

Sample case study on the solution to syrian conflict

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Introduction

The conflict in Syria has raged on for over three years now with the various warring parties actively sustaining it. It began in early 2011 as a part of the series of demonstrations dubbed as the Arab Spring witnessed globally in a number of Arabic countries. The protests were aimed at the Bashar al-Assad led government that was dubbed as tyrant and retrogressive. After various crackdowns, these demonstrations evolved to deadly armed rebellions (Cole, 2013). The armed conflict pitted various opposition groups namely; Free Syrian Army and the Islamic Front against the Syrian government and its allies such as Hezbollah. The conflict, however, morphed again attracting new opportunists. Groups such as ISIL (Islamic State of Iraq and the Levant) who made rapid inroads into the Syrian territory occupying almost a third of Syria by early 2014. The war has also seen foreign involvement making pundits term it as a proxy war involving major interests.

The war as it stands has led to a great turmoil for the indigenous Syrian populace. The death toll as per this year had risen to 200, 000. It is reported that the Syrian government, Islamic State militants and other opposition forces have participated in gross violation of human rights. Numerous massacres of innocent civilians with even chemical weapons at play. Much of the civilian casualties have been linked to the Bashar-al-Assad's government through its use of aerial bombings of suspected hideouts of opposition forces. The Syrian conflict has been ranked as one the most unfortunate in the recent decade with over 6. 5 million displaced and more than a million seeking refuge in neighboring countries. It is in the light of these problems that many international bodies have initiated peace initiatives to see to it

that calm prevails in this war-torn country. The use of a mathematical approach, the game-theory can offer a key guide towards a peaceful Syria. By using the various outcomes of the different stakeholders in the conflict, solutions can be arrived at for this conflict

Application of the Game Theory

Game theory, as a concept, is used to offer prediction for outcomes and establishing solutions. It at the same time incorporates the “rationality determines risk versus rewards and cost versus benefit scenarios” as a driving force. It appreciates that not all actors are rational and predictable. In order for the theory to take its course there must be three vital elements: the player, action and information in access to the player, and the outcome payoffs (Brightman, 2007). These four elements will be used along a solution concept of choice to establish a set of equilibrium moves for each player such that, when these moves are applied no player can solely benefit from deviating his or her move (Brightman, 2007). The equilibrium moves define an equilibrium to the game- a functional state where a result or a set of results occur with known probability. Most of the cooperative games are brought forward in the basic function form while the normal and extensive forms are used to establish non-cooperative games.

In the Syrian case we will identify the two sets of players who are namely Bashar al-Assad's government and its allies (Iran, Russia etc.) while the other will compose of the opposition forces and rebel supporters (UK, US, France, etc.). Using the Simple Form Games or normal form games, the two teams will strive to receive the highest payoff at the end of making a

simultaneous move or rather Pareto optimality (Durlauf & Blume, 2010). The payoffs will be determined through quantification process conducted by the key stakeholders with vested interests in the game's outcome. The simple form game to be used in arriving the solutions to the Syrian conflict is the Nash Equilibrium. Nash Equilibrium has two major forms: coordination game (stag hunt) and prisoner's dilemma.

In the coordination game, two actors are assumed to desire a ceasefire but equally wish to be perceived strong not backing down but also demanding the other party to back down. The party willing to call the other's bluff ultimately becomes the winner in this case. In order to play the game it's essential to assign each actor a label. The Syrian government and its allies will be A1 while the rebels and their supporters will be A2. The decisions adopted by each party will be indicated by their labels. The first option will be A1 and the second A2

The scenario plays out in a rather simple manner;

- Both A1 and A2 agree to a ceasefire (Nash Equilibrium): This option will ensure that peace prevails and both the parties come to the negotiation table as equal partners with their dignities intact. This is the most preferred equilibrium due to its high payoff for the two parties, the Syrian authorities and its allies, and the rebels and their supporters. It's prudent to note that this quadrant has no link to the actor's Pareto-optimal strategy but rather an arithmetic expression for the point at which one can derive the greatest quantified payoff value (Cole, 2013).
- A1 wins and A2 backs out: A1 continues its insurgence as A2 backs out

thinking that a ceasefire is essential. In the true context, the Syrian government and its allies subdue the rebels who have committed to a ceasefire. The rebels in this case are captured and their territories put under Bashar al-Assad's control. This option as a solution ensures the status quo remains in Syria. The government is firmly place despite the protests and bloodshed experienced due to the conflict in Syria.

- A2 wins and A1 backs out: This quadrant represents the rebel's win in the conflict and the backing down of the Syrian government. This option presents situation where the rebels subdue the government ultimately taking over the running of the public coffers. Peace is achieved but under the rule of a new leadership from the rebel side. The decision to prosecute the Assad administration for atrocities committed solely lies on this new dispensation.

- Both continue with the conflict: This quadrant is dubbed as the Mutually Agreed Destruction (M. A. D) as both the parties refuse to relent in their conflict with one another. The two parties, in this case, enjoy the lowest payoffs at (1, 1). They ultimately lose out as an amicable solution is not found for both the Syrian government and its allies, and the rebels and its supporters.

The coordination game as observed vouches for collective pursuit of similar interests by the two parties in their efforts. Each player pursuing own self-interest leads to the actors being worse off. The coordination game focusses on social cooperation and mutual trust between two parties. It is prudent for the two actors to choose the first option that focusses on a mutual ceasefire. The option offers an amicable solution that ensures the two get enough

utility which translates to a stake in the running of Syria that has massive support from both the internal and external players.

The Prisoners Dilemma

In this case the players reap much benefit when they choose to not cooperate with each other. A Nash Equilibrium is thus achieved when both parties chose to defect from the mutual agreement (Durlauf & Blume, 2010).

In this game the Syrian government and the rebel know each other's counter's strategy in relation to the conflict's solution. There two options in the Prisoner's dilemma " cooperation" and " defecting" (Durlauf & Blume, 2010). If the two actors decide to defect then they will both suffer adverse consequences than they would have achieved mutual cooperation. Mutual cooperation present high payoffs in this game.

- Both cooperate: The Syrian government and the Rebel reach a mutual understanding that peace is paramount for Syria's stability. They both commit to a peace treaty presented by the United Nations and a grand coalition government. The two parties enjoy payoffs whose benefits trickle to all sides.

- A1 defects A2 cooperates: The Syrian government withdraws from the peace treaty knowing too well the rebels are still committed to it. The government enjoys a maximum payoff at 5 which translates to full control of the Syrian borders and territories. International community backlash is expected but the Assad administration for the moment quells the conflict by asserting full control of the country. The other party, the rebels, are betrayed in this case and must tow Assad's commands.

- A2 defects and A1 cooperates: The rebels withdraw from the peace treaty knowing too well the Assad administration has ceded its ground. The rebels in this quadrant enjoy a maximum a payoff of 5 while the Syrian government enjoys a payoff of 0. Under this option, the Assad administration is taken over by the rebels who institute their agenda. The Assad administration leaders are brought to book for their atrocities.
- Both defect: The two parties walk away from the UN convened treaty talks in this option. The two go back to the drawing board analyzing their strategies. Tension is heightened as each party opts for the offensive ready to head back to conflict.

Extensive-form games

The extensive form allows for the incorporation of several aspects such as the sequencing of player strategies, information each player has about the opponent and their choices at every point of decision (Durlauf & Blume, 2010). In this scenario, finite extensive-form games will be applicable which are centered on perfect and imperfect information. In the first category, extensive-form game with perfect and complete information there are several qualities observed;

- The players.
- What each player has the power to do given a move.
- What each information a player knows of a move taken.
- Payoffs for every combination moves.
- For every player every chance they have to move.

In the above figure the Syrian conflict solution is represented in an extensive

form. The first node is occupied by A1 indicating that the Syrian government will move first in taking either action C (Ceasefire) or D (Defiance). A2 follows suit by making a choice dependent on A1's choice. The case scenarios are:

- DD': The two players, Syrian government and the rebels defy the calls for ceasefire. The two gain zero payoffs. Such an outcome means the feasible options of achieving solutions to the conflict have hit a dead end. The two parties have only an option to resort back to exchanging fire.

- DC': The Syrian government refuses to be part of any resolution to the conflict as the rebels agree to a ceasefire. This is a highly unlikely scenario in the ongoing conflict. However, the rebels might opt for this move if they are ultimately out of options or in need to attract the support of key external players such as the United Nations who advocate for peaceful-conflict resolution mechanisms.

- CD': The Assad government (A1) opts for ceasefire as the rebels defy the extended olive branch. This scenario occurs as the rebels' needs might have not been factored in the ceasefire agreement. They may also have thought of outfoxing the Syrian government in order to take the leadership helm in dubious ways. The payoffs in this scenario translates to (1, 2) with the Syrian government enjoying the least payoffs.

- CC': Under this move the Syrian government is the main beneficiary as it retains the status quo as much as the rebels might have a say in the new dispensation. The ceasefire is the best scenario for the Syrian government as compared to other options at its disposal. This move will provide a sober solution or end to the conflict in Syria.

References

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