

Winning the War or the Elections?

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Abstract

An incumbent ruler has two ways to stay in power: winning at regular elections or provoking and winning a civil war. When the ruler opts for war, a mechanism of provocation and rebels' mobilization has been analyzed. Moreover, the possibility of a foreign peace-keeping intervention is taken into account. Conditions leading to a conflict, and conditions determining the conflict intensity have been elicited: high rent from power, high costs for obtaining political support, low costs for ensuring the army loyalty, predictability of the conflict outcome. In addition, foreign intervention is shown to produce a bias in favour of the war option. A case study of Ivory Coast is provided: it strongly support our theoretical conclusions.

1 Introduction.

Civil wars have become the more frequent type of conflict in the last two decades, after the end of the equilibrium of fear produced by the Cold War. Especially in Africa, the episodes of civil war have been innumerable and almost all countries of the Sub-Saharan and Great Lakes regions have experienced one (Bank, 2003). During the Cold War, not only international but also internal stability was relatively guaranteed, within the two ideological blocks: rebellions and insurrections were seen by both camps as potentially destructive attempts to the equilibrium, and although exceptionally used as a mean of destabilization at the margins of the blocks, they never triggered dramatic shifts in the two influence areas anyway. Thereafter, the end of the external control has opened new scenarios: conflicts based on ideological reasons have almost stopped everywhere, while new conflicts, labeled often and erroneously ethnic have broken out. What may explain this issue? Collier and Hoeffler, 1998, point out that economic reasons

undermine pacific coexistence, while ethnic fractionalization is relatively unimportant. The role of ethnicity is only that of determining the lines of fracture when violence explodes.

This paper makes a step further in the Collier and Hoeffler direction. We want to know through which channels economic and institutional factors actually produce a war outbreak. In particular we turn our attention to the role of the country rulers. Given that the rulers' goal is staying in power, what options do they have? Generally, two alternatives are available: either obtaining a sufficiently large political consensus by the means of some kind of bargaining whose rules are given and fixed (see Azam and Mesnard, 2003, and Grossman, 1994), or switching towards a different game with different rules where the incumbent has better chances of maintaining his status. The latter option is available only within weak institutional frameworks, such as those prevailing in most developing countries: in this respect, recently Grossman, 2004 provided a definition of weak institutions in terms of self-enforcing constitutions.

Under weak institutions, we point out that provoking a civil war is actually a switch towards a game where staying in power is a matter of weapons and not of political support. How does the ruler choose between the two options? This paper offers an answer.

Two parts compose the study: a theoretical model and a case study on Ivory Coast, the former suggesting what conditions trigger the war outbreak and the latter substantially supporting the theoretical conclusions.

The model is built upon the literature on conflicts, but it embodies several novelties. First, civil wars rather than a general conflict are considered: this feature leads to a deeper characterization of the interaction between the contenders; moreover it implies that a rebellion is a necessary condition to have a war: it is required that some people rebel and challenge the incumbent government.

Second, while the literature often treats the choice of the army size of both parties as if they were monolithic (see among others Azam, 2002a, Skaperdas, 1992, Hirshleifer, 1991, Garfinkel, 1990), we follow Grossman, 1991 in that the incumbent ruler is actually monolithic, whilst members of the rebel camp, modeled as an heterogenous continuum, individually choose whether to support the rebellion: nevertheless, differently from Grossman, 1991, we look at the Nash

equilibrium produced in the rebel camp. (In different context also Noh, 1999 and Kuran, 1989 address the issue of the coordination among rebels). Moreover, we suggest that insurrection is a response to a provocation operated by the government, whose final goal is actually to start a conflict.

Third, the choice of the army sizes is sequential rather than simultaneous within a two stage game where the ruler acts as a Stackelberg leader and the rebels act as followers who, moreover, weakly interact among them: in fact, their choice of insurrection depends on the "number" of individuals who revolt. Hence, differently from Grossman, 1991, the only study to introduce sequentiality to our knowledge, we look at a sub-game perfect Nash equilibrium.

Fourth and finally, we introduce the possibility of a foreign intervention whose purpose is stopping the fights and imposing an agreement¹.

Provocation is an important issue of the paper: it is defined as anything able to make rebels' future more uncertain. Examples are easy to find: land reforms which redistribute property, exclusions of minorities from the political process, manipulation of the constitution in order to stay in power beyond the prescribed mandate, infrastructures projects able to make the central control over marginal regions tighter, thus destroying local institutions and arrangements. In such a way, the ruler can render the way of rebellion attractive: provocation is then at the roots of the mobilization mechanism and of the civil war. Note that, in our model, incumbent's greed and rebels' grievance are not independent (Collier and Hoeffler, 2000): rather, the former produces the latter.

In equilibrium, we get that war is preferred to pacific obtention of sufficient political support if the rent the ruler can obtain from his status is higher than a well specified threshold. Moreover, this threshold depends on several country-specific conditions: first, the price of the political support, second, the price of a loyal army, third, how much the technology of conflict depends on factors which are outside the ruler's control (hazard, exceptional tactical ability of the rebel leader, adverse land or weather conditions), i.e. factors other than the simple size of the contenders' armies. To better define these concepts, the ruler's rent can be thought to be an amount of goods, broadly defined, that the status of

¹This feature has been almost neglected in the theoretical conflict literature, with the partial exception of Azam, 2004, who addresses to the humanitarian intervention in favour of civilians. In the present paper, however, foreign intervention has a peace-keeping purpose and it consists in an interposing force.

leader can provide: prestige, bribes, control over the foreign aid flow, control of the country natural resources and the economy. Both the political support and raising a loyal army are goods whose cost is measured in units of rent: grants, concessions, larger autonomy, control over some natural resources, land reforms, are all examples of payments which the ruler may consider alternatively expensive. The model suggests that the rent threshold which separates peace from war, is higher the higher is the price of rising and guaranteeing the loyalty of the army, the lower is the price of obtaining political support, and finally, it is higher the less predictable is the war outcome.

The model also relates the intensity of the war to the ability of producing rent which characterizes the policy or the project which actually constitute the provocation. An example will clarify: if the provocation consisted in building a road to tighten the control over a region, then such a project would have a direct impact on the ruler rent, because new opportunities of profit would arise. The larger is this impact, the more determined will be the government in pursuing it and the stronger will be the provocation (as the provocation is represented by the probability of losing part of the future income, such loss will be more likely). Since we show that a massive mobilization is the appropriate reaction to a strong provocation, it can be derived that the intensity of the war depends positively on the profitability of the project set in order to provoke.

Finally, suppose that a foreign peace-keeping intervention is decided depending on the war intensity. Suppose also that its purpose is stopping the fights and sharing the power between the contenders in parts proportional to their relative strength (in the same spirit of Skaperdas and Syropoulos, 1996). In this case, it is shown that the very possibility of such intervention will produce a bias in favour of the war, because it provides a partial insurance to the government against the risk of being defeated.

The case study of the current situations in Ivory Coast fits well to the model: a series of reforms (land law, nationality amendment, exclusion of the non Ivorian residents from electoral rights) have represented a clear provocation which has put at high risk the property rights of the people living in the North and having non Ivorian origins. Immediately a rebellion has sparked and bloody fights have followed until the French intervention. From our discussion it ap-

pears rather clearly that the conditions elicited by the model (high price of political support and low price of army loyalty) were met in the 2002 Ivory Coast.

2 The model.

The purpose of this model is to shed some light on the outbreaks of civil wars. We will define in what cases a pacific strategy is preferred to a war and viceversa.

Technically, we propose a two-stage game with an incumbent ruler and a continuum of agents, the potential rebels. The ruler plays first and the rebels follow. The incumbent's goal is staying in power: this allows him to continue to enjoy a rent coming from the status of ruler (prestige, bribes, control over the foreign aid flow, control of the country natural resources and the economy). The ruler can choose between two alternative technologies. For simplicity, suppose that one technology consists in a regular election contest: the ruler's strategy is paying a transfer to the potential rebels in order to obtain their support. The second technology is provoking a civil war: following a widely used operative definition reported in Bank, 2003, there is a civil war when a well-identified rebel group challenges the legitimate government and more than one thousand death follow the struggles. Notice that such definition implies that rebels are the first to take up arms challenging the government.

We give the government a tool to trigger a rebellion: such tool is labeled provocation and it is formalized as the probability that the potential rebels loose part of their future incomes. In other words, the government can set some projects or decide some laws able to put rebels' future wellbeing at risk (an example widely discussed in section 5 is the new definition of nationality adopted by the Ivorian government since 1999, which strongly threatened the property rights over land of a large part of the Ivorian residents). Moreover, provocation can be finely tuned in order to determine the size of the insurrection, in a Stackelberg game spirit.

If the ruler prefers the war, a foreign power will intervene when the war intensity (defined as the sum of the armies sizes) will be greater than a given threshold. However this threshold is unknown to both parties. They share a common belief about its actual value. Note that since the government controls

both the size of its army and of the rebellion, it controls also the war intensity and in turn, at least partially, the probability of foreign intervention.

2.1 The government.

The government aims to maximize a payoff which is increasing and concave on the rent he can get Y . We denote by $R(Y)$ this payoff. Only the legitimate government can enjoy this rent, which consists in prestige and status, in using his office for private interests, in diverting some resources from the public budget, in benefitting from bribes paid by private agents willing some advantage, in controlling the foreign aid flow and so on. It is the very fact of being the ruler makes those sources of rent possible: summarizing, the rent is the return to power.

As anticipated, two ways can be followed to maintain the rent: regular elections or civil war.

In case of regular elections, the government pays a transfer T to the potential rebels to obtain their support: hence we assume that the probability of winning the elections is $\pi(T)$. This transfer is composed of grants, larger autonomy, benevolence. Thus, the ruler's payoff will be

$$V_e = \pi(T) \times R(Y) - \gamma T$$

where γ represents the relative price of the transfers.

Following the war alternative, the government chooses the size of its army N_G and the intensity of the provocation q necessary to have an insurrection. Importantly, q is a free of charge device (although obviously it may have important social costs): it may represent a new law or some kind of discrimination against the rebels, as well as electoral cheating and, in general, any action able to put rebels' future wellbeing at risk.

Following the mainstream literature (see among others Hirshleifer, 1991, and Hirshleifer, 1995), we define by

$$p = p \left(\frac{N_G}{N_R} \right)$$

the probability of winning the civil war, where N_G is the regular army size, N_R is the rebels' army size and p is an increasing function of the ratio $\frac{N_G}{N_R}$.

Moreover, we define

$$\lim_{N_G/N_R \rightarrow \infty} p = \psi$$

For $\psi < 1$, the victory remains uncertain also in case of a large difference in the armies size in favour of the government. This aims to capture the importance of factors beyond the simple armies comparison in determining the success of a party, such as tactical ability, exogenous shocks, bad luck.

In case of victory, the incumbent remains the ruler of the whole nation and gets its rent. In case of defeat, he loses both power and rent. Nevertheless, depending on the fights intensity, a foreign power may intervene. Suppose that the precise threshold \mathfrak{K} is private information (of the foreigners) and that government and rebels have only a common prior based on a given distribution function F . In case of intervention, war stops, talks start under the foreign supervision and the country (and thus the rent) will be split in two shares of size p and $1 - p$: the former will be assigned to the incumbent and the latter to the rebels. This capture the idea that in the subsequent talks an agreement must take into account the relative strength of the contenders (as in Skaperdas and Syropoulos, 1996). Hence the government payoff is

$$V_w = \begin{cases} \frac{1}{2} R(pY) - \eta N_G & \text{if } N_G + N_R > \mathfrak{K} \quad (\text{intervention}) \\ pR(Y) - \eta N_G & \text{if } N_G + N_R < \mathfrak{K} \quad (\text{no intervention}) \end{cases}$$

or, in ex-ante terms,

$$V_w = \Phi[R(pY) - \eta N_G] + (1 - \Phi)[pR(Y) - \eta N_G]$$

where $\Phi = F(N_G + N_R)$ represents the probability of intervention. In order to make its army loyal, the government must pay it a transfer ηN_G whose nature is once again that of grants, privilege, autonomy.

2.2 The rebels.

In this section we only characterize the rebels in case of war for the sake of simplicity and because our focus is on civil wars and not on the issue of political bargaining. In case of regular elections we simply assume that their aggregate response to the government bid T to be $\pi(T)$.

In our context rebels are supposed to be only the potential combatants and not the eventual passive supporters. Assume that rebels are heterogenous

regarding their ability of profiting from a conflict. Such ability denoted by $a > 1$ is distributed across individuals as $G(a)$. All potential rebels share the same utility function, defined over present and future, except for the value of a :

$$U = \begin{cases} \frac{1}{2} \log c_1 + H E_q \log(\mathbf{e}_2) & \text{if they do not fight} \\ \log a c_1 + (H - h) E_{\Phi p} \log(\mathbf{e}_2) & \text{if they fight} \end{cases} \quad (1)$$

where c_1 and \mathbf{e}_2 are present consumption and future random consumption. Future consumption is random in the first case because of the incumbent government provocation, while in case of war, rebels will be able to keep their incomes depending of the joint outcome of foreign intervention and war. Indeed

$$E_q \log \mathbf{e}_2 = (1 - q) \log c_2 \quad \text{and} \quad E_{\Phi p} \log \mathbf{e}_2 = \Phi \log c_2 + (1 - \Phi)(1 - p) \log c_2$$

where q is the probability of government extortion (i.e. the provocation). Note that $E_{\Phi p} \log \mathbf{e}_2$ shows that the rebels get their normal consumption in case of intervention and in case of victory without intervention. Otherwise they are entirely expropriated of their consumption if defeated without foreign intervention. We recall here that both in case of intervention and in case of victory, rebels keep c_2 but do not receive any additional compensation from the control of respectively their region or the whole country. Only the ruler (or the ruling elite) can enjoy a rent: not the mass of individuals. Finally H and $(H - h)$ represent respectively the survival probability without and with fighting. Hence h is the loss in the survival probability when an individual decides to participate the insurrection.

The chosen functional form represents the fact that if a potential rebel decides to fight, then he will get a larger current consumption, incurring nevertheless a loss in his survival probability. Intuitively, the lower is the future consumption, the more profitable it is to take arms because this yields a current additional consumption $\log a$ at the cost of loosing a (little) future consumption with probability h . An other interpretation is the following: suppose H to be the "health capital" of any individual; then, the future wellbeing is the return of this capital and participation to insurrection can be thought as a disinvestment of health capital, because it reduces the stock of capital by h yielding $\log a$ of current wellbeing; then, obviously, a fall in the rate of return of H induces disinvestment (provided that, as it is in our setting, the substitution effect dominates the income effect). This is at the roots of our mechanism of individually

decentralized mobilization.

Moreover expression (1) embodies the fact that the rebels have the "right" of formally opening the war: the incumbent ruler only provokes, while if at least "one" among the potential rebels chooses to fight, then the conflict will break out.

2.3 The rebels' choice.

We solve the game backwards.

In case of regular elections, we assume that the rebels' strategies (support or not support the ruler), conditional to T , form a subgame equilibrium which can be represented as $\pi(T)$, i.e. the government probability of winning the elections. We assume also that $\pi(\cdot)$ is an increasing function.

Denote with C_1 and C_2 respectively $\log c_1$ and $\log c_2$ and denote with A the $\log a$. Now the rebels decide to fight if

$$A + C_1 + (H - h)(1 - (1 - \Phi)p)C_2 > C_1 + H(1 - q)C_2$$

i.e. if their payoff when fighting is larger than their payoff when they do not fight. The previous inequality defines the choice rule

$$A > C_2[h - Hq + (1 - \Phi)p(H - h)] \quad (2)$$

i.e. individuals will fight only if their A is large enough.

Recall that both Φ and p depend on N_R which in turn depends on A . In fact N_R is $1 - G(A)$ i.e. the proportion of rebels having a fighting ability larger than A . Suppose that $G(A)$ is distributed uniformly on $[0, 1]$ and also that F is a uniform distribution over $[0, N]$. Then $N_R = 1 - A$. In equilibrium, given N_G and q we must have

$$A^* = C_2[h - Hq + (1 - \Phi^*)p^*(H - h)] \quad (3)$$

Note that the individual ability may be interpreted as giving rise to the effectiveness parameter usually employed in the conflict technologies proposed by the literature (see for instance Grossman, 2002). In fact our definition of N_R may be thought as measured in "efficiency units" rather than in "number" of individuals, because each individual i brings A_i efficiency units.

It is simple to represent the subgame equilibrium in terms of the rebels army size N_R .

$$N_R = \begin{cases} 0 & \text{if } 1 \leq C_2(h - Hq) \\ \min[N_R^*, 1] & \text{if } 1 - N_R^* = C_2[h - Hq + (1 - \Phi^*)p^*(H - h)] \end{cases}$$

The upper case represents the situation of no mobilization: even the rebels endowed with $A = 1$, i.e. those who benefit the most by fighting, prefer not to fight. Since there is no fighting and no war, the foreign power does not intervene, i.e. $(1 - \Phi) = 0$. This is the case for

$$q \leq \frac{h}{H} - \frac{1}{C_2H} \quad (4)$$

i.e. for a provocation lower than a given threshold civil war can not be triggered.

The bottom case represents mobilization and actual war. The rebels' army will be determined in equilibrium by equation (3). We do not solve explicitly for N_R : rather we focus on the lowest N_R^* , denoted \underline{N}_R , such that war breaks out and thus foreign intervention has a positive probability. By definition, $\underline{N}_R \rightarrow 0$. At \underline{N}_R , $p = \psi$ and $\Phi = \frac{N_G}{N}$. Therefore, for any given N_G , rebels opt for \underline{N}_R if

$$\underline{q} = \frac{h}{H} - \frac{1}{C_2H} + \left(1 - \frac{N_G}{N}\right) \psi \frac{H - h}{H} \quad (5)$$

Comparing inequality (4) with equality (5) we get an interesting insight: the government realizes that in order to have an insurrection, it needs a discrete increase of q , which is larger the lower is its army size. Note that such discontinuity completely depends on the existence of a potential foreign intervention conditional to the outbreak of the war. Indeed, the potential intervention increases the strength of the provocation needed to trigger the conflict, because it partially insures rebels against the risk of being defeated. We shall see in section 4 the same effect on the government side.

2.4 The government problem.

Knowing the rebels' reactions, the incumbent government decides whether respecting the constitutional bounds, by promoting a regular election, or provoking a war. For reader's comfort we recall here its payoffs

$$V_e = \pi(T)R(Y) - \gamma T \quad \text{in case of regular elections}$$

$$V_w = \begin{cases} \frac{1}{2}R(pY) - \eta N_G & \text{if } N_G + N_R > \bar{N} \\ pR(Y) - \eta N_G & \text{if } N_G + N_R < \bar{N} \end{cases} \quad \text{in case of insurrection}$$

We begin by the latter case. As mentioned, q is a government's choice but it is free of charge: it enters in V_w only through N_R . Obviously, the government's interest is actually triggering a rebellion, but its size should be as small as possible. Thus the best choice of q must induce rebels to set $\underline{N_R}$, i.e. the minimal mobilization. Equation (5) shows the best choice of q . Hence, the corresponding values of p and Φ are respectively ψ and $\frac{N_G}{N}$. Now, the government's problem is to maximize

$$V_w = \frac{N_G}{N} R(\psi Y) + \left(1 - \frac{N_G}{N}\right) \psi R(Y) - \eta N_G$$

under the condition that

$$N_G > \underline{N_G}$$

where $\underline{N_G}$ represents the minimal army size necessary in case of war, which can be small at will but nonetheless positive. The corresponding first order condition is

$$\frac{\partial V_w}{\partial N_G} = \frac{1}{N} (R(\psi Y) - \psi R(Y)) - \eta \leq 0$$

where the first term is positive by the concavity of $R(\cdot)$. This FOC is negative as $\psi \rightarrow 1$ or for η high enough: the corresponding solution is then $\underline{N_G}$. Conversely, we may get equality for relatively low levels of ψ and η . In such a case the corresponding solution is denoted as N_G^{**} . Summarizing, the optimal army size is $N_G^* = \min[N_G^{**}, \underline{N_G}]$.

Note that in case of war, our model predicts that both rebels mobilization and regular army are minimal as well as war intensity. This fact come from the ability of the government to trigger a very small insurrection. We will modify this assumption in the next section.

2.4.1 Regular elections.

Let us consider to the case of regular elections. By differentiating V_e with respect to T and equating to zero, we obtain:

$$\pi'(T^*) = \frac{\gamma}{R(Y)} \tag{6}$$

i.e. provided that $\pi''(T) < 0$, the optimal transfer increases with Y and decreases with the marginal cost γ . The value function is then

$$V_e = \pi(T^*)R(Y) - \gamma T^*$$

Now, by using the envelope theorem, V_e is higher the lower is γ and higher the higher is Y . Moreover, let us define π_1 to be more effective than π_2 iff $\pi_1 > \pi_2$ for any T . Obviously, V_e is higher for more effective functions $\pi(\cdot)$. In other words, when the incumbent government has an effective electoral technology, the maximal payoff obtainable by opting for regular elections is higher.

2.5 Equilibrium.

By comparing V_e and V_w we can determine in which cases the incumbent ruler chooses to provoke a civil war rather than opting for regular elections. Then, the optimal strategy is to provoke a war if

$$\frac{N_G^*}{N}R(\psi Y) + (1 - \frac{N_G^*}{N})\psi R(Y) - \eta N_G^* > \pi(T^*)R(Y) - \gamma T^* \quad (7)$$

i.e. if the payoff corresponding to the war option is larger than the payoff of regular elections.

Proposition 1 *There exists a unique \hat{Y} such that war is preferred for $Y > \hat{Y}$ and, viceversa, elections are preferred for $Y < \hat{Y}$, provided that $\psi > \pi(T^*)$, i.e. for a sufficiently effective war technology.*

Proof. To study how inequality (7) depends on Y , we differentiate respectively the right-hand side and the left-hand side with respect to Y , and using the envelope theorem in case of interior solution, we get

$$\psi \frac{N_G^*}{N}R'(\psi Y) + (1 - \frac{N_G^*}{N})R'(Y) \overset{\circ}{>} 0 \quad (8)$$

and

$$\pi(T^*)R'(Y) > 0 \quad (9)$$

Now, assume that $\psi > \pi(T^*)$, that is, the probability of winning the war when $N_R = \underline{N}_R$ is higher than the "optimal" probability of winning the elections. Since $R(\cdot)$ is concave, we get that

$$\psi \frac{N_G^*}{N}R'(\psi Y) + (1 - \frac{N_G^*}{N})R'(Y) \overset{\circ}{>} \pi(T^*)R'(Y) \quad (10)$$

Let be \underline{Y} the level of Y such that $V_w = 0$. At \underline{Y} it must be that $V_e > 0$ since $V_e = 0$ can be always attained by setting $T = 0$. Then, recalling inequality (10), there must exist a point \hat{Y} such that for all $Y < \hat{Y}$ election is preferred to war and, viceversa, for $Y > \hat{Y}$ war is more profitable than regular elections. ■

Indeed, only if the rent from power is sufficiently appealing, war may be a valuable option. Note that the rent size is not necessarily directly related to the wealth of the country. Rather it is related to the weakness of its institutions: an institutionally weak country, which lacks sufficient checks and balances, where the constitutional system is not self-enforcing, offers larger opportunities for personal profit in the management of the public affairs.

Moreover the threshold \mathfrak{F} depends, among other things, on indicators of the institutional weakness, as stated by next proposition.

Proposition 2 *The cutoff value \mathfrak{F} , which separates elections from war, depends:*

- 1) *positively on the price of ensuring the army loyalty η , i.e. war is more likely the lower is η ;*
- 2) *negatively on the price of getting political support from the rebel side γ , i.e. war is more likely the higher is γ ;*
- 3) *negatively on the parameter capturing the predictability of the war outcome ψ , i.e. war is more likely the more predictable is its outcome.*

Proof. Rewrite inequality (7) as an equality at \mathfrak{F} . We get

$$\frac{N_G^*}{N}R(\psi\mathfrak{F}) + (1 - \frac{N_G^*}{N})\psi R(\mathfrak{F}) - \eta N_G^* = \pi(T^*)R(\mathfrak{F}) - \gamma T^* \quad (11)$$

There are three parameters of interest, ψ , the maximal probability of government victory, η , the unitary cost of regular army and γ , the unitary cost of the transfer to the rebels. Denote by

$$\Delta = \psi \frac{N_G^*}{N}R'(\psi Y) + (1 - \frac{N_G^*}{N})R'(Y) - \pi(T^*)R'(Y) > 0$$

the difference between the derivatives on Y . From inequality (10) we know that Δ must be positive. By pairwise total differentiation of equation (11) and by using once more the envelope theorem, we get respectively that locally around \mathfrak{F}

$$\begin{aligned} \frac{\partial \mathfrak{F}}{\partial \eta} &= \frac{N_G^*}{\Delta} > 0 \\ \frac{\partial \mathfrak{F}}{\partial \gamma} &= -\frac{T^*}{\Delta} < 0 \end{aligned}$$

and finally

$$\frac{\partial \mathfrak{F}}{\partial \psi} = -\frac{\frac{N_G^*}{N}R'(\psi Y)Y + (1 - \frac{N_G^*}{N})R'(Y)}{\Delta} < 0$$

■

Obviously, a less effective $\pi(\cdot)$, reduces the threshold $\bar{\mathcal{F}}$, since the right-hand side of the (7) reduces.

While ψ is a parameter characterizing the technology of conflict, whose impact on the choice election vs war is clear, η and γ deserve some comments. We claim that both these parameters are related to the force of the institutional framework. An ethnically divided country, whose institutions does not work in favor of a larger integration, has very likely an ethnically based army and both the ruler and the army leaders have the same ethnic origin. In such a situation the cost of guaranteeing the army loyalty in case of civil war is low, because interests and culture are similar. This is, for instance, the case of Sudan and of Ivory Coast, to mention only two examples.

Furthermore, the same ethnically divided country, whose ruling elite is expression of a single ethnic group, faces a high price of the political support, simply because the ruling elite must make important concessions to the other communities which often represent the majority of the country. This is widely discussed in section 5 dedicated to Ivory Coast. Moreover Azam and Mesnard, 2003, pointed out that credibility of the government's promises is an important issue: in a weak institutional framework, the ruler has a weak commitment ability. This fact will make difficult to respect any pact and indeed will make more expensive any attempt of pacifically obtaining political support.

Nonetheless, we are not claiming that, at the end, ethnicity comes back to be the deepest cause of civil war. Rather, the force of the institutions and their capacity to provide integration are crucial. For instance, since independence until 1995, Ivory Coast, although composed of sixty ethnic groups, showed a high degree of stability, civil peace and integration, because of the redistributive system at work under president Houphouet Boigny (widely discussed in Azam, 2002b and Azam, 2001). Only an external shock (the economic crisis caused by the fall of the cocoa prices) pushed the Houphouet's successors to abandon this way, triggering a spiral of greed and grievance.

3 Bloody vs innocuous wars.

We have not yet analyzed the complete relation between N_R^* and q . Doing it has been unessential until now because we knew that what mattered was only the specific value of q able to trigger the smallest possible mobilization compatible with the war outbreak, i.e. the \underline{q} defined in (5). Let us now fill the gap.

Lemma 3 *Provided that $\psi < \frac{N}{C_2(H-h)}$, a stronger provocation implies a larger mobilization.*

Proof. Recall the equilibrium condition of the rebels' game

$$1 - N_R^* = C_2 [h - Hq + (1 - \Phi^*) p^* (H - h)]$$

For each N_R^* , by total differentiation with respect to N_R and q , we get that

$$\frac{\partial N_R^*}{\partial q} = \frac{C_2 H}{1 + C_2 (H - h) \frac{\partial}{\partial N_R} ((1 - \Phi^*) p^*)}$$

Note that $\frac{\partial}{\partial N_R} ((1 - \Phi^*) p^*) < 0$ because by rising N_R the joint probability of no intervention and government victory decreases. Moreover $\frac{\partial^2}{\partial N_R^2} ((1 - \Phi^*) p^*) > 0$ since $p(\cdot)$ is concave, i.e. $\frac{\partial}{\partial N_R} ((1 - \Phi^*) p^*)$ is increasing in N_R^* . Since for $N_R^* \rightarrow \underline{N}_R$, we have that $\frac{\partial p}{\partial N_R} \rightarrow 0$ and $p \rightarrow \psi$, we get that $\frac{\partial}{\partial N_R} ((1 - \Phi^*) p^*) \rightarrow -\frac{\psi}{N}$. When N_R increases, $\frac{\partial}{\partial N_R} ((1 - \Phi^*) p^*)$, which is increasing, approaches to zero. Therefore, if the denominator is positive at \underline{N}_R , then it will be positive everywhere. The condition for positivity at \underline{N}_R is

$$1 - C_2 (H - h) \frac{\psi}{N} > 0$$

from which the conclusion follows. ■

While it is true that, individually, there is an incentive to participate in the rebellion when the intensity of the provocation rises, the consequence of such a rise at equilibrium are, in principle, less obvious. Nevertheless, Lemma 3 states that, under quite general conditions, a stronger provocation produces a larger mobilization also at equilibrium.

Given this results, the issue of the war intensity can be analyzed. In our model we suppose that the provocation enters the ruler objective function only through the rebels' choice of N_R . This implies that the best level of q is that leading to \underline{N}_R , because it triggers the war with the lowest intensity and cost.

However one may think that provoking is a costly activity or, conversely, that it brings direct benefits to the ruler.

Provocation can be costly because, perhaps, the loyalty of the bureaucrats or of the parliament who actually make it at work needs to be rewarded. Nevertheless, the results of our model would not formally change: \underline{q} will be selected and \underline{N}_R will remain the best choice of the rebels. What changes is that the war payoff will be lower and so the threshold \mathcal{F} rises. Indeed, if the provocation was costly, opting for a civil war will be less likely.

Provocation can also be beneficial. For instance, a law undermining the property rights of the rebels may give substantial benefits to the incumbent ruler: regular soldiers may expect to be paid with lands subtracted to the potential rebels, hence reducing the net cost of the regular army. Similarly, the ruler may obtain more rent by promising or allocating this additional land to his supporters. In this case, and if such benefits were large enough, the choice of q would substantially differ from \underline{q} . In fact, the optimal choice would be a particular q^* which equates marginal costs and benefits. Let us discuss this issue.

The ruler payoff in case of war will become

$$V_w = \frac{N_G + N_R^*}{N} R + p \frac{N_G}{N_R^*} Y + 1 - \frac{N_G + N_R^*}{N} p \frac{N_G}{N_R^*} R(Y) - \eta N_G + \rho q$$

where N_R^* is a function N_G and q and where ρ is assumed to be the unitary benefit of q . Clearly if $\rho = 0$ we get $q^* = \underline{q}$ and we come back to the original problem specification.

Suppose instead that ρ is large enough to render $q^* > \underline{q}$, i.e. the direct benefits of the provocation push its optimal level above the minimum required to trigger a war. Given the result of Lemma 3, for any N_G , the rebels mobilization is $N_R^* > \underline{N}_R$. Moreover, in equilibrium, also N_G must be larger than N_G^* to react against the larger insurrection. The government probability of victory will necessary be lower or equal to ψ and foreign intervention will be more likely. We do not solve explicitly this case because it is quite intractable, but an interesting conclusion can be drawn.

Proposition 4 *War intensity depends on whether the provocation has a direct and substantial positive impact on the ruler's payoff, i.e. if $\rho > 0$. More*

precisely, for small values of ρ , in equilibrium wars are characterized by few skirmishes and casualties; conversely for large values of ρ , wars are intense and bloody.

An example may clarify: if the provocation consisted in building a road to tighten the control over a region, then such a project would have a direct impact on the ruler rent, because new opportunities of profit would arise (perhaps because of the presence of minerals, oil or diamonds deposits). The larger are the benefits, the more determined will be the government in pursuing the project and the stronger will be the provocation. Hence, a large insurrection will explode and a bloody will war break out.

4 Foreign intervention as an insurance.

An other interesting issue coming from the model is related to the government risk aversion embodied in the concavity of its rent function $R(\cdot)$. In fact it is interesting to observe that a foreign intervention provides a partial insurance against the risk of losing the war. This fact tends to increase the ruler's war payoff, thus making war more attractive.

To see the point, compare the payoff functions respectively with and without the possibility of a foreign intervention. The former has already been stated above and we recall it here:

$$V_w = \Phi R(pY) + (1 - \Phi)pR(Y) - \eta N_G \quad (12)$$

which can be rewritten as

$$V_w = pR(Y - \sigma) + (1 - p)R(\tau) - \eta N_G$$

where there exist two positive numbers σ and τ such that, respectively, $R(Y - \sigma) = (1 - \Phi)R(Y) + \Phi R(pY)$ and $R(\tau) = \Phi R(pY)$. This shape makes evident the transfer of resource between the contingencies "winning" and "loosing the war".

Without the possibility of a foreign intervention, the ruler payoff would simply be

$$V'_w = pR(Y) - \eta N_G \quad (13)$$

Now, looking at (12) and (13), since $R(\cdot)$ is concave, we have that

$$R(pY) > pR(Y)$$

and thus

$$\Phi R(pY) + (1 - \Phi)pR(Y) > pR(Y)$$

for any Φ and p

This shows that V_w is always greater than V'_w . Indeed,

Proposition 5 *The very existence of a potential foreign intervention, which imposes to share the (power over the) country in two parts, depending on the relative military strength, produces a bias in favor of the war alternative.*

Hence a potential foreign intervention has the role of a partial insurance against the risk of loosing the war. However this insurance is profitable only because the sharing rule imposed by the foreign power precisely reflects the relative strength of the contenders. Seen on the other way round, a foreign power, in order to discourage the war option should impose an sharing rule which favours the rebels. This would depress the ruler's payoff in case of war, making it less likely.

5 Ivory Coast.

Once the failure of many developing economies to develop and adjust to external shocks has been blamed on substantial mismanagement (Bank, 1981), external agencies began making aid somehow conditional on democratization to amplify the movement of democratization initiated in the 1990s and therefore promote good governance (Azam, 1994). As a result, many African countries, have launched a process of democratization during the 1990s, with the creation of new political parties and freer press. However, the empirical studies on the impact of governance on economic performance (Knack and Keefer, 1994; Kaufman, Kraay, and Zoido-Lobaton, 1999) reveal that economic performance is still undermined by poor institutions in developing countries, particularly, in African countries. According to Gray and Kaufman, 1998, the causes of such poor institutions are low wages, high discretionary power, low accountability, limited political competition and civil liberties, weak legal system and unfree

press. Moreover, the classification of countries, both according to the average rate of return and a variety of civil liberties indicators², shows that the countries with the lowest average rate of return and the lowest levels of civil liberties are mostly from Sub-Saharan Africa. Therefore, the incumbent governments are not far from dictatorial ones. The lack of check and balances in the African institution allows for extreme practices, such as coups and insurrections.

One of the widely cited country for such practices since 1995 is Ivory Coast. In this country at the end of the year 1999, the democratically elected president Konan Bedié was overthrown by General Gueï with very broad support from the population given his promise to reverse the policy of exclusion of the northerners from the political process which was threatening the civil peace. But, once in power, Gueï pursued and strengthened the policy of his predecessor. In the very controversial presidential elections of 2000, Laurent Gbagbo, one of the challengers, won. Once more, the policy of excluding the northerners was strengthened, but in 2002 a failed coup turned into a true civil war.

In this section we sketch the recent history of Ivory Coast with the purpose of highlighting the government provocation and the rebels' reaction. The conditions for a war obtained from the theoretical model are discussed in the context of the social and economic situation of the country.

5.1 An overview of Ivory Coast crisis.

As soon as Ivory Coast gained independence in 1960, its president, Houphouët Boigny, opted for a development strategy based on agriculture. To mobilize the labor force required by such strategy, some measures had been taken to encourage the migration of natives from the Sahel and natives of the savannah regions of the country to the forest zones. The main measures were: the permission to SIMAO³ to continue the mobilization of labor force until 1965 and the decision taken by Houphouët in 1963 to grant land ownership to anybody who exploits it. This decision was considered a law under Houphouët regime and directions were provided to administrative, political and legal authorities in order to en-

²See Isham, Kaufman, and Pritchett, 1997 who deal with the impact of civil liberties and democracy on the performance of government projects.

³SIMAO is an entrepreneur association created by former colonial employers to mobilize labor force from the Sahel, particularly from Haute-Volta. Between 1933 and 1959, this organization conveyed to Ivory Coast about 700 thousand natives from Haute-Volta.

force administrative protection to Ivorians and non-Ivorians migrant farmers. According to Chauveau, 2000, this protection materialized in pressures towards village authorities to welcome the migrant farmers; in the settling of disputes over land in favor of migrant farmers as soon as the exploitation of the land was reported; in the prohibition of the natives from taxing the non natives farmers; in the tolerance towards the infiltration in preserves. . . Such instructions coupled with the economic prosperity between 1970 and 1979⁴ and the political stability maintained by Houphouet through some mechanisms described by Azam and Koidou, 2002, and Azam, 2002b, gave incentives to many Ivorians and non-Ivorians farmers (Burkinabés mainly) to set themselves up in the forest area located in the southern part of the country⁵. But, in the Eighties, such regions were confronted with a rural real estate saturation (Chauveau, 2000), while the country faced an economic crisis due to the collapse of the export prices of cocoa and coffee, its main exports. The economic crisis and the structural adjustment plans imposed by the Bretton woods institutions, made it difficult for young qualified workers to find a job either in the public administration or the private sector. This increased the level of social contestation and induced a political and social change in the country, characterized by the re-establishment of the multiparty in 1990 and a significant back to villages of urban people in the Nineties (Beauchemin, 1999). The latter phenomenon increased the demand of land and led also to unemployment in some southern villages, in a context of rural estate saturation. Consequently, as noted by Chauveau, high intra-family tensions as well as high tensions between natives and non natives appeared mainly in the west of the country. Until 1997, the tensions between natives and non natives opposed principally the western natives to migrants farmers from the ethnic group of Houphouet and his successor Konan Bedié⁶. To calm such tensions, Konan Bedié's government proposed a rural lands reform, in accordance with customs, that was largely adopted by the national assembly in 1998. This reform consisted in excluding non-Ivorians from rural land ownership and allowing them to obtain only the rights of exploiting those lands through leases.

⁴Indeed, the average growth rate on the period 1970-1979 was about 6.7%.

⁵For example, the 1998 population census estimated that at least 30% of the southern population was non Ivorian and 17% was represented by natives from the north.

⁶In 1985, a conflict broke out between Niaboua and Baoulé in a western town called Zoukougbeu. Some violent tensions also opposed them to Bété, Gouro and Dida during the elections of 1990 and 1995.

The heirs of non-Ivorians who owned a land in rural areas before the reform, were given a period of three years to give back this land to the state if the owner died. Notice that the land reform follows the concept of "ivoirité" introduced by Konan Bedié during the election campaign of 1995, boycotted by the Republican Front⁷. Initially intended to create a common identity of the sixty ethnic groups composing the country, this concept was used to call into question the Ivorian nationality of the northern natives, when the former premier Alassane Ouattara⁸, a native from the north, announced his intention to be the candidate in 2000 presidential election. Indeed, Ouattara was deprived of his Ivorian nationality in November 1999, and there is some evidence that many northerners (especially among the Malinké ethnic group) did have some troubles in getting an identity card during the identification process launched by the Konan Bedié government in August 1998⁹. Hence, the risk of not participating in the political process and of losing farms in the south dramatically increased for northern natives. Therefore, just after the cancellation of the Ouattara's identity certificate, the RDR, his party, (composed mostly of northerners) organized a protest demonstration which degenerated and led to the arrest of its leaders¹⁰. This fact and the deadly confrontations between Burkinabés and natives of the Tabou region, following a dispute over land¹¹, were threatening the civil peace when General Gueï¹² overthrew Bedié in December 1999. Although at the beginning of his government Gueï fought exclusion (he released the RDR leaders, granted a nationality card to Ouattara, formed a government with all the political parties, tried to settle the confrontations between Burkinabés and Kroumen, did not apply the land reform law), he actually reinforced the policy of his predecessor, in order to stay in power after the presidential

⁷An alliance formed by the Ivoirian Popular Front (FPI) and the Rally of Republican (RDR). This alliance ended during the military transition of 2000 when the leader of the FPI call into question the eligibility of Ouattara.

⁸Alassane Ouattara was the Primer Minister of Houphouet Boigny from 1990 to the death of the latter in december 1993. His relationship with Konan Bedié, at this time, President of the National Assembly and legal successor of Houphouet, deteriorated when the latter suspected Ouattara of being interested by the succession to Houphouet Boigny.

⁹*L'inter du 1999.*

¹⁰Ouattara, who was abroad, was the subject of an international warrant for arrest.

¹¹During those confrontations 5 people were killed and 20 thousand Burkinabés were expelled.

¹²General Gueï run the national armed forces from 1990 to 1995. He was dismissed in 1995 when he disobeyed to president Bedié by not allowing the army to secure the elections of 1995 boycotted by the Republican Front. Instead, he was appointed as Minister and then forced to retire after being accused of plotting a coup d'Etat.

elections of 2000. Indeed, he modified the constitution he inherited by adding some morality conditions which gave a higher discretionary power to the Constitutional Council in charge of selecting the candidates. He also simulated a coup against himself a month before the elections that allowed him not only to get rid of his first two aids, who were northerners, but also to purge the army from most of the northerners (Gramizzi, 2002). In such a context it was easy to exclude the candidates of the two biggest political party (PDCI and RDR) and of other small parties¹³. However, Laurent Gbagbo, the candidate of the third political party (FPI) was admitted to the electoral contest, and in spite of his adversary maneuvers, he won. His victory was contested by Gueï. Therefore, Gbagbo organized a demonstration which degenerated in confrontations between gendarmes and militaries faithful to Gueï¹⁴ and forced the latter to leave the power. After having put down a demonstration organized by the excluded parties to require new elections, Laurent Gbagbo did nothing to prevent exclusion from the general election. He did not reshuffle the Constitutional Council and, consequently, Ouattara was again excluded and all the candidates from his party decided to boycott the election. Moreover, Laurent Gbagbo decided to enforce the land reform as he had promised to his voters (mostly westerners), whereby, deteriorating the relationships with neighboring countries (Burkina Faso, Mali). In January 2001 some northerners militaries who took refuge in neighboring countries (Burkina Faso, Mali, Niger) during Gueï times and some citizens from those countries attempted a coup that failed. In response, some reprisals against natives of the implicated countries took place and some of them left Ivory Coast¹⁵. To calm tensions and therefore revive the international aid flows interrupted since December 1998 for mismanagement, a forum for national reconciliation was organized from October to December 2001. It led to the promise of issuing a identity certificate to Ouattara and a decision to form a government in which all representative political parties had to be represented. However, before the formation of the new government, a new process of identification with a strongly discriminatory power, adopted in March 2002, was launched. Indeed, the documents required for identification

¹³14 applications over 19 had been rejected (Gramizzi, 2002).

¹⁴According to official statistics, 300 people were killed and at least a thousand were reported as missing.

¹⁵*L'inter*, 11 January 2001.

were identical to those of the 1998, but they had to be transferred to native villages to be validated by a commission¹⁶. This increased the risk of losing the citizenship and the corresponding advantages (land ownership, public administration jobs, social security...) for those who did not have a village or did have the citizenship by naturalization. The most threatened people were from the important northern group of the Malinké, since they traditionally are traders and live for the great majority in towns¹⁷. In addition, before the new government took functions, a decision to demobilize the soldiers enrolled by the Gueï regime had been approved by the former government. This government also decided in June 2002 that only the voter who got 'green identity card'¹⁸ or an 'identity attestation' delivered under the new identification process could vote during the regional elections of July 2002. Although contested by some opposition parties (RDR and UDPCI), this decision had been enforced and led to a participation rate of 30% that allowed the FPI to move from the third position during 2001 municipal elections to the first¹⁹. Therefore, when the national reconciliation government took function at the beginning of august 2002, the risk of confrontations was very high. It was in such a context that some of the militaries who took refuge in northern neighboring countries joined the soldiers who were demobilizing to attempt a coup the 19th of September 2002. The coup failed but the mutiny was transformed into an armed rebellion whose size quickly moved from 750 to about 7000 combatants thanks to the wide adhesion of the populations from the areas they controlled, the first victories over the national army, and the passive support of borders countries²⁰. The rebellion gained quickly the northern half of the country which supported it. Neverthe-

¹⁶See "Le spectre de l'ivoirité", *Jeune Afrique l'Intelligent*, n°2157, 13-19 May 2002.

¹⁷Indeed, the northern political party, RDR, won the municipal elections with 63 communes out of 190. Among these 63 communes, figure 3 region county towns out of 5 in FPI influence area and 2 out of 7 in PDCI influence area (see *Jeune Afrique Intelligent*, n°2108 and *L'Inter* n°869)

¹⁸The identity card initiated by Alassane Ouattara government but delivered under Bedié.

¹⁹The municipal elections scores are: RDR(63 communes), PDCI (59 communes), FPI (33 communes), UDPCI (9 communes) while the regional elections gives, FPI(18 départements), PDCI(18), RDR(10) and UDPCI(4). See *L'Inter*, 13 March 2002 and *Jeune Afrique Intelligent* n° 2166, 15-21 July 2002.

²⁰Indeed, there are evidences that many of the rebels are from neighboring countries. See Bramizzi (2002) and also "Voyage au pays des rebelles" in *Jeune Afrique Intelligent* n.2193; "Le cerveau et ses hommes transférés à Abidjan" in *Soir Info*, 17 June 2004; "Reprise de la guerre à l'Ouest: derrière le rideau de fer du MPIGO et du MJP" in *Soir Info*, 30 April 2003; "Agression contre la Côte d'Ivoire: un mercenaire burkinabé arrêté" in *Soir Info*, 1 October 2002.

less, the advance towards the capital was blocked by the National Armed Forces (FANCI) and french troops²¹. A mediation of the ECOWAS led to a cease fire on October the 17th between the national armed force (FANCI) and the Patriotic Mouvement of Ivory Coast (MPCI) that had been first enforced by French troops. But, in November two new rebels movements (MPIGO and MJP) were created by the supporters of General Gueï, killed the 19th of September, in the extreme west of the country. These two rebel groups also benefitted from the support of mercenaries from Liberia and Sierra Leone, from native northerners and non-Ivorians farmers settled in the west. The government had the support of the population under its control. Indeed, a contribution to war effort was initiated and yield about 15 milliard of CFA, including 10 milliard from farmers. Such a contribution allowed the government to buy military equipment (Mi-24, tanks...), to hire mercenaries (about 200), and to recruit 3500 new soldiers and supporting militia (GPP, FLGO). Therefore, confrontations were intense in the west including some land confrontations as shown in table 1 and 2. French troops interposed to prevent the rebels from gaining the San Pedro port. Then, negotiations began in Paris and led to an agreement signed the 24th January 2003, the so-called Marcoussis agreement. This agreement proposed to share the power between the ruling party, the rebels and all the representative opposition parties, and a plan of reforms (nationality, land, electoral rules, and identification process).

5.2 How does the model fit the case of Ivory Coast?

Recall that the model suggests that war is more likely the higher the price of obtaining political support, the lower the price of raising and guaranteeing the loyalty of the army, the more predictable the war outcome. The model also shows that war intensity is positively related to the profitability of the project underling the provocation and the possibility of a foreign peace-keeping intervention. Here, we will use these results to interpret the civil war in Ivory Coast. Notice that, the political history of Ivory Coast, described in the first part, involved five political leaders (Houphouet Boigny, Konan Bedié, Laurent Gbagbo, Alassane Ouattara and General Gueï Robert) from four parties (PDCI, FPI,

²¹French troops formed a safety belt around the political capital, Yamoussokro, to protect the foreigners from the fighting zone who they gathered there.

RDR, UDPCI). Each of these parties has an influence area that can be described according to ethnoreligious considerations. The first one, PDCI (Democratic party of Ivory Coast) which leaders (Houphouet Boigny and then Bedié) run the country until the coup of December 1999, has an influence area located in the Akan region (Eastern South). This ethnic group is the largest of the country it accounts for 42% of the Ivorian population. The second one, the FPI (Ivorian Popular Front) has its influence area in the Krou Region (Western South). According to the general population census, the Krou ethnic group represents 12.7% of the Ivorian population in 1998. The leader of this party, Laurent Gbagbo played a significant role in the re-establishment of multiparty in 1990 and came up at the head of the state after the confused elections of 2000.

The third one, the RDR (Rally of Republican) got out from PDCI during the Bedié years. Its leader, Alassane Ouattara had been excluded by all the three presidents who run the country after the Houphouet Boigny's death. Its influence area is the north, in Gur and Northern Mande Region. The two ethnic groups that came from this area account for 33.9% of the ivorian population.

The fourth, UDPCI (Union for Democracy and Peace in Ivory Coast) also got out from PDCI during the military transition of 2000. Its leader, General Gueï Robert, run the country from December 1999 to October 2000 and was killed in September 2002. The influence area of this party is the Southern Mande region (West). The ethnic group linked to that region represents 10% of the Ivorian Population.

In this ethnic based democracy, the price of obtaining a political support is particularly high for UDPCI (10%) and FPI (12.7%) and may partially explain why UDPCI excluded PDCI and RDR during the presidential elections of 2000, and why FPI launched a process of identification that could exclude many citizens who didn't have a village (mostly northerners). In addition, the price of rising and guaranteeing the loyalty of the army seems to be low for both. Indeed, General Gueï run the army from 1990 to 1995 and was well appreciated by most of the soldiers of the National Army²². Such a reputation allowed him to

²²Although he was retired, he was called by the mutineers to serve as mediator during negotiations with Bedié government. Moreover, when negotiations failed he was chosen as the president.

enroll more than 750 very effective former soldiers. These soldiers were used not only to foil the coup attempted in September 2000 but also, to purge the army from the elements that could threaten his position²³. Therefore, at the time of election, General Gueï got easily a national armed force faithful to him. In the case of Laurent Gbagbo, many facts seems to confirm that the price of rising and obtaining the loyalty of the army was low. First, the main students union (FESCI) which organized the demonstration that led to the re-establishment of multiparty in 1990 is affiliated to his party. Second, the Gbagbo's ethnic group is widely known as being one the most violent ethnic groups of Ivory Coast. Third, he is from the region that produces most of Ivory Coast cocoa. The first two characteristics allowed the party to defy the Gueï's faithful militaries, to create militias (GPP, FLGO...) and recruit instantly 3500 volunteers after the conflict broke out. The third characteristic help him to get more than 10 billion of CFA from farmers as their contribution to the war effort and allowed him to buy military equipment and hired mercenaries.

When the conflict reached the western part of the country where the president Gbagbo is from and where the land reform had to be applied, confrontations were particularly violent. Therefore, the result of the model that links war intensity positively to the profitability of the project underling the provocation is also verified.

Some defense agreements existed between France and Ivory Coast since 1961 according to which France was called to provide military assistance to Ivory Coast. But, since 1991 France decided to intervene only in case of external conflict. After the coup attempted in January 2001 by some northerners militaries who took refuge in neighboring countries (Burkina Faso, Mali, Niger), it become clear some external involvement in the Ivorian crisis. Indeed, in 2002 the Gbagbo's government anticipated French intervention when opting for a further enforcement of the land reform and of political exclusion.

²³See: "Attaque du domicile du chef de l'Etat : 20 membres de la garde présidentielle arrêtés 3 militaires en fuite appréhendés à Noé", *L'Inter*, 19 September 2000.

6 Conclusions.

A simple model has been provided which elicits some conditions under which provoking a civil war is the best alternative an incumbent government has, when its unique goal is staying in power. We have pointed out that war is more likely the higher is the price of obtaining political support and the lower is the price of rising and guaranteeing the loyalty of the army. These two conditions could depend in part on the ethnic composition of a country (such as in Ivory Coast), but, above all, they depend on the institutional organization. An equilibrated system of checks and balances, which prevents any power to become too strong with respect to the others, would reduce the cost of obtaining political support and would rise the cost of obtaining the army support for personal purposes.

Moreover, two conditions related to the war technology (the predictability of the outcome and the possibility of a foreign intervention) have been provided as a further condition for a war outbreak. Interestingly, the very existence of a potential foreign intervention makes a conflict more likely because it provides some insurance against the risk of losing the war.

These conditions have been discussed in the case of the recent conflict in Ivory Coast. In a context of weak institutions which stressed the ethnic divisions, a long period of government provocation against the northern people (property rights on land put at risk, political participation nullified) resulted, at the end, in a civil war. French intervention stopped the fights but failed in the purpose of finding a response to the deep causes of the crisis.

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