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Conflict Analysis of Iranian Military-Communications Satellite Launches

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Abstract

This paper analyses the feasibility and potential future of Iran's satellite development project using Graph Model for Conflict Resolution (GMCR). United Nations Security Council (UNSC), The USA and Iranian government were selected as three main decision makers. The list of rank-based preferences was generated for each decision maker based on their priorities and their arguments during various negotiations carried out throughout the history of this conflict. The software called NUAAGMCR was used to find the equilibrium solution of the conflict in the four-basic stability (Nash, GMR, SMR, SEQ). Several various states were selected as feasible outcome. The solutions were purely mathematical and based on the priorities of choices given considering each party's desires from negotiations.

Keywords

Conflict Analysis, GMCR

1. Introduction

On February 1, 2021 Iran launched the "Zol-Jannah" three-staged satellite carrier, which is equipped with a solid-fuel engine. The satellite carrier is capable of carrying satellites weighing up to 220 kilograms in a 500-kilometer orbit. The United States voiced concern about Iran's launch of a satellite-carrying rocket, saying the test could boost missile work at a moment when the two nations are inching back to diplomacy. Simultaneously, the United Nations Security Council (UNSC) remains concerned with Iran's efforts to development space launch vehicles (SLVs), given these programs' ability to advance Iran's ballistic missile development. SLVs pose a significant proliferation concern due to the fact that

SLVs incorporate technologies identical to, and interchangeable with, those used in ballistic missiles, including longer-range systems.

The issue, however, is not limited to the launch vehicle development itself, but also includes the advancement in the communication satellite development that is in progress by Iranian scientists. The main concern of the UNSC is the military component of those communication satellites that are planned to be launched within very short period of time. It is reported that Iran's new communication satellites contain up to 30% of military use. Earlier example of this movement was in April 2020 when the Islamic Revolutionary Guards Corps (IRGC) of Iran launched Iran's first military satellite, dubbed Noor-1, by the domestically-built launcher and placed it into orbit at an altitude of 425 km. Following the satellite's launch, the then US Secretary of State Mike Pompeo said Iran should be held accountable for the launch of a military satellite, referring to UN Security Council resolution 2231.

Annex B, paragraph 3 of the Resolution 2231 (2015) adopted by the United Nations Security Council (UNSC) at its 7488th meeting states that: "Iran is called upon not to undertake any activity related to ballistic missiles designed to be capable of delivering nuclear weapons, including launches using such ballistic missile technology, until the date eight years The Joint Comprehensive Plan of Action (JCPOA) Adoption Day or until the date on which the International Atomic Energy Agency (IAEA) submits a report confirming the Broader Conclusion, whichever is earlier". The United Nations' resolution adopted in 2015 urges Iran to refrain from working on ballistic missiles designed to be capable of delivering nuclear weapons for up to eight years after the JCPOA, an agreement that was signed between Tehran and six world powers to limit its nuclear program.

Iran's Ministry of Communication and Information Technology informed that it would launch five indigenous satellites in cooperation with the Defense Ministry by the end of 2021. The ministry's plan is to carry out 10 projects in the final year of the incumbent administration's term, mainly in the space sector and development of the National Information Network.

It is very crucial to solve the issue or at least cool down the tensions among the parties, yet they have not found common ground. Current US administration is showing compromise, however, not to full extend which is still causing the problems related to military-satellite and SLV development. International community, especially regional parties in Middle East hope to see some improvements in near future and are showing willingness to interact in peace-making negotiations.

2. Conflict's Origins

2.1. United Nations Security Council (UNSC)

On 14 July 2015, China, France, Germany, the Russian Federation, the United Kingdom, the United States of America, with the High Representative of the European Union for Foreign Affairs and Security Policy (E3/EU+3) and Iran agreed

on the JCPOA. On 20 July 2015, the Security Council adopted resolution 2231 (2015), in which, inter alia, it requested the Director General of the International Atomic Energy Agency (IAEA) to "undertake the necessary verification and monitoring of Iran's nuclear-related commitments for the full duration of those commitments under the JCPOA" (GOV/2015/53 and Corr.1, para. 8). In August 2015, the Board of Governors authorized the Director General of the International Atomic Energy Agency to implement the necessary verification and monitoring of Iran's nuclear-related commitments as set out in the JCPOA, and report accordingly, for the full duration of those commitments in light of Security Council resolution 2231 (2015), subject to the availability of funds and consistent with the Agency's standard safeguards practices. The Board of Governors also authorized the Agency to consult and exchange information with the Joint Commission, as set out in GOV/2015/53 and Corr.1.

In December 2016 and January 2017, the IAEA shared with Member States nine documents, developed and endorsed by all participants of the Joint Commission, providing clarifications for the implementation of Iran's nuclear-related measures as set out in the JCPOA for its duration.

On 8 May 2019, Iran issued a statement including, inter alia, that "…in implementation of its rights set forth in Paragraph 26 and 36 of the JCPOA, the Supreme National Security Council [of] the Islamic Republic of Iran has issued an order to stop some of Iran's measures under the JCPOA from today".

On 5 January 2020, Iran announced that its nuclear programme would no longer be "subject to any restrictions in the operational sphere", and in a communication dated 29 January 2021, Iran provided to the UNSC an Explanatory Note on the law passed by Iran's Parliament entitled "Strategic Action Plan to Lift Sanctions and Protect Iranian Nation's Interests". Iran indicated that, according to this law, Iran would take certain measures related to the JCPOA, including stopping the IAEA inspections beyond the Safeguards Agreement.

In a letter dated 11 February 2021, the UNSE and its monitoring organization IAEA informed Ali Akbar Salehi, Vice President and Head of the Atomic Energy Organization of Iran (AEOI), that stopping or limiting the Agency's verification and monitoring activities at this stage would have a serious impact on the Agency's ability to report on the implementation of Iran's commitments and undermine the critical confidence in the peaceful nature of Iran's nuclear programme. He added that without the measures currently provided by the Additional Protocol and the JCPOA being implemented, the Agency may be unable to continue to provide factual reports on Iran's nuclear programme or to recover the knowledge necessary to resume such a verification role in future. The Director General stated his willingness to visit Tehran to discuss the possibility of a viable framework which would allow the Agency to continue its current verification role and to provide factual and impartial reports, which are essential to all parties, and that such a framework would have to be compatible with the obligations of the Government of Iran under the laws of Iran.

2.2. The USA: Recent Actions and Concerns

Earlier in 2021, senior diplomats from Iran and major powers have met online to discuss the state of a nuclear deal that is eroding despite conciliatory signals from United States President-elect Joe Biden. The Joint Comprehensive Plan of Action (JCP0A), commonly known as the Iran nuclear deal, was agreed upon in Vienna on July 14, 2015. But on May 8, 2018, US President Donald Trump unilaterally pulled out of the landmark pact and revived punishing sanctions as part of a "maximum pressure campaign" against Iran. One year later, Iran started abandoning key provisions of the JCPOA. After Iran put its first military satellite into orbit in April, then secretary of state Mike Pompeo vowed repercussions and further sanctions. President Joe Biden's administration, while broadly sharing the previous leadership's concerns about Iran, supports a return to a negotiated solution based on a 2015 nuclear accord negotiated under then—president Barack Obama. The US President Joe Biden has said Tehran must resume compliance with curbs on its nuclear activity under the world powers' 2015 deal before it can re-join the pact formally known as JCPOA.

Earlier this year, Iran resumed enriching uranium to 20 percent at its underground Fordow nuclear plant—a level it achieved before the JCPOA accord. However, Iran has said it can quickly reverse those violations if US sanctions are removed. "If the United States fulfils its obligations, we will fulfil our obligations in full," the foreign minister of Iran, Mr. Zarif said. Current US Secretary of State Antony Blinken rejected Iranian pressure for the US to act first. "Iran is out of compliance on a number of fronts," Blinken told a news conference in Washington, DC. "And it would take some time, should it make the decision to do so, for it to come back into compliance and time for us then to assess whether it was meeting its obligations," Blinken told a news conference. At the moment, although parties are willing to get back to the deal again, they are not willing to demonstrate first mover commitment.

2.3. Iran's Perspective

Early 2021, Iran's foreign ministry has rejected any new negotiations or changes to the participants of Tehran's nuclear deal with world powers, after French President Emmanuel Macron said any new talks should include Saudi Arabia. "The nuclear accord is a multilateral international agreement ratified by UN Security Council Resolution 2231, which is non-negotiable and parties to it are clear and unchangeable," Iranian Foreign Ministry spokesman Saeed Khatibzadeh said. Iran began breaching the deal's limits on uranium enrichment activity after Washington withdrew from the pact in 2018 under then-President Donald Trump and reimposed economic sanctions on Tehran. President Joe Biden's new administration has said it will re-join the deal but only after Tehran resumes full compliance with its terms. But Iran has rejected US demands to reverse its acceleration of the nuclear programme before Washington lifts sanctions on Tehran.

Saudi Arabia and its ally the United Arab Emirates have said that Gulf Arab

states should be involved this time in any talks, which they say should also address Iran's ballistic missile programme and its support for proxies around the Middle East. Saudi Arabia, which is locked in several proxy wars in the region with Tehran including in Yemen, supported Trump's "maximum pressure" campaign against Iran. President Macron stressed the need to avoid what he called the mistake of excluding other

Iranian President Rouhani said the nuclear deal could be restored without negotiations. "The next person [Biden] can put up a nice piece of paper and sign it and it just needs a signature, we'll be back where we were. It takes no time and needs no negotiations". Iran will not accept demands by the United States that it reverses acceleration of its nuclear programme before Washington lifts sanctions, foreign minister Mohammad Javad Zarif said. According to Iran this initiative is not practical and will not happen. Iran breached the terms of the accord in a step-by-step response to the decision by Biden's predecessor Donald Trump to abandon the deal in 2018 and reimpose sanctions on Tehran. However, Iran has said it can quickly reverse those violations if US sanctions are removed. "If the United States fulfils its obligations, we will fulfil our obligations in full," Zarif said.

Iran expects the new occupants of the White House to try to "remove all the stains of the past four years that is if they can be removed". Iran's top diplomats quoted "If they show their honesty in action, toward the laws and the resolution that they voted for and commitments they signed on for, naturally we will also implement all our commitments."

2.4. Expert Opinions

Tehran now can advance both its space program and its nuclear-weapons program. Bear in mind that the very first space-launch vehicle was a version of the very first large, front-line ballistic missile. If we bent the "Zol-Jannah" three-staged satellite carrier's trajectory, aiming for distance rather than height, we could carry a 200 kg warhead as far as 3100 miles; a weaponized SLV could strike targets as far away as China and the United Kingdom. The development adds tension to the already-fraught relations between the United States and Iran.

Experts quote that as the JCPOA unraveled, Iran resumed work on the basic components of a nuclear warhead. Tehran's rockets have advanced in parallel. If Iran ever finishes its nuclear bomb, it already will have a missile capable of delivering it across much of the world.

President Joe Biden already has signaled the United States will re-join the JCPOA. "We would like to make sure that we re-establish some of the parameters and constraints around the program that have fallen away over the course of the past two years," said Jake Sullivan, Biden's national security advisor. But the 2015 agreement mostly covers warheads, extensive development restriction on missiles have not been highlighted. To constrain Iran's SLVs, Biden will need to cut an entirely new deal. A regional approach involving Iran's closest neighbors is wisest, said Kelsey Davenport, a nuclear expert with the Arms Control Associ-

ation in Washington, D.C. Once the [2015] deal is restored, Biden should pursue a longer-term nuclear framework and support a security dialogue that is led by states in the region. It makes more sense to pursue missile limitations within that latter set of issues because Iran's missiles are a regional threat. There are a number of restrictions that could be explored, including limits on range, fuel type, or number of launchers.

3. Conflict Modeling of Iranian Satellite launches

3.1. Decision Makers and Options

From the description of the conflict background, it can be seen that the conflict of Iranian military-communications satellite launches mainly includes three decision makers: UNSC (DM1), USA (DM2) and IRAN (DM3). Strategies decision makers could take as follows.

UNSC has two strategies to choose:

1) Ban, the UNSC is the branch of the United Nations charged with maintenance of international peace and security. It has the power to issue some resolutions. Continue the JCPOA protocol which requires Iran no ballistic missile is a good strategy for UNSC.

2) Report Request, ban is a strict missile control order, it may lead Iran strongly strikes back which makes current situation worse. So, UNSC could take lose control order, that is report request on missile development of Iran.

USA has three strategies to choose:

3) Restore JCPOA, the United States remains concerned with Iran's effort to development space launch vehicles, President Joe Biden's administration, while broadly sharing the previous leadership's concerns about Iran, supports a return to a negotiated solution-JCPOA based on a 2015 nuclear accord negotiated under then-president Barack Obama.

4) More sanctions, if Iran continue military satellite launches, USA could give more sanctions to Iran, which may deter Iran and prevent it from launching military satellite without worry economics.

5) Military Action, if Iran continue missile satellite launches without afraid of sanctions, it may make current situation worse; USA is likely to take military action against Iran.

IRAN has three strategies to choose:

6) Disobey, Iran's ministry of communication and information technology hopes to launch five indigenous satellites in cooperation with the defense ministry by the end of 2021. So, Iran is possible to disobey the JCPOA protocol and continue its military launch.

7) Report, Iran can cooperate with UNSC, report its missile development to UNSC.

8) Escalation, if USA takes military actions, Iran will strike back to America's sanctions, it can insist on military launches, leave the risk escalation of the conflict to warfare.

3.2. Feasible States

In the conflict of Iranian military-communications satellite launches, the three decision makers have 8 strategies totally. Each strategy has two shapes, "Y" means the decision maker take this strategy and "N" means the decision maker doesn't take it. Each decision maker chooses a strategy, and all strategy combinations belong to a state. So according to combinations, it has states. But not all states are available from logical perspective by Fang, Hipel, & Kilgour (1993), Fraser & Hipel (1984). In NUAAGMCR, these infeasible states are eliminated by using option constraints as pointed out by Hipel, Kilgour, Fang, & Peng (1997). Each constraint is now briefly described.

1) Mutually exclusive: A set of options from which at most only one may be selected. For example, the UNSC cannot both require Iran no ballistic missile and request Iran to report missile development.

2) At least one: A set of specified options from which at least one must be selected. For example, in our model USA will select at least one option from the three under its control.

3) Necessary conditions: A condition for selection, or not, of one or more options. For instance, USA will not give more sanctions or take military actions to Iran if Iran report to UNSC.

So, eliminate all illogical states, there are 13 feasible states left shown in Table 1.

Each state or column in this table represents a possible scenario of the conflict. State 4, for example, indicates the current situation in which UNSC request Iran to report missile development, but Iran disobey the protocol JCPOA, it continues military satellite launches, USA gives more sanctions to Iran.

3.3. States Transition

An DM model developed based on the DM integrative model through group

Table 1. Feasible state.

DM	Options	Feasible states												
		S_1	S_2	S_3	S_4	S_5	S_6	S_7	S_8	S_9	S_{10}	S_{11}	S_{12}	S_{13}
DM1	1. Ban	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
	2. Report request	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N
DM2	3. Restore	N	N	N	N	Y	Y	N	N	N	N	Y	Y	Y
	4. Sanction	N	N	Y	Y	N	N	N	N	Y	Y	N	N	N
	5. Military Action	Y	Y	N	N	N	N	Y	Y	N	N	N	N	N
DM3	6. Disobey	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	Y
	7. Report	N	N	N	N	Y	N	N	N	N	N	N	Y	N
	8. Escalation	Y	N	Y	N	N	N	Y	N	Y	N	Y	N	N

discussions during the workshop (Figure 1). This model describes the possible movements for each DM; it may follow to engage in the DM process in a manner adapted to the conflict context.

For example, UNSC can move from state 9 to state 3 unilaterally. Notice from Table 1 that this is indeed a unilateral move by UNSC because the option choices by the other two DMs are the same at both states. When moving from state 9 to 3, UNSC requests Iran to report missile development.

3.4. Preference Information

In the conflict graph model, the number of strategies is far less than the number of states, and the strategy priority ranking method is to rank state preferences from the strategy level, so it is more convenient and effective than the other two preference ranking methods. Therefore, this article adopts the strategy priority ranking method to obtain the preference information of each decision maker. According to the actual background of Iranian satellite launches conflict problem, the preference statement of each decision maker can be analyzed, as shown in Table 2.

For example, state ranking for UNSC is based upon the following statements, from most to least important. 1) If UNSC wants continue the protocol JCPOA, UNSC doesn't want Iran to continue launching military satellite. 2) UNSC hopes Iran agree to continue report to UNSC if request for report on missile development is submitted. 3) UNSC strongly opposes the escalation of the situation. 4) UNSC doesn't want USA take military action. 5) UNSC wants USA support to restore JCPOA.

For the preference ranking of decision makers, the strategy priority ranking is adopted. By inputting the strategy statement into NUAAGMCR, the preference
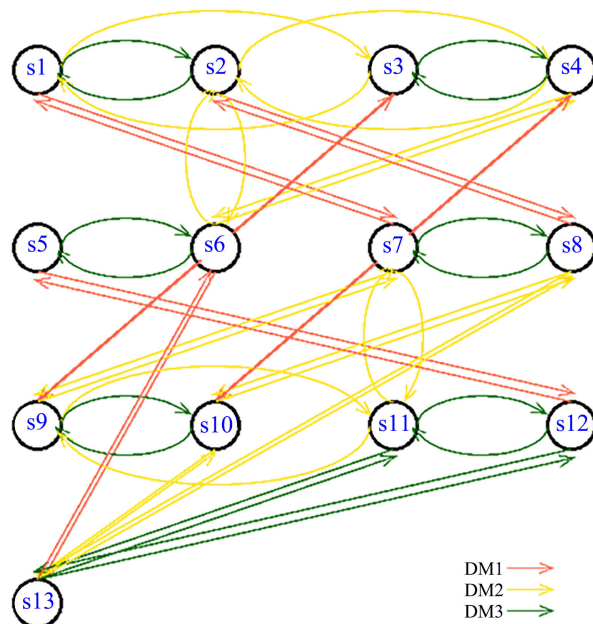

Figure 1. Illustrates all possible movements for each DM.

Table 2. Preference statement.

DM	Preference Statement	Explanation
DM1	−6 if 1	UNSC doesn't want Iran to continue launching Military Satellite
		UNSC wants JCPOA Annex B paragraph 3: No missile 2015-2023 to continue
	7 if 2	Hope Iran agrees to continue report to UNSC if Request for report on Missile development is submitted
	−8	UNSC strongly opposes the escalation of the situation
	−5	No military action by the USA
	3	Wants US support to restore JCPOA
DM2	−6	USA doesn't want Iran to continue launching Military Satellite
	1|3	USA believes having No Ballistic Missile (JCPOA) and Restore JCPOA
	7	US wants Iran to report MD to UNSC regularly
	4 if 6	Give more sanctions if Iran continues military launch
DM3	−4	Iran doesn't want sanctions by US (trump forced Iran to develop MD Satellite by giving more sanctions)
	6 if 4	Continue Military Launch
	−1|− 3	Doesn't want to restore JCPOA Annex B: paragraph 3 BMD
	7 if 2	Report the current MD if request by UNSC is summited
	8 if 5	Escalation if Military Action is taken

order of each decision maker is obtained, as shown in Table 3.

Table 3 represents the ordering of states for each of the 3 DMs from most preferred on the left to least preferred on the right. ">" means that the decision maker's preference for the former is better than the preference for the latter, and "~" means that the two have equal degrees of preference.

For instance, state 5 and state 12 is the most preferred and state 8 is the least preferred for UNSC. State 5 and state 12 is equally preferred for UNSC, UNSC prefers state 12 than state 11.

4. Conflict Analysis of Iranian Satellite Launches

4.1. Stability Analysis

A stable state is a state from which a DM has no incentive to move. An equilibrium is a state that is stable for all DMs. The stability of states for DMs is defined by various solution concepts, or stability definitions. Nash stability reflects a DM who thinks only one step ahead as emphasized by Nash (1950). In general, meta rationality (GMR) according to Howard (1971), and sequential stability (SEQ) as stated by Fraser & Hipel (1984), a DM considers exactly two steps ahead; whereas in symmetric meta rationality (SMR) with Howard (1971), the

DM takes into account three steps by assessing available escapes from sanctions that may be imposed by the opponents. More far-sighted solution concepts include limited move and nonmyopic (Fang, Hipel, & Kilgour, 1993). Since different stability definitions may be appropriate for different DMs, states that are stable under many definitions are considered to be firm. Consideration of more solution concepts for each DM ensures robust predictions.

Use NUAAGMCR to find the equilibrium solution of the conflict in the four-basic stability (Nash, GMR, SMR, SEQ), as shown in **Table 4**. "√" in the table indicates that a certain decision maker is stable in a certain state under a certain stability, and "E" is the abbreviation of Equilibrium (equilibrium solution), which means that a certain state is stable to all decision makers under a certain stability. The corresponding position is marked with "*".

For example, S_1 is not stable for DM1 but it's stable for DM2 and DM3. An equilibrium is a state which is stable for all DMs. So, S_1 is not an equilibrium because S_1 is not stable for DM1. There are four kinds of stabilities including Nash,

Table 3. Preference ranking.

DM	Preference ranking
DM1	$S_5 \sim S_{12} \succ S_{11} \succ S_9 \succ S_7 \succ S_6 \succ S_4 \succ S_2 \succ S_3 \succ S_1 \succ S_{13} \succ S_{10} \succ S_8$
DM2	$S_5 \sim S_{12} \succ S_7 \sim S_9 \sim S_{11} \succ S_1 \sim S_3 \succ S_{10} \succ S_6 \sim S_8 \sim S_{13} \succ S_4 \succ S_2$
DM3	$S_5 \sim S_7 \succ S_8 \succ S_1 \sim S_6 \succ S_2 \succ S_{11} \sim S_{12} \sim S_{13} \succ S_{10} \succ S_4 \succ S_9 \succ S_3$

Table 4. Results of stability analysis.

State	Nash				GMR				SMR				SEQ			
	DM1	DM2	DM3	Eq	DM1	DM2	DM3	Eq	DM1	DM2	DM3	Eq	DM1	DM2	DM3	Eq
S_1		√	√		√	√	√	*	√	√			√	√		
S_2	√				√		√		√		√		√			
S_3		√			√	√				√			√	√		
S_4	√		√		√		√		√		√		√		√	
S_5	√	√	√	*	√	√	√	*	√	√	√	*	√	√	√	*
S_6	√	√			√	√	√	*	√	√	√	*	√	√		
S_7	√	√	√	*	√	√	√	*	√	√	√	*	√	√	√	*
S_8					√	√			√	√			√			
S_9	√	√			√	√			√	√			√	√		
S_{10}		√	√		√	√			√	√			√	√		
S_{11}	√	√	√	*	√	√	√	*	√	√	√	*	√	√	√	*
S_{12}	√	√	√	*	√	√	√	*	√	√	√	*	√	√	√	*
S_{13}		√			√	√			√	√			√	√		

GMR, SMR and SEQ. If all decision makers achieve four stabilities in a certain state, the state is a strong equilibrium that is the potential outcome of the conflict. So, we can see, there are four strong equilibria: S_5, S_7, S_{11} and S_{12}.

Table 5 lists four strong equilibria which include each decision maker's option and occur probability of the state. In state 5, UNSC request Iran to report missile development, USA restores JCPOA and Iran chooses report to UNSC, the occur probability of state 5 is very high. In state 7, UNSC require Iran no ballistic missile, USA takes military action and Iran decides to make current situation worse, that is escalation. In state 11, UNSC require Iran no ballistic missile, USA restores JCPOA and Iran chooses escalation. Because all decision makers don't want to see current situation be worsen, so the occur probability of state 7 and state 11 is low. In state 12, UNSC require Iran no ballistic missile, USA restores JCPOA and Iran chooses report to UNSC, the occur probability of state 12 is high.

4.2. Evolution Analysis

Table 6 illustrates how the conflict may evolve from the current situation to the most likely equilibrium.

As can be seen in Table 6, UNSC can unilaterally cause the status quo state to change to equilibrium. The current situation in which UNSC request Iran to report missile development, but Iran disobey the protocol JCPOA, it continues

Table 5. Equilibriums.

State	DM1	DM2	DM3	Occur probability
S_5	Report request	Restore	Report	very high
S_7	Ban	Military action	Escalation	very low
S_{11}	Ban	Restore	Escalation	low
S_{12}	Ban	Restore	Report	high

Table 6. Results of evolution analysis.

DM	Options	Status Quo	Transition State		Equilibrium	
		S_4	S_2	S_6	S_5	S_{12}
DM1	1. Ban	0	0	0	0 $\longrightarrow$	1
	2. Report request	1	1	1	1	0
DM2	3. Restore	0	0 $\longrightarrow$	1	1	1
	4. Sanction	1	0	0	0	0
	5. Military action	0 $\longrightarrow$	1	0	0	0
DM3	6. Disobey	1	1	1	0	0
	7. Report	0	0	0 $\longrightarrow$	1	1
	8. Escalation	0	0	0	0	0

military satellite launches, USA gives more sanctions to Iran. When USA changes its option from giving Iran more sanctions to taking military action, this conflict will move from status quo-state 4 to transition state-state 2. If USA continue change its option from taking military action to restoring JCPOA, this conflict will move from state 2 to state 6. When Iran changes its option from disobeying JCPOA to reporting missile development, this conflict will move from transition state-state 6 to equilibrium-state 5. Also, when UNSC change from requesting report to ban, this conflict will move to another equilibrium-state 12.

5. Conclusion

After broad analysis and consideration of all parties and their set of goals from negotiations, we have come up with several alternative solutions, as demonstrated on state 5, 7, 11 and 12. The solutions are purely mathematical and based on the priorities of choices given considering each party's desires from negotiations.

Taking the current progress into account, it's deemed that two solutions namely state 7 and 11 are not feasible. The outcome of state 7 highlights that there will be military action by the US and Iran will take the escalation measures. The occurrence of this result is very low due to the fact that administrations of both countries are not eager to escalate the current ongoing tensions, but are willing to negotiate the deals proposed. The occurrence of state 11 is unreasonable because if UNSC restores the 2015 agreement and the US re-joins the deal, Iran most probably will not escalate the military actions in the Middle East and refrain from further developing its missiles and military satellites.

The probability of state 5 is very high since it is to everyone's best interest to resume the 2015 agreement. All three concerned parties and other interested states like Arab countries and Israel in the region would highly approve the resumption of JCPOA and will relatively be pleased if Iran continues following the nuclear development restrictions outlined on the 2015 deal. The occurrence of state 12 is feasible but not as high as the state 5 for the reason that if the US and Iran negotiate the agreement, UNSC will not ban Iran from developing any nuclear related technologies as it wishes to restrict the military development, but does not oppose the nuclear development for peaceful reasons like supplying decent energy through nuclear power plant to Iranian population.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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