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Revealing the preferences of the FARC

Andrés Zambrano y Hernando Zuleta *

Abstract

Currently the FARC and the Colombian Government are negotiating a peace agreement in the city of Havana in Cuba. Although the results of these talks are uncertain and the final goal of the rebels is not observable, it is possible to analyze their strategy under different scenarios and associate the actions undertaken by the insurgents with their real willingness to cease violence. We model the strategy of an insurgent group that follows a pattern of prolonged popular war but negotiates with the government. The main results of the model are the following: (i) If the marginal probability of signing a peace treaty is significantly low when the guerrilla invests little on non-violent strategies, then they will continue to fight and allocate all its resources on military power. (ii) If the guerrillas value political participation as they value a complete revolution, and the depreciation of its military power is higher than the budget they can allocate; then the optimal strategy is to avoid military confrontation and devote all the resources to sign a peace treaty. (iii) By increasing its military power the government can generate a change in the strategy of the rebels and, particularly, a reduction in the budget allocated to military power.

JEL Codes: D74; N46

Keywords: Economic conflict, negotiation strategies, guerrilla, FARC, utility functions.

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Revelando las preferencias de las FARC

Andrés Zambrano y Hernando Zuleta^{*}

Resumen

Actualmente las FARC y el Gobierno colombiano están negociando un acuerdo de paz en la ciudad de La Habana, Cuba. Aunque los resultados de esta negociación son inciertos y la meta final de la guerrilla no es observable, es posible analizar su estrategia bajo distintos escenarios y asociar las acciones que toman los insurgentes con su disposición real de suspender la violencia. En el documento modelamos la estrategia de un grupo insurgente que mantiene una guerra prolongada pero se encuentra negociando con el gobierno. Los principales resultados del documento son los siguientes: (i) Si la probabilidad marginal de firmar un acuerdo de paz es suficientemente baja cuando la guerrilla invierte poco en estrategias no violentas, entonces continuarán luchando y asignarán todos sus recursos a obtener un mayor poder militar. (ii) Si la guerrilla valora la participación política como valora la revolución completa, y la depreciación de su poder militar es mayor que el presupuesto que pueden asignar; entonces su estrategia óptima es evitar la confrontación militar y asignar todos sus recursos a la firma de un tratado de paz. (iii) Si el gobierno incrementa su poder militar, puede llevar a un cambio en la estrategia de los insurgentes; en particular, generará una reducción en el presupuesto que asignan a incrementar su poder militar.

Códigos JEL: D74; N46

Palabras clave: Conflicto económico, estrategias de negociación, guerrilla, FARC, funciones de utilidad.

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I. Introduction

In August 2012 President Santos announced an existing secret dialogue with the FARC in order to initiate a peace talk. Since then, the FARC guerrillas and the Colombian government have been negotiating. The main goal of the process is, of course, putting an end to the armed conflict. However, for this goal to be achieved the parts must agree on how to address specific problems: Rural Development, Political Participation, Illicit Drugs and Victims. Last but not least, they have to agree on the conditions for the demobilization of guerrillas and the mechanism to democratically endorse the agreements.

So far the Government and the FARC have come to terms on only three points and it seems that agreements are partial. In terms of other points no agreement of any kind has been reached. Under such circumstances, the skepticism about the talks is growing and journalists and political leaders who oppose the peace talks are raising their voices. On top of that, the negotiators of the FARC have publicly stated that the process is going to be long and that they are the victims of a predator government.

Under these circumstances a wave of pessimism arises and people have doubts about the real purpose of the guerrilla leaders. Do they really want to reach a peace agreement and become a peaceful political party?

In order to address these issues we provide a simple theoretical framework and model the objective function of the FARC. The subversive group is considered together as a rational individual who takes into consideration the option of a permanent truce. We also assume that if an agreement is reached at the end of the negotiations then it is irreversible.

For each period there are three possible scenarios: (i) a peace treaty is signed, (ii) revolution is achieved, (iii) the conflict continues and the same situation is faced in the next period. The actions undertaken by the guerrillas affect both the probability of occurrence of each one of these events and the utility derived by the FARC.

Each period, guerrillas allocate resources to violent and non-violent strategies. Investments in non-violent strategies include campaigns, advertisement and political organizations. These investments increase the probability of signing the peace treaty. On the other hand, expenditure on military operations, ammunition, terrorist attacks and logistics; increases the stock of military power and the probability of a complete revolution. The government can also affect the probability of a revolution by changing its military power. More government power decreases this probability.

In this setting we find three main results. First, if the guerrillas perceive that investing in non-violent strategies does not increase significantly the probability of signing a peace treaty, then they will continue fighting and no budget is allocated to non-violent strategies.

Second, if the terms of the negotiation are appealing to the guerrilla and the depreciation rate of military power is high then it is optimal for FARC to invest in non-violent strategies. Third, the higher the military strength of the government the lower the share of resources guerrillas allocate to violent strategies.

Using this framework, we claim that the actions undertaken by the FARC in the last years can be used to “reveal their preferences”. On the one hand, actions like the decision to collaborate with the army in order to remove antipersonnel mines, the so called infiltration of civil protests and the support to *Marcha Patriótica* are non-violent strategies. On the other hand, the unilateral truce (even if it is not fully comply) suggests that military power and territorial control are less important than before.

The paper at hand is related to Skaperdas (2006) who models the utility function of an insurgent group and identifies relevant variables in order to explore the conditions under which a truce can be reached. However, he does not investigate the incentives or effects of violent and non-violent strategies. Likewise, Bueno de Mesquita (2011) considers the case of a conflict between two individuals in a game theoretical framework. However, in his frame it is difficult to identify the parties, guerrillas and government.¹

The literature about the Colombian conflict is extensive and varied². However, to the best of our knowledge, this is the first work where the action of guerrillas outside the table is considered as way to identify the final goal of the guerrilla groups in the middle of a negotiation process..

The rest of the paper is organized as follows: In section 2 we present a brief historical context, in section 3 we present the model and section 4 concludes.

II. Historical Context

The first guerrilla groups appeared in the decades of 1940 and 1950. However, these groups didn't become a serious threat until the decade of 1970 thanks to the support of part of the public opinion sympathetic with nationalism and opposition to imperialist oppression (Boot, 2013). The Cuban revolution and the political changes in other countries of Latin-America served as inspiration and supports for the Colombian rebels.

¹ Other contributions in the area of negotiations are Chang (2008) and Zuleta, Villaveces and Andonova (2013)

² Rubio (1995), Trujillo and Badel (1998), Londoño and Guerrero (1999), Castillo and Salazar (1999), Gorbaneff and Jacome (2000), Levitt and Rubio (2000), Mejia and Posada (2003 and 2006), Cante (2003), Zuleta (2004), Isaza and Campo (2005), Isaza and Campo (2005), Angrist and Kugler (2005), Dube and Vargas (2006), Andonova and Zuleta (2007), Zuleta and Andonova (2009), Vargas (2010, 2011), Vargas and Blanco (2014), Vargas and Caruso (2014), Vargas and Castañeda (2011) and Vargas and Riascos (2011), among others

Different groups with different ideological identities became part of the violent national environment: the pro-Cuban movement ELN (National Liberation Army), the FARC (revolutionary armed forces of Colombia) pro-USSR and the EPL (Popular Liberation Army) pro-Mao and the pro-cubano movement M-19 (Beckett, 1999).

In the early 70s, the guerrilla violence had become endemic, and in an effort to put an end to these groups, the Government tripled the size of the army, achieving only the guerrillas to return to emerge more forcefully (Castro, 2006).

The Colombian government has gone through several negotiation processes with different results. In the early 1980's the Government decided to negotiate with the guerrillas and offered amnesty while maintaining a strong military pressure. A ceasefire with the guerrillas was agreed in 1984 but it lasted less than one year.

Negotiations between the Betancur administration and FARC end up with amnesty, ceasefire and a new political party, the UP (Union Patriótica). However, the leaders of UP were victims of violent attacks and assassinations, the ceasefire gradually collapsed and there were no new negotiation attempts for several years.

In the early 1990s, four rounds of talks were held in Caracas, culminated in a joint declaration formally suspending the talks.

A new negotiation process began in 1998 in *Caguan*. As a condition, the guerrillas imposed the demilitarization of 42 thousand square kilometers. The negotiations were held while military offensives and operations were carried out by both sides, wearing out the process and bringing it to an end four years later in 2002.

Finally, the latter process is which takes place today in Havana, started by President Juan Manuel Santos, in which conversations from a previously agreed agenda are developed while in Colombian territory both parties continue with their offensive activities.

Some authors claim that the extremism of the guerrillas is one of the most decisive obstacles for successful peace negotiations. The radicals do not accept social and economic changes unless they are reached through an armed revolution. In other words the means are as important as the ends (Chinchilla, 2010).

In terms of our model, if the value that is given to the continuation conflict is greater than the utility of the agreement, then the guerrilla group does not consider the option to negotiate an agreement, the probability of reaching it is very low and guerrilla groups invest all its income in military power. Under such circumstances, if talks are held, they are part of a war strategy and not a plausible formula for finishing the conflict. This could be the case of the 1991 negotiations in Mexico and Venezuela, La Uribe in 1984 and the ELN in all their approaches with the Government.

In 1998 in the Caguán, for the first time in history, the FARC recognized the State as an actor and accepted the principle of negotiation. The problem this time was the distance between what the government was willing to give and what the FARC were demanding. The guerrilla did not accept the terms of the agreement and asked to be at least 50% of the Government. In terms of our model, they demanded a value of the agreement to be equal to the value of the revolution.

The unattainable conditions demanded by the FARC lead to the paralysis of the dialogues, the conflict continued and a very large proportion of guerrillas income was devoted to military power.

Uribe's Government response, after the failure of the dialogue, was to promote an increase in the strength of the State. It ruled out the option of negotiations and many of the members of the Secretariat, chiefs and important figures of the guerrillas of the FARC, were killed or captured. In this context began negotiations which are conducted with President Santos in Havana.

To determine whether the guerrilla strategy is to maximize the probability of reaching an agreement, should be seen if the FARC are increasing the share of income devoted to political power or if on the contrary they are increasing the dedicated to military power. In the case that are increasing the first, which is observable, necessarily follow that they are diminishing the second, and the number of terrorist attacks, military actions and other operational should be decreased. If so, it would imply that the FARC have lowered their level of extremism and may be the sufficiently moderate to agree an end to the conflict: "more is to say that... the chances of success of a peace process increase when moderates prevail over extremists ' (Chinchilla, 2010)

III. Model

We propose a model where the guerrilla wants to maximize its intertemporal utility, where each period the utility is given by an expected value of three scenarios. In the first scenario a peace treaty is signed, violence ceases and the guerrilla participates democratically. In the second one a revolution is achieved and the guerrilla obtains complete control over the country. In these two cases we abstract from the strategies that the guerrilla chooses afterwards in each situation and assign a constant value to each one; let them be U and W , respectively. We assume $U \leq W$, since the best scenario for the guerrilla is to have complete control over the country through the revolution. Finally, in the third scenario, the conflict continues and the same situation is faced in the next period.

The problem to the guerrilla is then to allocate each period its budget B between expenditure on non-violent strategies n and expenditure on violent strategies m . The share n could be interpreted as expenditure on campaigns, advertisement and political parties and

it increases the probability of signing the peace treaty $\pi(n)$, we assume it is a differentiable convex function. On the other hand, we identify the share m with expenditure on military operations, ammunition, terrorist attacks and logistics; it is assumed that it increases the stock of military power M which depreciates at a rate δ . This stock in turn increases the probability of revolution $\theta(M, S)$, which also depends on the government military power S . We assume the following conditions over this function:

$$\theta_M(M, S) > 0, \quad \lim_{M \rightarrow \infty} \theta_M(M, S) = 0, \quad \lim_{M \rightarrow 0} \theta_M(M, S) = \infty$$

$$\theta_{MM}(M, S) < 0, \quad \theta_S(M, S) < 0, \quad \theta_{MS}(M, S) < 0$$

In words, more government power decreases the probability of revolution and the marginal probability of increasing the guerrilla military power. We also assume that the probability is concave on the guerrilla military power to obtain a well behaved solution.

Therefore, the problem to be solved by the guerrilla can be expressed recursively as:

$$V(M) = \max_m \pi(n)U + (1 - \pi(n))[\theta(M, S)W + (1 - \theta(M, S))V(M')]$$

$$\text{subject to } M' = (1 - \delta)M + m, \quad m + n = B$$

The value function satisfies standard conditions, such as existence and uniqueness of the solution, and is bounded as it is shown in the next lemma.

Lemma 1: The value function $V(M)$ exists, is unique and is bounded below by U and above by W .

Proof: Let $C(X)$ be the space of bounded continuous functions $f: X \rightarrow R$ such that $U \leq f(M) \leq W$ for all $M \in X$. Now define the operator T on $C(X)$ as

$$(Tf)(M) = \max_{M'=(1-\delta)M+B-n} \pi(n)U + (1 - \pi(n))[\theta(M, S)W + (1 - \theta(M, S))f(M')]$$

Therefore the problem to be solved is continuous over a compact restriction set, and thus a maximum exists. Since π and θ are bounded and continuous, and the restriction set is compact and continuous, the Theorem of Maximum applies and implies that Tf is also continuous. Finally, note that since $U \leq f(M') \leq W$ then $U \leq Tf(M) \leq W$ since $Tf(M)$ results from a convex combination of U, W and $f(M')$. Hence $T: C(X) \rightarrow C(X)$. Since the problem is monotone in $V(\cdot)$ and is discounted by $(1 - \theta(M, S))$, then it is a contraction and its solution is unique. ■

The lemma states that the maximum outcome a guerrilla can obtain is complete revolution and the minimum is a peace treaty, which could explain why they are so reluctant to

negotiate when they are strong enough. Although the result is very intuitive, it is a key step to obtain the following results. The first derivative with respect to the future stock M' is then given by:

$$\begin{aligned} \frac{\partial V}{\partial M'} = & -\pi_n(n)[U - \theta(M, S)W - (1 - \theta(M, S))V(M')] \\ & + (1 - \pi(n)) \left((1 - \theta(M, S)) \frac{\partial V(M')}{\partial M'} \right) \end{aligned}$$

Where

$$\begin{aligned} \frac{\partial V(M)}{\partial M} = & \pi_n(n)(1 - \delta)[U - \theta(M, S)W - (1 - \theta(M, S))V(M')] \\ & + (1 - \pi(n)) \left(\theta_M(M, S)(W - V(M')) \right) \end{aligned}$$

Therefore, increasing the stock of military power decreases the chances of a current peace treaty and thus increases the current expected value function, and it also changes the value function of the next period. However, note that the future value function is not necessary monotone increasing in M' . On one hand, it increases the probability of a revolution next period. On the other hand, it decreases the need for investing in more military power, thus increasing the probability of having a future peace treaty which has a lower value. However, although we cannot assure the monotonicity of the value function, the value function is concave in M given our assumptions:

$$\begin{aligned} \frac{\partial^2 V(M)}{\partial M^2} = & \pi_{nn}(n)(1 - \delta)[U - \theta(M, S)W - (1 - \theta(M, S))V(M')] \\ & + (2 - \delta)\pi_n\theta_M(V(M') - W) + (1 - \pi(n)) \left(\theta_{MM}(M, S)(W - V(M')) \right) \\ & < 0 \end{aligned}$$

Therefore we know that the sign of the first derivative will change at most one time. If it were to be positive for all M or slightly negative for large M , then the first order condition will be positive for all M' and thus the guerrilla will invest all its budget in military power. This will happen if $\pi_n(n)$ approaches to 0 as n gets closer to 0. In words, the guerrilla will invest all its budget in military power whenever investing a small amount in non-violent strategies does not increase the probability of signing a peace treaty significantly.

Lemma 2: If $\lim_{n \rightarrow 0} \pi_n(n) = 0$ then $m(M) = B$ for all M .

The next lemma states that if the guerrilla values democracy the same as complete revolution, and the depreciation of its military power is higher than the budget they can allocate; then the optimal strategy is to avoid military confrontation and devote all the

resources to sign a peace treaty. This could be the case where the terms of the negotiation are very appealing to the guerrilla, such as forgiveness and ample representation in the government.

Lemma 3: On the other hand, if $U = W$ and $\delta M > B$, then $m = 0$.

Now consider an interior solution where $0 < m < B$. In this case the solution is obtained when the first derivative is equal to zero and therefore it is necessary that $\frac{\partial V(M')}{\partial M'} < 0$. In words, an interior solution is obtained whenever increasing the stock of military power decreases the guerrilla utility since it leaves more room to spend the future budget in non-violent strategies to increase the likelihood of signing a peace treaty. Such condition leads to a maximum since the problem is concave in M' :

$$\begin{aligned} \frac{\partial^2 V}{\partial M'^2} = & \pi_{nn}(n)[U - \theta(M, S)W - (1 - \theta(M, S))V(M')] + 2\pi_n(n)(1 - \theta(M, S))\frac{\partial V(M')}{\partial M'} \\ & + (1 - \pi(n))(1 - \theta(M', S))\frac{\partial^2 V(M')}{\partial M'^2} < 0 \end{aligned}$$

Lemma 4: In an interior solution the chosen military power M' is decreasing in the government power S .

Proof: The cross derivative of the value function is given by

$$\frac{\partial V}{\partial M' \partial S} = \pi_n(n)\theta_S(M, S)[W - V(M')] - (1 - \pi(n))\theta_S(M, S)\frac{\partial V}{\partial M'} < 0$$

Hence, the greater the government power, the less the guerrilla will invest in their military power since it decreases the probability of having a complete revolution. It is also easy to show that the value function is decreasing in S , thus a greater government power decreases its incentives for military confrontation and increases the chances of a peace treaty. ■

IV. Conclusions

The FARC and the Colombian Government are, hopefully, in the final steps of a long negation process. During this process, the FARC has been involved in political activities, supporting civic movements like *Marcha Patriótica*, communicating their views and goals and telling what they call their truth. Additionally, they have collaborated with the army in order to remove antipersonnel mines and reduced their military activity. We claim that, with these actions the FARC “revealed their preferences”. If the final goal of the FARC is an armed revolution then they would have continued fighting and allocating resources on military power. The decision to invest in political activities suggests that the FARC expects to see the return of such investment in the democratic contend.

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