

Transport Infrastructure and the Road to Statehood in Somaliland

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How can economic success emerge in the midst of political chaos and civil war? This is the question raised by the experience of Berbera, a successful port located on the southern shore of the Gulf of Aden, in the former British protectorate of Somaliland. Berbera's traffic has been rising steadily over the past 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 announced its plan to invest massively in Berbera's port and its transport corridor with the Ethiopian capital city, Addis Ababa.¹

Somaliland's small population, estimated at about 3.5 million people, benefits from two main kinds of physical assets: its pastoral assets of grazing land and livestock, on the one hand, and its transport infrastructure, on the other hand. The latter includes 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 Middle Eastern countries, 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 two countries.²

Ethiopia's Ogaden province across the border 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 past decades, depending on the changing intensity of fighting during the Ethiopian civil war, which ended in 1991, and the ongoing one in Somalia that began in 1991. The best grazing land, called the *Haud*, straddles this border, which nomadic herdsmen also routinely cross (Doornbos 1993, map 6.1, 101). While ethnically homogenous, these Somali-speaking people of Djibouti, Ethiopia, Kenya, Somalia, and Somaliland are traditionally affiliated with different clans that straddle these countries' borders and that at times enter into violent conflict with one another. The chaos that prevails in most of Somalia, which has been engulfed in warlordism and banditry ever since the collapse of the state in 1991, testifies to the threat of violence that looms over these people. Siyad Barre's military government had launched an unsuccessful invasion of Ethiopia's Ogaden region 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 operation. They felt that the conquest of a more limited area in the Ogaden, including mainly the grazing land of the Isaaq clan, could have been a success. The peace agreement with Ethiopia triggered a full-blown civil war in Somalia, because many clans wanted to hang on to the pan-Somali

project, and a coup d'état toppled the military regime in 1991. Chaos ensued, and Somalia collapsed into a stateless entity. Nevertheless, in the nearly two decades since Somaliland seceded from Somalia, it has managed to develop the port of Berbera and to enforce an acceptable enough 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 through this port. This achievement stands in sharp contrast to the chaotic remainder of Somalia.

This chapter presents a framework for analyzing this unexpected success and draws some lessons for understanding state formation in general. A very simple model is presented that shows 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. Although some limited fighting occurred for a while in the early 1990s, this former British colony quickly engaged in a political process that led to the creation of a fairly successful democracy in about a decade.

What seems very important when looking at the experience of Somaliland is that this gradual buildup 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, which makes it ineligible for foreign aid. In his view, this is an asset rather than a liability, because it forced the Somalilanders to develop accountable political institutions and to engage in state formation in a non-Eurocentric fashion. The aim of this chapter is to go one step further in analyzing the type of government that resulted and in particular to explain clearly why the "fiscal decentralization" that Eubank is looking for does not exist in Somaliland. 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 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. Between 1997 and 2006 the number of primary schools rose from 165 to 516, while the number of universities increased from 1 to 5 (MNPC 2010).

The model presented later 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 postcolonial Francophone West Africa, where the central government delegated the task of controlling some areas to some local traditional authorities, in return for some transfers. I argue here that this system cuts through a vexing "bootstrap" problem that faces all new states: a state needs to have fiscal resources to extend its control to various parts of its territory, but the state needs 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 the control many African states exert is in fact extremely limited, leaving de facto large parts of their country without any effective state presence, as emphasized by Herbst (2000). I argue that Somaliland was put on the fast track to solve this problem thanks to two of its preexisting 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. I suggest that "ports are the taxman's best friends," because they provide a "choke point" where taxable resources are concentrated and make revenue collection relatively cheap. Second, the traditional institutions of this nomadic pastoral society had not been destroyed by either British colonial rule, or the subsequent "modernizer" national government of post-colonial Somalia, despite the brutal attacks by the Mogadishu 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 clans with which Somali nomadic herders are affiliated are 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.

This power was successfully harnessed to the emerging Somaliland Republic by creating a House of the Elders, called *Gurti* in Somali, in addition to a more standard elected House of Representatives. This upper house is playing a part in Somaliland's bicameral system 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. I argue that this is one of the fundamental pillars of this country, because it is the key to establishing—at a low up-front cost—the required

level of security for making the port of Berbera an economic success and hence a reliable source of fiscal revenues. The emerging Somalilander government is in fact delegating to the elders the task of controlling violence and banditry, with a view to protecting 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, my 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. My model pushes this to the extreme, because 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 current model relative to Alesina and Spolaore's theory of the size of nations (Alesina and Spolaore 2003). These authors define the government as a country's monopoly producer of a public good that affects 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 model presented here, 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 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.

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 become armed, then your expected welfare goes down, because there is a non-zero probability that I will use these weapons to attack you. 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, because 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.

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 haven for traders. The following model aims at bringing out the two levels of political organization that made this possible. I first analyze how the traditional system of social control was mobilized for reining in uncontrolled violence. The next section shows how a higher level of political cooperation was needed to create the required level of security for making Berbera a success.

The traders

A very simple model was chosen for capturing the key part played by security in determining the level of trade going through Somaliland and Berbera. Let V be the value of the goods transported through the country by the traders. The traders potentially incur three types of costs while moving across the country. First, there is a resource cost involved in trucking the shipments, including fuel and labor. Second, there is a possibility that bandits might rob the trader along the way, leaving him without anything to sell at the port; the probability that this happens is denoted as p . Last, I assume that the lucky traders who have not been raided have to pay a tax on the goods leaving the country at the fixed rate t . On the export side, I thus assume that the tax is paid at the port, and on the import side, at the end of the trip, that is, mainly at the border for the transit trade to Ethiopia. We assume that the government controls

corruption well enough so that the tax rate is fixed before 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, that is, to make their decision to start the trip or not while taking t and p 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 countries. In Africa long-distance traders usually belong to some long-established family networks (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:

$$E = \max_v (1 - \tau)(1 - \pi)\bar{v} - \frac{v^2}{2\bar{v}} \geq r \quad (9.1)$$

where r is the trader's reservation profit, which he could expect to earn while using an alternative trade route and \bar{v} is the maximum carrying capacity of this route. From the first-order condition, the amount of trade going through the country if the weak inequality in (9.1) holds, is:

$$v = \bar{v}(1 - \tau)(1 - \pi). \quad (9.2)$$

Substituting back into (9.1), I find that a positive level of trade will go through the country if:

$$(1 - \tau)(1 - \pi) \geq \frac{2r}{\bar{v}} \quad (9.3)$$

Assuming that $\bar{v} > 2r$, (9.2) and (9.3) jointly imply that when this is profitable, the level of trade will be such that:

$$(2r\bar{v})^{1/2} \leq v \leq \theta. \quad (9.4)$$

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, r and \bar{v} , 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, p and t , which are determined by two key players, respectively, the bandits and the tax authority. In the following, I assume that \bar{v} is much larger than $2r$, in order to capture the geographical advantage of Berbera over its competitors. Then, Berbera should win, provided the two key players manage to coordinate their decisions efficiently.

The potential bandits and the government

How would the potential bandits behave in a hypothetical society where the traditional clan authorities would fail somehow to organize their activity? I assume that there are N bandits who sequentially choose whether or not to raid a shipment. I make the simplest assumption regarding the cost of raiding the traders, namely, that a fraction $0 < g < 1$ of the shipment is lost in each raiding. This might capture the collateral damage of any fighting between the bandits and the traders, or any other form of cost that the bandits incur in raiding. This assumption is the simplest, but most results below are robust to several extensions. Given this cost function, a given bandit $i \in \{1, \dots, N\}$ takes the decision $x_i \in \{0, 1\}$ to raid a trader to maximize his expected profit simply defined as:

$$B_i = \max_{x_i} x_i p(1 - g)v_i, \quad (9.5)$$

where p is the probability a raid is successful once undertaken and v_i is the value of the traffic faced by bandit i , which takes value 0 if the trader has been successfully raided earlier, and v otherwise.

This expression implies that the bandits incur no cost at all if $x_i v_i = 0$ either because there is no traffic to attack, or because they have chosen not to undertake any raiding. Otherwise, they lose 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 reduce the level of traffic that can be raided. Thus, any bandit has an incentive to raid a trader, which implies that the probability of a successful raid eventually

converges to 1 as the number of bandits grows large:

$$p_N = 1 - (1 - p)^N \text{ and } \lim_{N \rightarrow \infty} p_N = 1.$$

Thus, the resulting expected value of the trader's shipment converges to zero:

$$\lim_{N \rightarrow \infty} v_N = 0. \quad (9.6)$$

Against this background, I can now analyze the first contribution made by the assembly of elders in the Somali clan society in reducing banditry. In this nomadic society, where the young men are spread all over the land in search of fodder for their flocks, collective identity is not defined so much by reference to a territory as by genealogy. Moreover, in this potentially violent society, where herdsmen could fight over grass or water at any time without any witnesses, 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, because 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 group. This provides a strong incentive for those involved to exert some control over their fellow clan members, so that any man found guilty of a crime against a member of another clan would potentially be punished by his own clan, thereby avoiding interclan 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 both the clan's members and the members of the 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 buildup toward 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. The diaspora played a key role in many other parts of Somaliland's political development and the emergence of democracy there.

What can such a consolidation process deliver within my model society of 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 because an increase in the raiding activity against traders would reduce the size of the trade flow itself. Now, instead of problem (9.5), this coalition would choose the number of raids or, equivalently given equation (9.6), the probability of a successful raid so to maximize:

$$B^S = \max_{\pi} \pi (1 - \gamma) v, \quad (9.7)$$

such that (9.2) holds.

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

$$\pi^S = 1/2 \text{ and } v^S = \bar{v} (1 - \tau) / 2. \quad (9.8)$$

This implies 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 traditional clan

authorities to coordinate their action makes a positive contribution toward 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 (9.2) and the bandits' best choice:

$$G = \max_{t,x} \tau (1 - \pi^t) v, \text{ s.t. (2) holds.} \quad (9.9)$$

Proposition 1 below describes the resulting Nash equilibrium that 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 p and t by the government and the syndicated bandits, respectively, is:*

$$t^N = p^N = 1/2, \quad (9.10)$$

entailing a level of traffic:

$$v^N = \bar{v} / 4, \quad (9.11)$$

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

$$G^N = \bar{v} / 16 \text{ and } B^N = (1 - \gamma) \bar{v} / 8. \quad (9.12)$$

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

REDISTRIBUTION IN THE EFFICIENT POLITICAL EQUILIBRIUM

In a clan 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 model, each generation is affected by intergenerational 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 intergenerational 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 clan society like the Somali one. In this case, it is natural to assume that the players have an infinite horizon, because their concern for the next generation creates a chain of intergenerational links up to infinity. I 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. I then show how Somaliland's political institutions cater for the key mechanisms brought out by this model.

To capture their common ethnic heritage in Somaliland, assume that the potential bandits and the government have the same discount factor $0 < d < 1$. Then, assume that the government can offer at each period the following contract to the potential syndicated bandits: "I will give you $g > 0$ if you refrain from raiding the traders and enforce $p = 0$ ". This contract clearly entails that the potential syndicated bandits play first and the government second, after having observed whether the raiding was avoided or not. Moreover, no third party is available to enforce the promise made by the government to deliver the transfer once the potential bandits have refrained from raiding the traders. I 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 bandits.

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

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

$$\max_{t, \pi} \pi(1 - \pi) + \pi(1 - \gamma)v, \text{ s.t. (2)} \quad (9.13)$$

holds.

Using standard maximization techniques (Kuhn and Tucker theorem), one finds easily that the Pareto-efficient outcome is a corner solution that implies the following:

$$\pi^* = 0, \tau^* = 1/2 \text{ and } v^* = \frac{g}{2} \quad (9.14)$$

The intuition for this result is pretty straightforward. Because of the unit cost $g > 0$, raiding is an inefficient way of collecting revenues from the traders. The government thus will perform all the tax collection in the efficient equilibrium,

knowing that it will redistribute part of the resulting revenue, as explained below, to compensate the potential bandits for their restraint. 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 $t(1-t)$. 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 $p^* = 0, \tau^* = 1/2$ and:*

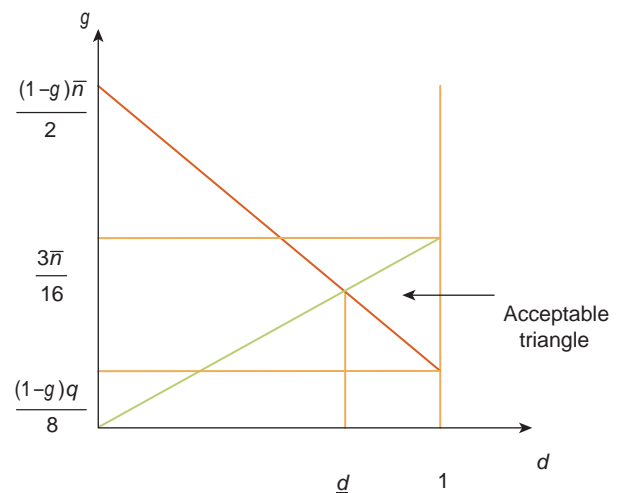
$$(1 - \gamma) \frac{4 - 3\bar{\delta}}{8} \leq g^* \leq \frac{3\bar{\delta}}{16}, \quad (9.15)$$

if:

$$\bar{\delta} \geq \bar{\delta} = \frac{(1 - \gamma)8}{9 - 6\gamma}. \quad (9.16)$$

The proof is rejected in the appendix, while figure 9.1 helps the reader understand proposition 2 intuitively. The downward sloping line represents the left-hand part of condition (9.15). All the points located above this line are acceptable for inducing the potential syndicated bandits to cooperate. The required transfer is lower, the more patient the potential bandits are. The upward sloping line represents the right-hand part of this condition; all the points located below it are acceptable for inducing the government to cooperate. The government is willing to pay more, the more patient it is. Then, the figure makes it clear that the triangle on the right labeled "acceptable triangle" is the set of

Figure 9.1 The Efficient Political Equilibrium Set



Source: Author's calculations.

all the points that are acceptable to induce cooperation by both players. Notice that \underline{d} , whose value is given at (9.16), is strictly lower than 1. This means that the set of acceptable $\{d, g^*\}$ is not empty, ensuring existence of at least one possible efficient political equilibrium point. Moreover, \underline{d} is a decreasing function of g , so that cooperation is easier to achieve, the higher is the unit cost of raiding. Hence, (9.16) defines a credibility frontier in the $\{d, g\}$ space, which is used in the next section. The intuition for this result is that the stronger the comparative advantage of the government at collecting revenues, the easier it is for it to buy off credibly the potential bandits with a transfer for producing security for the traders. The next section exploits this intuition to diagnose why a solution similar to Somaliland's did not emerge elsewhere in Somalia.

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 easy 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. Nevertheless, it is worth going into more detail to look at the missed opportunities in eastern and southern Somalia in order to bring out the kind of diagnosis that the model above is pointing out. It emphasizes some more structural characteristics.

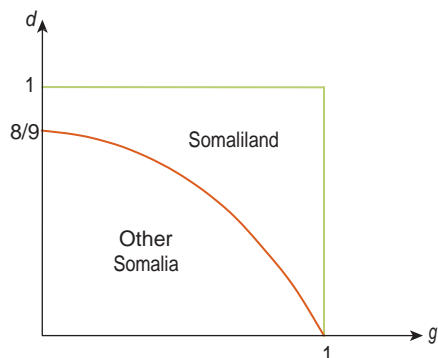
The first point to notice is that without declaring secession formally, the northeastern part of Somalia also built a bottom-up institutional solution known as the “New Puntland State of Somalia,” which was founded at a conference in Garowe in 1998. This promising solution started among some Darod clans, in particular the Mijerteyn (Lewis 2008), but it was missing two of the key ingredients of Somaliland's success. First, that part of the country did not inherit an infrastructure asset of the same caliber as the port of Berbera. In fact, the Puntland ruling elite never lost sight of the nearby formal capital city of Mogadishu in the south. That is where the infrastructural assets are naturally located, despite the massive destruction brought about by the war. Mogadishu has two ports, one new and the other old, and an international airport. Moreover a road to Addis Ababa, called the “Strada Imperiale,” 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, because they created a unicameral parliament, which did not have many resources in any event. In terms of the model described above, this lack of resources might be blamed on the lack of significant transport infrastructures and thus on the lower need for internal 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 Colonel 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. Abdillahi obviously did not draw the lessons of the failure of Siyad Barre's military regime to create top-down a viable state in Somalia, because 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 for a while was aligned with the Soviet Union, which was playing a complicated game in the Horn of Africa. Then alliances switched, and the United States became involved. Although southern Somalia inherited a valuable infrastructural asset, 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 the elders have a weakened role in social control. Moreover, there are some Bantu farmers in the midst of this Somali population, loosening further the ethnic ties in that part of Somalia. Hence, the traditional authorities are too weak in that part of Somalia to deliver 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.

Figure 9.2 summarizes the foregoing discussion within the analytical framework presented earlier. It represents

Figure 9.2 Why Not the Rest of Somalia



Source: Author's depiction.

condition (9.16) as the downward sloping frontier represented in the $\{d, g\}$ space. This is the credibility frontier defined above. The parameter g measures the cost advantage enjoyed by the Somaliland government over the potential bandits in collecting revenue, thanks to the preserved stock of infrastructure inherited from colonial days, and enhanced over the recent past by some investment. In the case of Puntland, no such stock is available, as explained above, suggesting that g is small there, because the government is not in a position to collect revenue much more efficiently than the potential bandits. In Southern Somalia, g is potentially much larger, because of the infrastructure available in Mogadishu, although the latter needs massive investments to recover its potential efficiency. However, the mixed ethnic composition of the population living between the Jubba and the Shabelle rivers, as well as the sedentary culture of the Somali agriculturists living there, suggest that d is much lower there than in Somaliland. Hence, this analysis emphasizes that Somaliland exploited the two-dimensional edge that it had over the rest of Somalia for creating its efficient political equilibrium. This is captured in figure 9.2 by noting that Somaliland's efficient political equilibrium prevails for a $\{d, g\}$ pair lying above the frontier, while the other parts of Somalia are found below that frontier.

This finding also suggests that simply trying to export the solution that worked in Somaliland to the rest of Somalia would probably not bring about the same benefits. Some additional imagination is surely needed to devise an appropriate system for the rest of Somalia with a view to create a lasting peace there. Nevertheless, the analysis presented here points to the two dimensions where economic and political innovation is required: enhancing the relative efficiency of the government at collecting revenue, relative to warlords and bandits; and making credible the necessary

redistribution mechanisms for compensating the latter for giving up their highly lucrative violent activities.

CONCLUSION

This case study of the emerging Somaliland Republic provides a natural experiment that sheds some useful light on the theory of state-building. It shows 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, one observes 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 gain from using the work of the social anthropologists for understanding the political economy of developing countries. In return, the 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 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 redistributing 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 to play 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 noted, the redistribution of the fiscal resources was focused on the development of the education sector 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 going to school and to university.

This model may thus be viewed as an extension of Hart's "Property Rights Approach" to the theory of the firm (Hart 1995). The clan 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 both the traditional authorities and 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. This suggests that the inability to set up a correct political system, partly because of external interference, is what makes the infrastructural assets of southern Somalia, like Mogadishu's old and new ports, its airport, and the "Strada Imperiale" road that links them to Addis Ababa, as well as the rent to sovereignty provided by access to foreign aid that comes with international recognition, largely useless for producing peace.

APPENDIX PROOF OF PROPOSITION 2

Assume that both players adopt the standard trigger strategy (see, for example, Gibbons 1992). If they choose to cooperate and refrain from raiding the traders with a view to receiving the transfer g from the government, the potential syndicated bandits receive the following present value:

$$V^C = \frac{g}{1-\delta}. \quad (\text{A9.1})$$

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:

$$V^D = \frac{(1-\gamma)\bar{v}}{2} + \frac{\delta(1-\gamma)\bar{v}}{8(1-\delta)}. \quad (\text{A9.2})$$

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

$$g \geq (1-\gamma)\bar{v} \left[\frac{4-3\delta}{8} \right]. \quad (\text{A9.3})$$

On its part, if the government chooses to cooperate, that is, to deliver the agreed amount g when observing $p = 0$, it receives the following present value:

$$W^C = \frac{\bar{v} - 4g}{4(1-\delta)}. \quad (\text{A9.4})$$

If it chooses instead to deviate and to withdraw its transfer despite the potential bandits' compliance with the promised $p = 0$, 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:

$$W^D = \frac{\bar{v}}{4} + \frac{\delta\bar{v}}{16(1-\delta)}. \quad (\text{A9.5})$$

Then, the government will choose to cooperate if $W^C \geq W^D$, that is, if:

$$g \leq \frac{3\delta\bar{v}}{16}. \quad (\text{A9.6})$$

Then (A9.3) and (A9.6) together make (9.16). Last, d is computed as the value of d such that the range of values of g^* defined at (9.15) is just empty, as illustrated in figure 9.1.

NOTES

1. "Bolloré proposes Berbera-Addis Ababa Transport Corridor." *WorldCargo News online*. December 10, 2009.

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

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