bandits will thus choose to refrain from raiding the traders if $V^C \geq V^D$, i.e. if:

$$g \geq (1-\gamma)\theta \left(\frac{4-3\delta^B}{8} \right). \quad (20)$$

On its part, if the government chooses to cooperate, i.e., to deliver the agreed amount g when observing $\pi = 0$, it gets the following present value:

$$W^C = \frac{\theta - 4g}{4(1-\delta^G)}. \quad (21)$$

If it chooses instead to deviate, and to withdraw its transfer in spite of the potential bandits' compliance with the promised $\pi = 0$, then the government will first keep the whole fiscal revenue in the current period, and then get its Nash-equilibrium payoff G^N from then on. This yields the following present value:

$$W^D = \frac{\theta}{4} + \frac{\delta^G \theta}{16(1-\delta^G)}. \quad (22)$$

Then, the government will choose to cooperate if $W^C \geq W^D$, i.e. if:

$$g \leq \frac{3\theta \delta^G}{16}. \quad (23)$$

Hence, (20) and (23) give us the range of values of the transfer g that can sustain the efficient political equilibrium, as shown in (15). Then, conditions (16) and (17) are required to ensure that this range is not empty.

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