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# Coercive Counter-Proliferation and Escalation: Assessing the Iran Military Option

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## INTRODUCTION

Iran provides a crucial case demonstrating the limits of preventive anti-proliferation policies. Although Iran is a regional power, it exists outside any major alliance structure and should therefore be coercible by the reigning superpower. US President George Bush's outline of the National Strategy to Combat Weapons of Mass Destruction (WMD) has focused closely on Iran since the February 2003 discovery of the extent of its nuclear infrastructure.[2] Although both nations have a stated preference for a negotiated settlement, the prospects are not encouraging. Not only do both sides fundamentally differ on Iran's right to enrich uranium, but conditions for negotiating are becoming more difficult.

President Bush insists that a military option has not been ruled out and there is a Congressional belief that if Iran is intent on acquiring nuclear weapons, only military action could stop it.[3] Consequently, a variety of military plans has been leaked from the Pentagon over the last two years, the most recent in August of 2005.[4] The purpose of this discussion is therefore to examine the military feasibility and immediate political consequences of US preventative operations against Iran. The goal is to clearly delineate the conventional military landscape that is the backdrop for continuing US–Iranian negotiations.

Military operations against Iran would be problematic. While the surgical destruction of Iran's known nuclear infrastructure may be attainable, Iran has escalation dominance because of its ability to exacerbate instability in neighboring countries and to block oil exports from the Persian Gulf, and because the US does not have sufficient ground forces to effect a stable regime change should that become necessary. The discussion begins by examining Iranian defensive strategies and capabilities, and then moves on to explore US policy options and their possible outcomes. The discussion will be modular. Each individual operation will be isolated for the purpose of comparison, and arranged longitudinally in the order in which escalation would likely bring each operation about.

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## IRANIAN STRATEGY

The discussion will examine four aspects of Iranian defensive strategy: pre-emption, defense, attrition and compellance. Iran is already pursuing a policy of deterrence, which in effect is signaling that military action against Iran would cost far more than it is worth. Even moderate Iranian leaders such as Muhammad Khatami have made public statements promising that any American attack would be met with ferocious resistance.[5] However, since the purpose of this discussion is to explore the outcome of US military action, Iran's deterrent strategy will not be lingered on.

### Pre-emption

Iran is unlikely to benefit much from a pre-emptive military attack because those assets that suffer from a use-it-or-lose-it dilemma, such as its air force and missile-armed surface fleet, are sufficiently monitored to limit the effects of any surprise attack. The SCUD and M-7 launchers are mobile and would thus escape destruction if struck first. Also, its air force, navy and army would compare unfavorably against a US defense. Iran may attempt to pre-empt an attack politically, however, by trying to create political crises in vulnerable areas such as Iraq, Afghanistan and the Palestinian territories.

### Defense

Iran has always faced the dilemma of whether to deploy its forces forward to the border, or in-depth. Though Iran's population is largely in the interior, its key oilfields are located on its periphery, as are most of its non-Persian minorities that make up a bare majority of Iran's population. The logic of forward deployment also makes for good deterrence, as the successful dissuasion of a British intervention in Khuzistan showed in 1951 (though the same deployment led to defeat in 1941).[6] In the 1960s, Iran's armed forces were forward deployed opposite Soviet Azerbaijan, and then forward deployed opposite Iraq in 1971 when threats emerged to Khuzistan.[7] Although there are signs that Iran is reorientating to a defense in depth, it can be assumed that at least initially the Iranian army would deploy forward, and then withdraw to the interior, perhaps once Bandar Abbas and Khuzistan have been lost.[8] It has also been rumored that installations have been prepared in Mashad, which would allow the government also to withdraw farther from American forces approaching from Iraq.[9]

There are thus two principal corps deployment areas: around Hamadan extending to the Iraqi border, and within Khuzistan. A third corps is deployed at Kerman and is responsible for the defense of Bandar Abbas, and a fourth corps is deployed at Mashad near the Afghan border. Iran is likely to deploy two armored and two infantry divisions in Khuzistan, two armored and two infantry divisions along the Iraqi border as deep as Hamadan (where an exercise was conducted in December 2004 involving 120,000 troops), an infantry division in Iranian Azerbaijan, and an infantry division near Bandar Abbas.[10] The Pasdaran (Islamic Revolutionary Guard) is estimated to have deployed one division-equivalent near each of Mashad, Tabriz, Tehran, Qum, Kerman and Esfahan, and a brigade-equivalent of marines on the islands in the Straits of Hormuz.[11] The Basij (Popular Militia) is estimated to mobilize fewer than 100,000 combatants (10 percent of their pool of one million), and these would be deployed in urban areas from which they are drawn.[12]

Iran's numerous armored, artillery and helicopter systems are technically obsolete relative to US forces and poorly organized, and due to a lack of effective air defense would encounter difficulty operating against US battlefield air interdiction.[13] Most of the veterans of the Iran–Iraq war are retired.[14] Though motivated to fight against US occupation, their outdated equipment, poor doctrine (no combined arms co-ordination) and unrealistic training (being mainly a conscript force) indicate that they would suffer a high ratio of losses compared to the US.[15]

**Attrition**

In the event that a military attack cannot be repelled, a longer-term strategy of attrition is likely to be adopted wherein the US would be forced to abandon any plans for a prolonged occupation in the face of unacceptable losses. Although Iran possesses chemical weapons, it is doubtful that they would be used against either US forces or their allies (especially Israel), because it can be assumed that Iran believes that the US would retaliate with theater nuclear weapons.[16] Nor is it likely that Iran's view of occupation is so apocalyptic that it would motivate a last gasp chemical weapons attack.[17] Instead, Iranian regulars would probably withdraw and fight an Iraqi-style insurgent campaign against US occupation forces or an installed successor regime. The main vehicle for this would be the Pasdaran along with locally organized units of the Basij. These would be joined by members of the Law Enforcement Forces (LEF) and the Ministry of Intelligence and Security (MOIS), perhaps numbering 45,000 to 60,000 personnel.[18] It would be difficult for the US to put together sufficient ground troops to occupy all of the cities of Iran, most of which are located in the interior amidst the Elbruz and Zagros mountains, and ensure a stable political transition to a new regime.

**Compellance**

In addition to adopting a strategy of attrition, Iran would attempt to compel the US to withdraw through a policy of coercive punishment. Iran could use its ballistic missiles to strike out at US bases in the region as well as American allies. Iran could use the Pasdaran, and its connections to radical Islamic groups, to disrupt the stability of its neighbors. More worrisome is the possibility of its attempting to close the Straits of Hormuz.

Iran is estimated to possess approximately 300 SCUD missiles of various types, with 12 to 18 launchers. While Iran's Shahab-I (SCUD-B) and Zelzal (CSS-8) missiles have no useful strategic targets, except the remote chance of hitting US staging areas in Iraq and Azerbaijan, the Shahab-II (SCUD-C) would be able to reach the main population centers of the Gulf Arab states, Iraq, Herat and Qandahar in Afghanistan, and Baku in Azerbaijan. Iran may also possess as many as six Shahab-IIIs, which in theory would be capable of striking Israel.[19] All of the missile artillery groups are under the command of the diffuse and more ideological leadership of the Pasdaran.[20] However, conventional missile strikes are unlikely to convince neighboring states to restrain the US.[21]

Iran could also look to export instability to other states in the region. In particular, it could play a spoiler role in the political reconstructions of Iraq, Afghanistan or the Palestinian–Israeli peace process. For example, Iran might provide support to Muqtada al-Sadr, who may use violence to leverage a higher political profile within Iraq.[22] Iran

could also promote instability among the Shi'a populations of Kuwait, Bahrain and the oil-rich Al-Hasa province of Saudi Arabia.

Finally, Iran could also try to destabilize the export of oil. Iran has concentrated significant maritime assets in the Persian Gulf's choke point, the Straits of Hormuz. Iran controls the northern shore of the Persian Gulf and a number of islands close to the Straits, and is equipped with CSS-801/802 and 50 to 60 CSSC-3 (HY2) anti-ship missiles, three Russian-type Kilo diesel-powered submarines, 40 Swedish Boghammar speedboats, at least 2,000 mines, a coastal missile-armed navy, and fixed and rotary wing aircraft able to interdict the passage of oil. A sustained effort on the part of Iran could bring trans-shipments to a standstill, severely shocking the world economy, particularly in Europe and Asia.

## US MILITARY OPERATIONS

### Available US forces

In the worst case scenario, the US would need nearly nine divisions for one month of fighting, followed by years of occupation. Accomplishing all of the operations simultaneously would bring the US beyond its unit rotation schedule-capacity and impose a severe strain on serving military personnel and their families. The proposed deployments are as follows: one division to Azerbaijan (4th Mech), one Marine Expeditionary Brigade (MEB) to the Arabian Sea, four divisions for the push to Tehran (3rd Mech, 101st AA, 1st Arm, 1st Mech Div, III Corps HQ), two divisions for the push into Khuzistan (1st Cav Div, 509th AB Regt, 11th ACR, 1st Bde (10th Mtn), V Corps HQ), and one brigade from Afghanistan (3rd ACR). It is also assumed that designated units of the Army National Guard (ANG) would be deployed to provide frontier security in the event of an Iranian counter-attack. Strategic reserves would consist of the 173rd AB Brigade in Italy, and the 82nd AB Division and 2nd ACR in CONUS, and the 2nd and 3rd Marine Divisions. Forces in South Korea would remain unchanged.

It is assumed that a liberal one-for-two replacement ratio is in place, so that two ANG units of equivalent size in some form of rotation are required to replace each single regular line brigade redeployed for the attack on Iran. Thus, the estimate is of a divisional withdrawal from Bosnia/Kosovo (38th Infantry ANG Division), and much of the garrison in Germany, as well as the reallocation of two ANG Divisions to Afghanistan (42nd and 36th Infantry Divisions), one regular force brigade (172nd Light Infantry Brigade), three ANG divisions (28th Infantry, 29th Light Infantry, 38th Infantry) and nine ANG brigades in garrisoning duties in Iraq (32nd, 38th, 41st, 45th, 48th, 92nd Infantry Bdes, 29th Light Infantry, and 31st and 115th Armored). In effect, operations in Iraq and Bosnia would fall entirely to ANG units.[23]

From a doctrinal standpoint the US forces are well balanced in terms of combined arms tactics, flexibility in artillery and rotary and fixed-wing air support, responsiveness to reconnaissance, and logistical efficiency. They would out-maneuver Iranian defenders and inflict high attrition levels on those they engage.[24] It is, therefore, improbable that US forces would suffer any military surprises, even from Iranian com-

parative advantages such as light anti-tank missiles and artillery dug in along the mountainous avenues of advance, or fighting in built-up areas.

Six modular operations are considered in the order in which they would probably unfold in the event that a US air strike provokes Iranian escalation: surgical strikes, seizure of the Straits of Hormuz, and the respective conquests of Khuzistan, Tehran, Iranian Azerbaijan and Mashad. Deployment for an air operation may take a few weeks, and for a land invasion from Iraq no less than three months. The probability of each subsequent operation happening shrinks as both parties anticipate the consequences of losing escalatory control.

**Map 1: Political map of Iran**


*1. Surgical strikes against nuclear facilities*

Given a limited US political aim of removing Iran's ability to develop nuclear weapons, conducting surgical strikes would be the principal operation. US aircraft would be deployed through intermediary bases in Turkey, Saudi Arabia, Diego Garcia, Guam, with overflight over Turkmenistan, Pakistan, Georgia, Uzbekistan, and operating out of Oman, Bahrain, Qatar, Kuwait, Iraq, Afghanistan, Azerbaijan and continental United States (CONUS). It is doubtful that the Gulf Arab states would deny US access, despite claims to the contrary from the region.[25] In any case, the US has sufficient airbases in Iraq to compensate for restrictions by the Arab Gulf states.

Based on records from 1991, it is proposed that the US would deploy 90 F-15Cs, 90 F-15Es, 300 F-16Cs, 150 A-10s, with KC-135s, F-22s, F-117s, B-2As, B-1Bs, B-52Hs in support, and a dozen E-8Cs and E-3Bs for command and control, cruise

missiles and special deep penetration ordnance, plus the aircraft from four carrier groups deployed in the Arabian Sea.[26] Under ideal circumstances, a US Air Wing (approximately 45 aircraft) could hit 200 targets per day in 1991, and 700 targets per day in 2003 due to precision munitions.[27] Thus, assuming 50 percent of US theater ground attack aircraft (45 F-15Es) could be committed to the anti-proliferation role, 25 sites with ten designated ground zeros per (250 DGZs), requiring three return strikes, and US aircraft perform at 30 percent efficiency, all of the known Iranian nuclear targets would be destroyed in four days.[28]

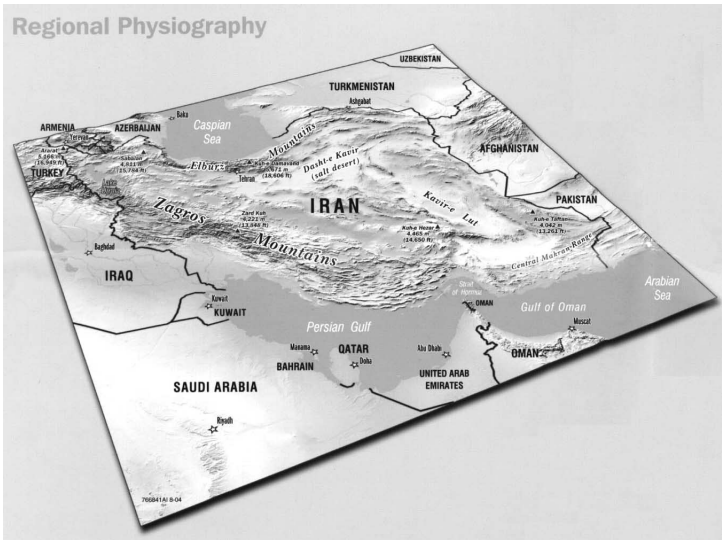
Iran has a total of 225 fighter-capable aircraft, mainly F-4s, F-5s, F-1s, MiG-29s, Su-20s, and F-7s, which are likely to achieve a sortie rate of one sortie per aircraft per day, based on levels achieved in the last year of the Iran–Iraq War. The Iranian air force has a limited interception capability based on its F-14 radars, and can only provide close ground support to fixed defenders. Iranian pilot quality is thought to be poor (though superior to that of Iraqis), though its maintenance crews are proficient.[29] Iran also has a variety of surface-to-air missiles, though limited numbers of launchers and weak command control are expected to undermine their effectiveness against US aircraft.[30]

The operation would begin with US and allied aircraft securing the air space over Iran with limited air superiority missions targeted at Iran's most threatening airfields and point air defense sites, perhaps lasting two to four days, and then a sustained slow-paced series of strikes against proliferation targets. Iran's air units are concentrated at ten principal airbases across mostly Western and Southern Iran. Airbases on the periphery (less than 100 km within Iran) at Bushehr, Umidiyeh, Bandar Abbas, Chah Behar, Vahdati and Tabriz, which contain 15 squadrons of combat aircraft, would probably be knocked out early. The remaining six combat squadrons deployed at Mehrabad, Shahroki, Tadayon and Khatami would be suppressed.[31]

Surgical strikes are expected to inflict heavy costs on Iran's large-scale nuclear infrastructure, but battle damage assessment would be as hard as it was during Operation Desert Fox in 1998.[32] Exposed research labs, such as at Sharif University in Tehran, the Bonab and Ram research centers, large-scale facilities under construction such as the $UF_4/UF_6$ conversion plants at Esfahan and Shiraz, the Darkhovin fuel enrichment facility, uranium mines at Yazd, Gchine and Talmessi, and actual and prospective reactors, such as those at Arak, Esfahan and Bushehr, would be destroyed within a week.[33] Smaller-scale uranium enrichment techniques such as Iran's operating ultra-centrifuge assembly at Nantaz would be difficult to detect because they require as little as 50–60 kilowatt hours per SWU, which is between 2 and 10 percent of the energy required by the most common method of gaseous diffusion, or the electromagnetic isotope separation technique tested in Esfahan.[34]

Given the degree of nationalism among Iran's political élite, there would be domestic pressure on the government to react. Iran's nuclear program has become a nationalist symbol bringing the regime support even from some of its critics.[35] Therefore, Iran would likely retaliate, perhaps striking at US assets in neighboring countries or taking steps to close the Straits of Hormuz.

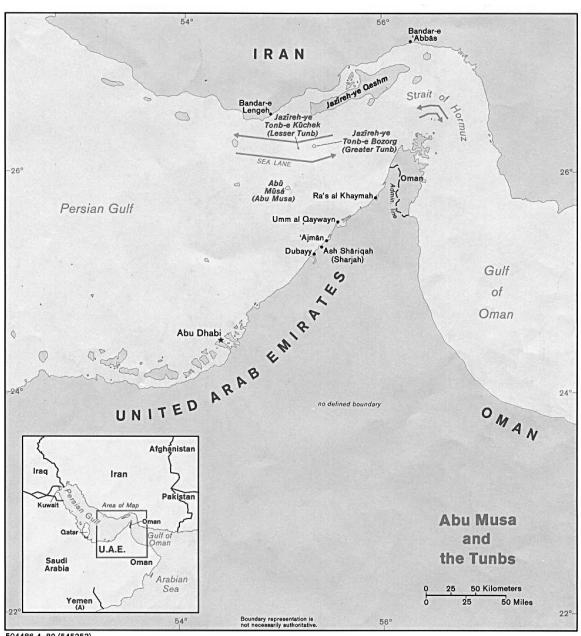
**Map 2: Relief map of Iran**




*2. Straits of Hormuz*

Forty percent of the world's oil exports pass through the Straits of Hormuz loaded on tanker ships. After the fall of the Shah in 1979, the Carter Doctrine declared that the US would unilaterally and militarily ensure the free flow of oil from the Persian Gulf. Washington believes it very likely that Iran would close the Straits in the event of a war, but is also very confident that it could promptly clear any Iranian blockade.[36]

**Map 3: Straits of Hormuz**



US reaction to an Iranian attack on shipping would consist of three sets of tasks. The first task would involve destroying the Iranian Navy (as it did in April of 1988), hunting the submarines, interdicting the speedboats, de-mining the straits and destroying the various minelaying vessels, including two Hejaz Tank Landing Ships (LSTs).[37] Second, US amphibious battalions and companies would seize the islands, destroying the Silkworm bases as there is no evidence that bombardment alone has ever destroyed a land-based Iranian anti-ship missile.[38] Third, if Iran manages to persist with land-based speedboat and anti-ship missile intervention, the US would be required to land at the port of Bandar Abbas and then clear the coast and advance inland about 30 kilometers to secure a defensible perimeter.[39] Long-term occupation of the Iranian province of Hormozgan is simplified by its small population of only 1.32 million.[40]

All three tasks, if supported by at least a single Marine Expeditionary Brigade and a substantial littoral attack flotilla, could be attained in about three weeks. Sinking Iran's three Alvand missile-armed frigates and five missile-armed Kaman fast attack craft would probably occur in port during the opening hours of an attack. Destroying the Kilo submarines would be more time-consuming. Mines would inflict the greatest damage on shipping.

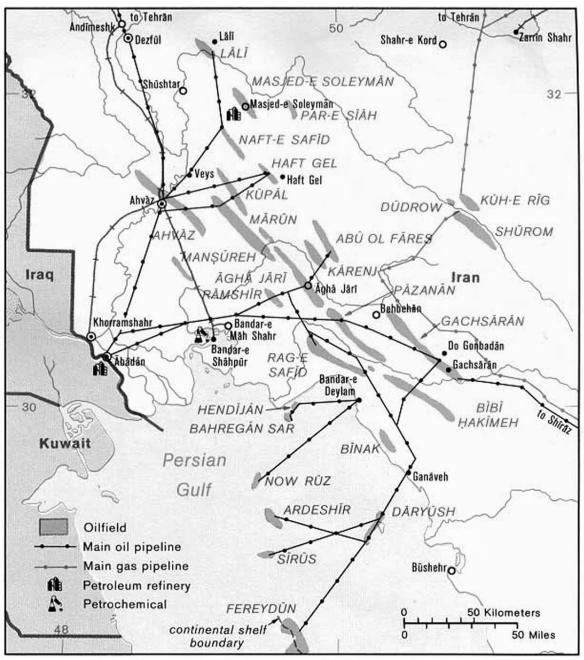
In terms of garnering international support, seizure of the Straits of Hormuz is a double-edged sword. A blockade of Iranian oil exports, some 5.5 percent of world production (about half of Saudi Arabia's production) would produce a substantial shock to the world economy as well as Iran's domestic revenue. Consequently, the principle of Iranian resistance is to inflict costs on the US and its regional supporters by provoking an anti-US response from major powers dependent on oil (such as Japan, China and India), and the European powers (especially France, Germany and Italy).[41] But an Iranian closure of the Straits may provoke a backlash, leading to international support for the US. Therefore, Iran would likely harass rather than completely blockade the Straits.

*3. Khuzistan*

Forty to fifty percent of Iran's budget, 10 to 20 percent of its GDP, is obtained from oil revenues. At least 55 percent of Iran's oil comes from Khuzestan, or 76 percent if one counts nearby onshore fields in Ilam, Fars and Bushehr districts. This proportion increases to over 96 percent if offshore oil piped to neighboring Bushehr is included.[42] Aside from the Shatt-al Arab and peripheral marshland, Khuzistan is without mountains and is nearly defenseless.

Historically, Khuzistan's population has been predominantly Arab. However, generations of non-Arab migration have diluted Khuzistan's ethnic make-up. Now, only two million Arabs remain out of a population of 3.7 million.[43] In 1980, they provided little help to Saddam Hussein, but recent and historical Arab agitation suggests that there may be some local support for an invasion.[44] Strategically, Khuzistan is Iran's Achilles heel. It is estimated that Iran would garrison the region with four regular divisions. The US would require about two divisions and two weeks to seize Khuzistan, including the cities of Abadan and Ahvaz. US forces would also have to drive 200 kilometers east to seize the Bushehr coast and Kharg Island. This would put about five million people under US occupation.

**Map 4: Major Iranian oilfields**




*4. Tehran*

Regime change has three components: advance to Tehran, seizure of the city, and installation of a friendly government. The seizure of Tehran requires a narrow thrust from Iraq, through the passes of the Zagros mountains. This is not the shortest route to Tehran, but it offers ready access to logistical links to Iraq, where the bulk of US Middle East forces is deployed. It comprises two principal axes of advance along primary paved roads.

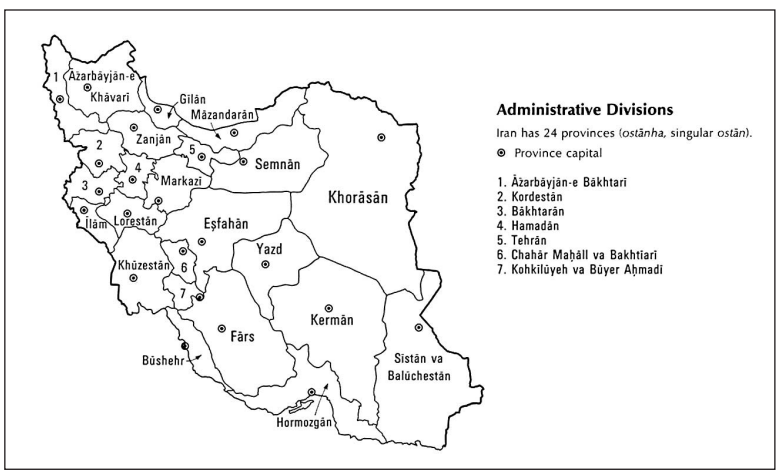
The advance would most likely occur in two phases. In phase one, US mechanized divisions would advance north from Sulaymaniyah (Iraq) via Sanandaj towards Hamadan. A second route further south would advance from Baghdad along Highway A02 to Bakhtaran. This was the approach used by the British to conquer Iran in 1941. Iran would probably deploy four regular divisions starting ten kilometers from the Iraqi frontier. A tertiary path from Dezful to Hamadan would be opened once the main fighting was over, providing a shorter supply route to Basra. Penetrating the Zagros Mountains would require heliborne troops to seize key passes and engineers to facilitate the advance. Neither Bakhtaran nor Hamadan could be by-passed as they both provide important logistical trans-shipment points and airfields for sustaining the offensive. In phase two, the northern advance could be resumed from Hamadan via Qazvin and onto Tehran. The southern advance would push through Hamadan and Saveh on towards Qum. In phase two the principal opposition is expected to be battalion-sized Pasdaran and Basij.

Only about 20 to 30 percent of the advance would take place through high mountains, with the remainder through valley terrain ideal for US armor. US losses

would be substantial given the defensive value of mountainous terrain and the probable concentration of Iranian defenders, but this would be mitigated by the ability to vertically envelop Iranian units.[45] The US salient would extend on two roads some 750 km into Iran, and would leave much of northern and southern Iran, including most cities, unoccupied. However, Tehran and Qum are the main junctions for the national railway system.

The second component involves securing Tehran. Though urban areas are reputedly difficult to occupy, evidence from Iraq's force's repeated failure to hold-up in urban areas, from Kuwait City to Baghdad, indicates that urban defenders must be very well trained to offer successful resistance. It could therefore take the US a few days to complete the occupation of key points in Tehran. However, with eight million inhabitants, policing would remain difficult.

**Map 5: Iranian administrative districts**




The offensive would result in the occupation of six administrative districts (Bakhtaran, Hamadan, Markazi, Qazvin, Qom and Tehran) containing a total of 19.3 million people (of Iran's total of 70 million). In combination with operations conducted in Bandar Abbas, Khuzistan, Azerbaijan and Mashad, only a total of 37 million people would initially be under occupation. Left unoccupied would be the important cities of Kerman, Shiraz and Esfahan, Iran's industrial heartland. Obviously, regime change in Iran would be severely hampered if vast insurgent sanctuaries prevailed, providing safe haven for the Pasdaran and the resistance leadership. It is doubtful, however, that the US has the capacity to expand the perimeter without an extended period of consolidation or substantial allied assistance.

*5. Azerbaijan and Kurdistan*

The use of Azerbaijan by US forces as a staging area has the advantage of cutting Iran off from potential Russian re-supply through Armenia, and the possibility of a friendlier reception from Iran's Kurdish and Azeri minorities. For deployment to Azerbaijan, US forces could be flown in or pass through Georgia. While US relations with Georgia

have improved substantially, Russia may possess sufficient influence to disrupt US staging there. To make substantial gains from that venue, the US would need to deploy at least a mechanized division, and this would require about two weeks to advance against opposition through the Qareh Dagh mountains to Tabriz, eventually needing to obtain a direct route to Tehran via Gilan. The four northern administrative divisions of Iran contain 9.3 million people, though the largest concentration of Azeris and Kurds live in Tehran. [46]

It is not clear how the approximately 20 million Azeris would react to being "liberated" by US forces. In 1920 and 1946, they made unsuccessful bids for secession. Immediately following the 1979 Revolution, there was also considerable civil unrest among the Azeri population and there have been consistent demands for the recognition of Azeri cultural and linguistic identity. Demonstrations for the recognition of minority rights led to clashes in Tabriz in 1996.[47] However, Iranian nationalism is a mosaic. Azeris, for instance, served during the Iran–Iraq war with distinction.[48] They are also well represented in Iranian politics: the current Supreme Leader, Ayatollah Ali Khameini, comes from an Azeri background.[49] Consequently, Azeri support is unpredictable.

The US is more likely to obtain support from within Iranian Kurdistan. While it is more integrated within Iran than in any other state with a Kurdish minority, there has been unrest among the five to eight million Sunni Kurds since the revolution. Disturbances there during the revolution led to the deployment of Iranian troops into Kurdistan until 1982, and again in 1993.[50] There has since persisted a nascent resistance movement in the form of the Kurdish Democratic Party of Iran. However, the US would be under Turkish pressure to limit any claims to independence.[51]

*6. Mashad*

A US advance into Iran from Central Asia is limited by the great distances involved. US air and land forces in Afghanistan must either be flown in or transported through Pakistan. It is much more economical to conduct air operations from Gulf Arab bases. Furthermore, the US would not be able to deploy anything more than an army brigade from Afghanistan, which would be barely adequate to seize the city of Mashad, let alone set up a logistical network across the Dasht-e-Kavir desert to reach Tehran, Yazd or Kerman. The Khorasan administrative division has no nuclear infrastructure and only a missile test facility at Shahroud. However, should Iran actually relocate its political élite, the importance of this area will increase. Iran would likely invest significant resources in its defense and the US would have to find ways to overcome the logistical obstacles. Capturing Mashad would put two million of the Khorasan district's 6.58 million people under occupation.

## EVALUATION OF RESULTS

### Conquests and casualties

The model results are indicated below. Movement rates were estimated by assuming that an attacking force suffering an attrition rate lower than its adversary in a given

operation could advance 14 km a day against opposition, and 56 km after a breakthrough.[52] Under these assumptions, Khuzistan, Tabriz and Mashad are all secured within the first two weeks. The straits of Hormuz are cleared within three weeks, and Tehran and Qum are taken within one month. US success would translate into bringing 37 of Iran's 70 million people under occupation.

If US control were extended to administrative districts along the Iraqi border, to Esfahan, and linked up with Khuzistan, the occupied would rise to 45 million people. Over 20 million would remain unoccupied in the divisions of Fars, Kerman and Mazandaran, including the major cities of Shiraz, Kerman and Yazd. The likelihood that Iran's missiles would be deployed around Shiraz, and the uranium mines at Yazd, would place these important objectives outside of US control.

Losses (Table 1) are substantial for both the US and Iran. These estimates are intended to be approximations only.[53] The casualty estimates of US operations are calculated using Trevor Dupuy's attrition model.[54] It estimates a daily percentage personnel loss rate based on the tangible valuations of terrain, posture, weather, surprise, sophistication, mobility, force ratio, unit size, the intangible factors concentrated in a combat effectiveness value, and an historically derived attrition constant. US land battle casualties total 24,826, and Iran's total 280,000, of which 195,000 are from the Iranian Army and 85,000 are from the Pasdaran. 155,000 undefeated Iranian Army and 20,000 Pasdaran personnel remain within the unoccupied interior of Iran. Daily loss rates for the US approximate major battles of World War II, and would therefore have concomitant political consequences. US losses would be much higher than the 2003 US attack on Iraq because of the better motivated Iranian soldiery, the mountainous terrain, the geographic size of Iran and the large opposing army.

**Table 1: Casualties**[55]

| | *US* | | | *Iran* | | |
|---|---|---|---|---|---|---|
| | *KIA* | *SW* | *WIA* | *KIA* | *WIA* | *PW* |
| Bandar Abbas | 257 | 227 | 1,030 | 2,555 | 7,665 | 9,780 |
| Khuzistan | 1,093 | 965 | 4,374 | 8,809 | 26,426 | 44,765 |
| Tehran | 1,678 | 1,481 | 6,713 | 14,998 | 44,995 | 60,007 |
| Azerbaijan | 808 | 713 | 3,230 | 4,245 | 12,734 | 23,021 |
| Afghanistan | 385 | 340 | 1,540 | 1,984 | 5,951 | 12,066 |
| Total | 4,221 | 3,718 | 16,887 | 32,591 | 97,771 | 149,639 |

KIA: killed in action; SW: seriously wounded; WIA: wounded in action; PW: prisoner of war.

## Regime change

Washington's main priority after the investment of Iran is the installation of a friendly administration. There are European and North American-based exile groups upon which to draw, although they are small and fragmented with questionable support among Iranians.[56] There are also substantial anti-clerical elements within Iran, but the extent and scale of co-operation is difficult to predict. Despite growing complaints with

the political system, the regime has enjoyed widespread support in the confrontation with the US over Iran's nuclear program.[57]

Although the US may be able to achieve the military goal of capturing Tehran, it would face a more complex set of political problems in ensuring a relatively stable transition to a more pro-American regime. In the best case scenario for Washington, Iran's regular military would remain intact and be willing to protect the new provisional government. Another result could be a protracted civil war with an uncertain outcome.

**Negotiating strategies**

The US has been relying on public diplomacy (rather than negotiations) combined with the implicit threat of military action in order to convince Iran to end its attempts to enrich uranium.[58] Economic sanctions are not a factor, given Iranian agreements with China and Russia. The problem elaborated by the simulation presented here, of which the US and Iran are probably aware, is that there are few natural breaks on escalation. A limited decision to invade Iran becomes inevitable once the Straits of Hormuz are blocked, which may follow a US air campaign.

If the supply of oil is disrupted, movement into Khuzistan and farther afield becomes very tempting for a US decision-maker with military forces already in the region. Awareness of this has led the US to offer positive incentives for Iranian non-proliferation through its European allies. In the other camp, Iran must be aware of its near-total vulnerability to US airpower, and probably pessimistic about being able to retaliate on a proportional scale using terrorism. Iran's confidence probably lies in its belief that a combination of its indigestibility and disruption to the oil supply would mobilize international support against an attack, even after the US has begun an offensive.

Negotiations have also been complicated by the nature of US–Iranian relations. Americans and Iranians cannot negotiate with each other directly – at least in public. This creates a disjointed process in which Europe offers carrots in person while Washington threatens the stick in the press. Consequently, Washington and the EU3 have not always properly co-ordinated their positions and the negotiations have suffered from a credibility gap.[59] Iran may not believe that the Europeans could deliver on promises concerning US behavior. Finally, public pronouncements by members of the Bush administration have a mixed impact on Iranian policy. While they do convey the threat of coercive force, they also provoke Iranian nationalism, making it difficult for Iranian negotiators to compromise.

Iranian defiance has also been encouraged by the North Korean example, despite obvious differences in the circumstances. Although North Korea is staving off economic collapse, it receives intermittent help from China, which seems sufficient to deter US military action. Iran, a budding regional power, has no such allies. However, another war in the Persian Gulf would be extremely disruptive to the world economy. Therefore, for Iran, international commerce may provide a surrogate for allies.

## CONCLUSION

The immediate implication of the preceding analysis is that US attacks on Iran to destroy its nuclear facilities would be extremely costly. Although surgical air strikes may succeed in crippling Iran's nuclear program, it would not be as simple as the Israeli strike against Iraq's Orsirak reactor in 1981. Iran is also likely to retaliate, which may force the US to expand its goals to include regime change, a task for which the available regular and Army National Guard forces are presently inadequate.

Although the partial invasion discussed above would remove the potential military threat posed by a nuclear-armed Iran, a combined Iranian policy of attrition at home and compellance abroad could take a heavy toll on US interests in the region. The military threat to the Straits of Hormuz could be dealt with, but the political threats would be more damaging. An invasion of Iran would also have a high cost in terms of human life, both American and Iranian. On top of the battlefield casualties, there would be large numbers of civilians killed and injured. In addition to the intrinsic value of human life lost in such a campaign, the US also needs to calculate the political repercussions, both in the region and in the larger Islamic world. The impact on world oil prices may also be prohibitive.

## NOTES

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