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The Quarterly Journal

Volume XIII, Number 4   Fall 2014

Regional Alliances: A Political, Military, and Economic Strategy to Confront Hostile Regional Powers

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Introduction

Russia and China have recently displayed aggressive actions that have steadily garnered international concern. The United States, as a country interested in preserving the existing international order, share apprehensions towards potential disruptions that could affect its interests. The intensifying nationalist sentiment of rising powers, their increasing military strength, demonstrable willingness to employ military aggression, and freshly invigorated territorial claims cause defenders of the *status quo* to worry that war is on the horizon. Will Russia and China make a bold attempt to seize what they claim as theirs? No fewer than two other regional powers give cause for concern. Neighbors of North Korea and Iran warily keep watch for aggressive actions from these "rogue" states. To what extent should threatened neighbors take precautions to protect their territorial integrity in the interests of national security? As seen in some recent signs of weakness from the threatened, a new generation of untested leaders and their respective populations must learn the lessons of "peace through strength" in order to protect themselves from possible aggression. Threatened countries should create, strengthen, and expand military alliances between mutually interested partners, grow military capability by ensuring adequate defense spending, and demonstrate the willingness to take military action against aggressors in order to lessen the threat of attack. Starting with an assessment of the present challenges, then examining how global powers should shield regional alliances during their formation, and lastly, analyzing the respective failure and success of alliances of World War I and the Cold War, this article proposes a strategy to thwart potentially hostile state-based regional powers. A nation or alliance facing a hostile regional power must match at least one-third of the potential aggressor's defense spending to discourage an aggressor, but should aim for matching two-thirds. Global powers should foster the formation of regional alliances in order to maintain the *status quo*.

Russia: Returning to Grandeur of 19th Century Empire?

The Russian Federation recently seized control of Crimea and poses a lasting threat to the territorial integrity of Ukraine. The international community has resoundingly condemned this action. Led by the United States in the form of sanctions, a number of

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countries have taken limited action to punish Russia. Although mostly symbolic, the U.S. has also exercised shows of military force consisting of small-force deployments in the region that demonstrate a level of resolve against further aggression. Ukraine offered very little resistance to the initial takeover of Crimea and stands little chance of successfully opposing a conventional invasion of their mainland. However, the country is now using military force to quell rebellion allegedly stoked by Russia.

Many speculate about Russia's motives, but only Putin himself may comprehend the country's ultimate objective. Regardless of whether to reestablish the former greatness of czarist Russia, secure access to resources, or following through on face-value claims to secure ethnic Russians, the uncertainty of knowing obligates Russia's neighbors to make prudent hedges against the worst case scenario.

In general, Russia's actions towards Ukraine have revealed some weaknesses in the West, but have also created an opportunity to renew Europe's interest in collective defense. Russia's nearby NATO members, Estonia, Latvia, Lithuania, and Poland have vocalized a need for greater strength. Former Warsaw Pact nations of Romania, Bulgaria, Hungary, the Czech Republic, and Slovakia fled the Eastern bloc after the fall of the Berlin Wall and have since achieved NATO membership, but surely Russia's new assertiveness must make them feel uneasy. However, these countries have not made sufficient effort to protect themselves against Russia, relied on the potential of other countries to augment their defensive capability, or primarily sought political alliances that rely more on the signature of documents rather than building their own military force. They have not sufficiently invested in their own defense to inoculate themselves against Russian aggression. Ukraine and Moldova, with its breakaway Transdniestrian region vulnerable to Russian intervention, must regret their lack of preparedness to handle the present situation. Consider that, in 2012, Russia spent $90.8 billion on defense, but the ten nations listed above spent a combined total of about $20.25 billion, or roughly 22 percent of Russia's expenditures.[1] This trend has been comparatively similar for the past ten years.

Although dollars spent do not necessarily translate directly into commensurate military capability, defense spending is a reasonable benchmark to measure levels of effort. Russia's defense spending was 4.4 percent of its Gross Domestic Product (GDP) during 2012, while the average defense spending of these ten other concerned states was about 1.5 percent.[2] If seriously concerned with the threat of militarily aggression by Russia, a combination of these nations should attempt to match a total of at least one-third of Russia's military capability merely to seek parity against a possible Russian attack. Studies in military operations show that forces conducting defensive operations, due to the tactical advantages of being on the defensive, require a combat power ratio of 1:3 in order to have an equal chance of success in defending, compared to the success of the attacker.[3]

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[1]   Stockholm International Peace Research Institute (SIPRI), *Military Expenditures by Country*, 2012, available at http://portal.sipri.org/publications/pages/expenditures/country-search.

[2]   Ibid.

[3]   Michael E. Brown, *Offense, Defense, and War* (Cambridge, MA: The MIT Press, 2004), 168.

This ratio of combat power is not necessarily measured by the simple numbers of combatants, weapon systems, or firepower committed to action, but includes enablers and other combat multipliers that help determine their total military capability. In order to ensure odds better than 50/50 for either side, either side needs to tip the ratio in their favor further from the equilibrium of 1:3. According to military studies conducted by the Center for Army Analysis, defenders stand an 80 percent chance to deny an attacker's military objectives when employing a force ratio of 2:3 , and with an expected cost of 6 percent friendly force casualties. Attackers improve their success chances to 80 percent with a 1:6 force ratio, and also at an expected cost of 6 percent casualties.[4] Since defense spending can be used as a rough indicator of military capability, nations seeking to defend themselves against a hostile regional power should match at least one-third of the threatening countries' spending.

Before going further, it is important to note that defense spending alone may not directly translate into combat capability. It is an imperfect heuristic. After making a few assumptions and generally holding a few variables constant, defense spending is a fair measure for comparing the expected capability of different nations. These comparisons assume the same wisdom, efficiency, and economies in scale of defense spending between nations, which we know would be false to some extent. Naturally, this induces a degree of error. Additionally, tabulating the defense expenditures of several countries in a potential coalition assumes that spending would be coordinated in shared decisions between all parties in a perfectly efficient "smart defense."[5] We know that this would be untrue as well. Lastly, the potentially hostile power an alliance intends to defend itself from—Russia, for example—may also decide to boost its spending to counter the spending increase of nations it would like to maintain an advantage over. However, this type of game-theoretical development of action-reaction-counteraction would merely change the numbers involved in a comparison. It would not change the concept that a certain portion of an aggressor's defense spending should be matched. All other things being equal, money spent towards defense will determine the resources applied, and serve as an easy-to-use rule of thumb to compare military capability between countries. Therefore, an entity seeking to protect itself from a state-based threat should spend at least one-third the level of the potentially hostile nation's defense budget. Collective defense can also be gauged by collective defense spending, though additional inefficien-

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[4] National Research Council, *Improved Operational Testing and Evaluation: Better Measurement and Test Design for the Interim Brigade Combat Team with Stryker Vehicles*, Phase I Report (Washington, DC: The National Academies Press, 2003), 105-108. The Defenders Advantage (ADV) calculated in the Force Exchange Ratio (FER) is assumed to be 1:3 in accordance with generally accepted principles, as specified in Brown, *Offense, Defense, and War*, op. cit., 168.

[5] According to NATO, "smart defence" is defined as a group of allies cooperating to develop, acquire, and maintain military capabilities to meet security problems in accordance with a mutually understood strategic concept, characterized by pooling and sharing capabilities, setting priorities, and coordinating efforts. For more information, see http://www.nato.int/docu/review/topics/en/Smart-Defence.htm.

cies would be incurred when different nations purchase redundant capabilities, and multiple parties incur similar separate overhead costs, such as research and development, that could instead be shared.

As a mathematical formula, the minimum level of defense spending for nations facing a potentially hostile regional power should be:

$$Ayw \geq (1/3)T$$

where:

- A is the combined defense spending of allied nations opposing hostile power T
- y is the coefficient for friction in the loss of spending efficiencies within alliance A
- w is the alliance's coefficient for spending efficiency compared to hostile power T, and
- T is the expected defense spending of the hostile power.

As an example, since Russia's 2012 defense spending was $90.8 billion and, assuming the perfect integration of collective military capabilities of a potential alliance as well as equal spending efficiency ($y=1$, $w=1$), a collection of nations threatened by Russia should have developed combined defense budgets totaling at least $30.25 billion in 2012. This would have yielded defensive capability to withstand a Russian attack with 50 percent chance of success. A combined budget of $30.25 billion would have been the minimal level—the floor of defense spending—for a group of nations to protect their interests because a rationally-acting hostile power facing only 50/50 odds of success would have considerable cause to hesitate. Deterrence could work by procuring this level of capability. Furthermore, it would impose a greater cost on the potential aggressor in seeking at least 3:1 additional levels of spending to grow stronger over the threatened nations. Presumably, a defending entity would desire odds greater than 50/50, meaning that securing better chances would have required greater defense spending than $30.25 billion in 2012.

If Ukraine relied only on itself to defend against Russia and not depended on an alliance, Ukraine would have had to spend $30.25 billion in 2012. This would have been 17 percent of the nation's GDP,[6] or about twice as high of a defense spending rate than the highest nation on Earth.[7] This would have been quite a steep price to pay. If an alliance of the ten Eastern European countries above had shared the burden of defense collectively, they would have needed to pool about 2.5 percent of their collective GDP for defense spending to match one-third of Russia's. This would have been a much more reasonable rate than to impose the costs on a single nation.

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[6]   GDP data according to International Monetary Fund, "Report for Selected Countries and Subjects," available at http://www.imf.org/external/pubs/ft/weo/2014/01/weodata/weoselco.aspx?g=2001&sg=All+countries, accessed on 20 May 2014.

[7]   SIPRI, *Military Expenditures by Country*, 2012.

An additional point to consider is that the more countries involved in a collective security agreement, the more the total defense costs could be diffused. Perhaps this group of countries could persuade Finland, Norway, and Turkey, or nations in the Caucasus region and Central Asia to join the agreement, thus spreading out the costs even further. Indeed, NATO as a whole, or the defense arm of the European Union (EU) could support its formation. However, Russia may view a new neighboring alliance supported by NATO to be little different than outright NATO expansion up to its borders, and seek to disrupt the formation of such an alliance. A separate, more specifically-purposed defensive alliance composed of Eastern European nations could be less provocative towards Russia than NATO expansion.

This raises another issue, however, in that nations could have overlapping memberships with a new regional alliance while simultaneously maintaining membership in NATO or the EU. A web of entangled, overlapping alliances could endanger all parties, pulling them into a greater conflagration if a potential conflict triggered just one alliance to respond. As at the start of World War I, a local event could cause a spiral of successive nations to take up arms and join the fighting to honor their commitments. This risk must be mitigated. Establishing a new alliance would alter a region's security architecture, and existing alliances would have to review charters to ensure their commitments had been stipulated appropriately. For instance, in NATO's case, the alliance may want to caveat its defense policy so that, in the event of a nation's Article 5 request for collective defense, the requesting nation's forces must primarily defend its own territorial integrity rather than a third-party non-member nation. This would ensure that NATO countries sending forces to defend one another would not subsidize the requesting nation's effort to defend a non-member, while still assuring the member country of the alliance's commitment to defend it. More importantly, this would reduce the risk of NATO being pulled into a greater war by a non-member, or by injudicious members making careless agreements outside of NATO.

Looking at the data more closely, one could argue that a potential partnership of Eastern European countries could afford to risk procuring a collective, aggregate combat capability ratio below 1:3 compared to Russia, since some greater portion of Russia's capability would have to remain directed towards security concerns elsewhere on its frontiers. Russia would likely have to keep some portion of defense effort in the Far East to protect against China, a portion of security to guard against concerns near the Caucasus, and even threats emanating from North America would force Russia to devote military capability elsewhere besides Eastern Europe. An additional advantage of this would be to lessen the chance of Russia finding such an alliance provocative. However, any ratio for Eastern Europe below a total of 1:3 would deliberately incur additional risk based on this assumption. If prudently choosing not to accept this added risk and, in an effort to improve the odds of defensive military success to better than 50/50, an alliance of Eastern European nations should seek a collective ratio greater than 1:3 compared to Russia.

The countries of Eastern Europe can be somewhat forgiven for their lack of defense spending in the past. First and foremost, due to its proximity to Russia, Ukraine has been

under Russia's shadow to an extent to preclude it from either joining a collective security agreement, or independently developing the necessary defensive capability. Indeed, the present crisis has been at least, in part, precipitated by Ukraine's increasing closeness to the West as it considered joining the EU. Had Ukraine sought an alliance earlier, or had their defenses shown potential to grow strong enough to challenge Russia's ability to pressure them, this same crisis could have happened earlier. Moldova, in addition to being small, has suffered an additional challenge of having to contend with Russian forces deploying a peacekeeping contingent in its Transdniestrian region. The presence of these forces serves as a reminder of Russia's reach and their ability to intimidate. Similar factors exist for the Baltic States and former members of the Warsaw Pact. These countries observe an incentive to placate Russia by not threatening to challenge Russian dominance by increasing their own military capability. Belarus is a country so much under the influence of Russia that it tends to act more as a Russian ally than as a potential defensive partner with its other neighbors. However, with the threat of Russian aggression now realized, a chance to change these attitudes has emerged. Opportunity is rife to rally nations against continued Russian expansionism.

Although individually smaller and too weak to resist Russian aggression on their own, together the nations of Eastern Europe exhibit potential to protect themselves if they unite for their collective defense. If well-coordinated, the minimum level of defense spending would incur a cost of at least 2.5 percent GDP for each contributing nation. For this price, these nations could expect to secure a 50/50 chance of denying Russia its military objectives in case of an attack.

China: Establishing a New Dynasty?

China has become an aggressive regional power in recent years. Each day, dramatic maritime encounters and tense standoffs between the coastal security forces and nationally-flagged commercial ships of different nations plague the waters of the South China Sea. Diplomatic spats between nations periodically make headlines. China's recent announcement establishing a new Air Defense Identification Zone in the East China Sea caused controversy. China continues to conduct cyber espionage and has tested anti-satellite weapons systems. Overall, China's newly invigorated assertion of control over territorial claims in the South China Sea is supported by noticeably growing military capability. Combined with a supposition that the South China Sea contains vast, thus-far untapped oil reserves, the value of contested territory between regional nations has intensified. The Paracel, Spratly, and Senakaku/Diaoyudao island groups are even greater potential flashpoints for war than before, with China, Japan, Taiwan, the Philippines, Malaysia, Brunei, and Vietnam as the most likely combatants in a potential regional conflict.

As with Russia, China's ultimate intentions are unclear since the question remains; to what extent will China use subversion and overt force to fulfill their contested claims in the region? What is their ultimate goal? Although China has not indicated a motivation to spread communist ideology like the Soviet Union once did, China has indeed shown willingness to use force to resolve conflicts, such as gaining control of Taiwan or sup-

pressing internal dissent. China's economic interests, which rely heavily on maritime traffic choked through the Strait of Malacca, serves as another incentive for China to further expand its military influence in the region. China's growing military capability, foreign interests, and willingness to use force make it unwise to rule out the possibility that China could seek military conflict as a way to achieve its shadowy ambitions. As was the case with the analysis of Eastern Europe, South China Sea nations should prudently safeguard themselves against the worst-case scenario if they want to feel secure in their present territorial holdings.

China's actions have grabbed enough attention to warrant policy consideration by the United States. The Obama Administration has made "rebalance to the Asia-Pacific" a high priority of its defense policy and intends to redistribute military assets in favor of the United States' Pacific Command. However, an examination of regional actors reveals that perhaps not all nations most threatened by China's aggression have taken adequate measures to protect themselves.

From 2007-2012, China averaged $128.8 billion per year in defense spending at an average rate of 2.1 percent of its GDP per year.[8] Japan averaged $59.5 billion or 1 percent of its GDP per year.[9] Japan's expenditures, at about 46 percent of China's, were sufficient to apply at least one-third of the resources needed to gain a 50/50 level of confidence in its ability to independently defend its territorial claims. If Japan's defense spending translated into military capability at the same rate as China's ($w=1$), Japan itself would still have close to a 65 percent chance of denying China its military objectives in the event of a confrontation.[10] However, not all of Japan's military effort is directed against China. Some effort also counters potential attack from North Korea or Russia. Unlike the analysis of Russia, for the purposes of this analysis we will assume that the fraction of Japanese military effort reserved to defend against nations other than China would be equal to a similar fraction China must reserve in defense of interests other than the South China Sea. This assumption isolates Japan and China's defense concerns to each other. It was unlikely to be valid in Russia's case since Russia's other peripheral threats were greater than Eastern Europe's. This assumption makes more sense with Japan since Japan and China have roughly similar levels of defense concerns besides those against each other. This assumption helps simplify a review of the situation, but also introduces a margin of error in the concluding analysis as to how much to spend. Although Japan may be capable of protecting its interests against China, Japan also enjoys the benefit of a mutual defense treaty with the United States. This mutual defense treaty greatly strengthens its confidence, as could similar arrangements between nations in the South China Sea.

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[8] SIPRI, *Military Expenditures by Country*, 2007-2012. Expressed in terms of 2011 U.S. dollars.

[9] Ibid.

[10] See National Research Council, *Improved Operational Testing and Evaluation*, op. cit., 105-108. The Defenders Advantage (ADV) calculated in the Force Exchange Ratio (FER) is assumed to be 1:3 in accordance with generally accepted principles and specified in Brown, *Offense, Defense, and War*, op. cit., 168. Cf. note 5.

Taiwan has been maintaining defense spending levels at the same rate as China. From 2007-2012, Taiwan averaged $ 10.0 billion per year at an average rate of 2.2 percent of its GDP.[11] This was about 8 percent of China's defense expenditures. Although too small to match aggregate defense spending, Taiwan's formidable rate of spending demonstrates its commitment to defense. The resulting comparison, however, shows the extent which Taiwan needs external assistance to give itself a fighting chance of defending its territorial integrity. Taiwan would very much benefit from a defense treaty, but the threat of Chinese intervention disrupting an alliance makes reaching such an agreement problematic. At one point, Taiwan enjoyed formal protection under the U.S. while the Sino-American Mutual Defense Treaty was in effect. When the U.S. normalized relations with China in 1979, however, the treaty came to an end. Although reestablishing a U.S.-Taiwan alliance would likely lead to conflict, perhaps clever maneuvering to join a regional alliance would stand a better chance of survival. The strongest chance of this would be for a regional alliance to form first and establish itself as a credible force against China. Then, after this point, Taiwan could join the alliance and fall underneath its protective umbrella. Taiwan's decision would, however, have to weigh the added security gained through additional allies against the probability of provoking war with China.

An analysis of the other key actors in the region reveals their weaker situation. The Philippines, Malaysia, Brunei, Indonesia, and Vietnam average combined defense spending was $ 2.6 billion per year from 2007-2012, or 2 percent of China's expenditures.[12] These countries averaged spending at a rate of 1.5 percent of their GDP per year. Had all of these countries including Japan and Taiwan combined their defense resources in a perfect "smart defense," they would have collectively spent 66 percent of China's defense budget. If the previous assumptions held true, they would have collectively stood an 80 percent chance of denying China its military objectives in the event of an attack.[13]

This introduces us to a modified equation for a regional alliance that secures an 80 percent level of confidence in preserving the *status quo* through military force in the event of conflict. A target level of spending should be:

$$Ayw \geq (2/3)T$$

From 2007-2013, an entity aimed at protecting interests against Chinese aggression, whether a single nation or a multinational alliance, would have had to spend approximately $ 43 billion per year on average to yield one-third of China's capability, in order to achieve a 50/50 level of confidence of denying China its military objectives. This entity would have had to average $ 86 billion per year to secure an 80 percent level of confidence. Again, this involves a number of the previously mentioned assumptions, in-

[11] SIPRI, *Military Expenditures by Country*, 2007-2012.
[12] Ibid.
[13] See National Research Council, *Improved Operational Testing and Evaluation*, op. cit., 105-108. See note 5.

cluding that a potential alliance would perfectly coordinate its resourcing efforts in a "smart defense" ($y=1$), and dollars spent would result in equal military capability regardless of which nation spent it ($w=1$). Nevertheless, the collection of seven nations listed above would merely have had to spend 0.6 percent or 1.2 percent of their combined GDPs per year, on average respectively, to achieve these levels of confidence.[14] These are quite reasonable levels of contributory spending.

Since the analysis of the years from 2007 to 2012 showed that, led by Japan, these nations collectively exceeded the minimum level of spending necessary to counter China's aggression to achieve a moderate chance of denying China's military objectives in the event of war, they are well on their way to being able to collectively counter their regional aggressor. However, we know if a previous assumption proved false, $43 billion may not be enough. For instance, we know that these nations do not perfectly coordinate their expenditures in a "smart defense." Their defense spending to produce military capability may or may not be more efficient than China's, but collectively it certainly is not (i.e., $y<1$). They do not enjoy the economies of scale that China does, and how wise their choices to modernize military capability have been remains to be seen. Any such incorrect assumptions would incur some level of error that would require more defense spending to compensate. A good mechanism to reduce friction of their cooperative expenditures would be for the threatened countries to agree on how to integrate their capabilities by entering a formal military alliance. Increasing the number of partners—perhaps by also including the capabilities of Singapore, for example—would further diffuse the costs among nations.

The Southeast Asia Treaty Organization (SEATO) was a Cold War-era defense alliance established to contain the regional advance of communism, particularly China's,[15] which lasted from 1954–1977.[16] The founders of SEATO envisioned it as a regional counterpart to NATO designed with similar purposes and intent.[17] Although heavily criticized for its ineffectiveness while it existed,[18] a well-led and well-coordinated restoration of SEATO composed of the seven members above could conceivably form an effective deterrent to Chinese aggression.

The contemporary cousin of SEATO is the Association of Southeast Asian Nations (ASEAN). ASEAN is predominantly an economic organization, but it does address some aspects of security and defense. ASEAN's charter accentuates the principles of ter-

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[14] GDP data according to International Monetary Fund, "Report for Selected Countries and Subjects," available at http://www.imf.org/external/pubs/ft/weo/2014/01/weodata/weoselco.aspx?g=2001&sg=All+countries, accessed on 20 May 2014.

[15] Keat Gin Ooi, *Southeast Asia: A Historical Encyclopedia From Angkor Wat to East Timor*, Volume 2 (Santa Barbara, CA: ABC-CLIO Publishing, 2004), 338-339.

[16] Calvin Jilson, *American Government: Political Development and Institutional Change*, 5th ed. (Taylor & Francis, 2009), 439.

[17] Paul S. Boyer, et al., *The Enduring Vision,* concise 6th ed. (New York: Houghton Mifflin Publishing, 2007), 836.

[18] For a summary of the criticism, see John K. Franklin, *The Hollow Pact: Pacific Security and the Southeast Asia Treaty Organization* (Fort Worth: ProQuest Publishing, 2006), 1.

ritorial integrity, sovereignty, and peaceful settlement of disputes and, perhaps, if ASEAN put more teeth into a military aspect of its association, it could improve upon what used to be the military alliance of SEATO. The formal association between current members of ASEAN could serve as the initial dialogue to establish a new regional mutual defense treaty. This alliance could combine the efforts of nations in the region threatened by China and block China's aggressive regional ambitions.

North Korea: Conclusive Resolution to Civil War?

North Korea has been an aggressive power disrupting the peace in Northeastern Asia for more than 60 years. Not only has the North attempted to conquer the South in what they claimed to be a civil war, but North Korea often makes provocative statements and consistently initiates hostile military engagements that remind the South of its existential threat. A rogue nation, dubbed by former United States National Security Advisor Anthony Lake in 1994,[19] North Korea remains a serious threat to its southern neighbor as demonstrated through the North's aggressive positioning of military forces for invasion of the South, numerous instances of killing South Koreans, killing or imprisoning Americans, periodic military or terrorist attacks against South Korea, and withdrawal from the nuclear Non-Proliferation Treaty.[20] South Korea is not the only nation threatened, however.

The United States has military forces positioned in South Korea to defend the South, but also additional forces in the region that could be used to support military operations in Korea if conflict broke out. North Korea is aware that, during the 1950 invasion, General Douglas MacArthur based allied operations from Japan before landing in force on the peninsula. Japan was a theater-wide base of operations much like Great Britain was for the Western Allies in World War II. North Korea has since developed a capability to strike U.S. forces in Japan through ballistic missile launches, like the ones that flew over the island nation in 1998 and 2009. North Korea also maintains unconventional warfare capability, which could be employed against Japan. Due to the 1960 U.S.-Japan defense treaty, Japan cannot expel U.S. military forces as an easy solution to rid itself of the North Korean menace, nor is it in Japan's interest to withdraw from the treaty. U.S. forces provide Japan assurances against threats from China and Russia as well as North Korea. Consequently, Japan faces a threat of attack from North Korea, which demands some defensive capability to counter. Despite longstanding differences and recently deteriorating relations between South Korea and Japan,[21] the two nations share mutual defense interests and should increase military cooperation with each other.

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[19]   Anthony Lake, "Confronting Backlash States," *Foreign Affairs* 73:2 (March/April 1994).

[20]   Michael McDevitt, "Deterring North Korean Provocations," *Brookings East Asia Commentary* (February 2011), available online at http://www.brookings.edu/research/papers/2011/02/north-korea-mcdevitt.

[21]   Hayley Channer, "Manufacturing partners: Japan – South Korea security cooperation and Australia's potential role," *ASPI Strategic Insights* 69 (Australian Strategic Policy Institute, March 2014), 2.

Presently, the U.S. serves as a link to join the two because they are not sufficiently willing to stand together. South Korea and Japan should set aside their differences in their common interest to counter the military threat of North Korea.

Determining the level of defense spending South Korea and Japan should each commit in a potential alliance is trickier than it was for the previous examinations of Eastern Europe and nations of the South China Sea. Reliable figures on North Korea's defense spending are not available due to its isolation from the international community.[22] Rather than simplifying an analysis by scrutinizing its defense spending, analyzing other indicators of military capability will be useful but more complicated. The active duty personnel strength of a nation's armed forces, the sophistication in the preponderance of its heavy military equipment, readiness estimates, and the number of nuclear weapons a nation possesses can provide a crude summary of a nation's military capability. However, this examination is still a simplified generalization, albeit more detailed than examining defense spending alone.

North Korea has 1.206 million personnel on active duty.[23] The most numerous versions of its tanks, naval vessels, and combat aircraft were developed in the 1960s.[24] The readiness levels of North Korea's armed forces are moderate,[25] and it is estimated to possess 12 low-yield nuclear devices.[26] In comparison, South Korea has 687,000 personnel on active duty,[27] its heavy-weapons were mostly produced in the 1970s,[28] readiness

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[22] SIPRI, *Military Expenditures by Country*, available online at http://portal.sipri.org/publications/pages/expenditures/country-search.

[23] James Hackett, ed., *The Military Balance 2010* (London: Routledge Journals for the International Institute for Strategic Studies, 2010).

[24] Data combined from several sources including Christopher F. Foss, *Jane's Armour and Artillery 2005-2006*, Stephen Sanders, *Jane's Fighting Ships 2002-2003*, and Craig Hoyle, *Flight International* (December 2012).

[25] For more information on North Korea's readiness, see Andrew Scobell and John M. Sanford, *North Korea's Military Threat: Pyongyang's Conventional Forces, Weapons of Mass Destruction, and Ballistic Missiles* (Carlisle: US Army War College, Strategic Studies Institute, April 2007), 60-70. Part of the assessment above is the author's subjective evaluation of NKPA preparedness based on open-source reporting. An abstract topic such as "readiness" requires judgment to assess, and an evaluation of capability based on numbers alone would neglect vital human factors. Nonetheless, it is still important to factor readiness as a part of military capability in order to safeguard against overestimating the capabilities of a "paper tiger."

[26] David Albright and Christina Walrond, "North Korea's Estimated Stocks of Plutonium and Weapon-Grade Uranium" (Washington, D.C.: Institute for Science and International Security, 16 August 2012), 30.

[27] Hackett, *Military Balance*, op. cit., 413-416.

[28] Data combined from several sources including "K1A1 Main Battle Tank" at http://army-technology.com, Eric Wertheim, *The Naval Institute Guide to Combat Fleets of the World: Their Ships, Aircrafts, and Systems*, 15th ed. (Annapolis, MD: Naval Institute Press, 2007), and "Military Aircraft Update: Northrop F-5/T-38," *Aviation Week & Space Technology* (November 2013).

levels are low,[29] and it possesses no nuclear weapons.[30] Japan has 230,000 personnel on active duty,[31] the most numerous of its heavy weapon systems were initially fielded in the 1980s,[32] readiness levels are high,[33] and Japan possesses no nuclear weapons.[34]

A quick comparison of North Korea with the combined forces of South Korea and Japan show that North Korea has an edge over their combined forces, but not a decisive one. North Korea's numerical advantage is much less than the minimum 3:1 ratio necessary, its outdated equipment a disadvantage, and its readiness levels not sufficient to tip the balance in its favor. North Korea's nuclear superiority is a significant advantage, but South Korea and Japan's ballistic missile defense capabilities mitigate this threat somewhat. It is unlikely that North Korea can bring sufficient military strength to bear on South Korea alone, and highly unlikely against the two in an alliance. Furthermore, U.S. forces stationed in the region as well as those that would reinforce them if war broke out, and the "nuclear umbrella" its deterrence forces provide, decisively tip the balance in favor of South Korea and Japan. With the potential of declining U.S. resources, however, a pact between South Korea and Japan would have strong potential in defending against the North Korean threat alone.

Based on this information, North Korea appears to have roughly a 3:1 advantage in overall military capability over South Korea on its own, less than 3:1 for the combined forces of South Korea and Japan, and significantly less than 3:1 when including U.S. forces. The assessment of North Korea's 3:1 advantage over South Korea allows us to estimate the value of North Korea's defense spending. Since South Korea's 2013 defense spending was $34 billion,[35] we can estimate the value of North Korea's defense spending at around $102 billion. Therefore, to secure an 80 percent level of confidence in denying North Korea's military objectives in the event of an attack, a combined South Korean-Japanese alliance would have to have collectively spent around $68 billion (assuming $y=1$ and $w=1$) in 2013. In fact, the two nations combined spent $82.5 billion,

[29]   For more information on South Korea's lack of readiness, see Gordon Arthur, "South Korean Defence Modernisation," *Asian Military Review* (1 October 2013), available online at www.asianmilitaryreview.com/cold-south-korean-defence-modernisation-moves-forward.
Part of the assessment above is the author's subjective evaluation based on open-source reporting. Several incidents have revealed weaknesses in the ROK's ability to rapidly respond to aggression, most recently in their delayed response to the November 2010 shelling of Yeonpyeong Island in the Yellow Sea.

[30]   National Public Radio, "Nuclear Capabilities and Potential Around the World" (13 April 23 2010), available online at http://www.npr.org/templates/story/story.php?storyId=125898396.

[31]   Hackett, *Military Balance*, op. cit., 408–411.

[32]   Data combined from multiple sources, including "Type 74," MilitaryFactory.com, "DD-101 Murasame Class" and "F-15J," GlobalSecurity.org.

[33]   Jonathan E. Pettibon, *Capabilities of the Japanese Self-Defense Force and its Impact on United States-Japan Relations*, Master's thesis (Monterey, CA: Naval Postgraduate School, March 2011), 65.

[34]   National Public Radio, "Nuclear Capabilities and Potential Around the World," op. cit.

[35]   SIPRI, Military Expenditures by Country, available online at http://portal.sipri.org/publications/pages/expenditures/country-search.

which puts them well on their way to securing independent capability to counter the threat, and allows them overage to defend against additional, simultaneous threats. On the other hand, due to their present lack of military integration, the efficiencies of their mutual defense spending probably weaken their combined capability to some extent (since $y<1$ to some significant amount). Even so, a potential alliance between South Korea and Japan could stand a strong chance of protecting their territory against North Korean military aggression.

Iran: A Shia Caliphate or New Persia?

For the past 10 years, the U.S. and Israel have sounded warnings of an increasing danger by a nuclear-arms seeking Iran. The reasons that Iran may seek nuclear weapons range from its own self-defense to the annihilation of Israel. Fueled by speculation that Iran's Quds Forces have intervened in Iraq, Syria, and Bahrain to foment instability,[36] nations in the region grow fearful of a more powerful Iran. Former U.S. Secretary of State Hillary Clinton hypothesized that Iran held regional hegemonic ambitions.[37] Iran could possibly envision itself as a regional hegemon, reincarnating the former greatness of the Persian Empire, or as a focal point of Shiite theology. Almost no one would dispute, however, that a nuclear-armed Iran would solidify itself as a force to be reckoned with, possessing strong capability to deter military attack from a single neighbor … maybe even too powerful for a superpower to be willing to challenge. With nuclear weapons as an "ace up its sleeve," Iran could conceivably enact its threat to close the Strait of Hormuz[38] and disrupt the Persian Gulf's vital flow of oil with less fear of reprisal. For these reasons, as well as other potential motives such as jealousy from rival states that also seek regional leadership, countries in the Middle East have expressed their interest in countering the growing power of Iran. Indeed, former Secretary of Defense William Cohen stated that a predominant sentiment in the Persian Gulf is greater fear of Iran than Israel.[39] However, an examination of defense spending in the region indicates that this threat has been exaggerated. Iran is not quite the threat that alarmists warn of.

To ensure some level of confidence to defeat Iranian regional aggression, the nations of the Persian Gulf should off-set at least one-third of Iran's defense spending with collective contributions. From 2007-2012, Iran spent an average $7.76 billion per year on

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[36] Dennis Ross, "Next test for Obama: Soothing the Saudis," *Los Angeles Times*, 24 March 2014, available at http://articles.latimes.com/2014/mar/24/opinion/la-oe-ross-saudi-arabia-obama-20140325.

[37] Secretary of State Hillary Clinton's remarks at the Joint Discussion with Israeli President Shimon Peres, hosted by the Brookings Institution, 12 June 2012, available at www.state.gov/secretary/20092013clinton/rm/2012/06/192200.htm.

[38] For more, see Caitlin Talmadge, "Closing Time: Assessing the Iranian Threat to the Strait of Hormuz," *International Security* 33:1 (Summer 2008): 82–117.

[39] Nicholas Kralev, "Cohen: Middle East fearful of Iran," *The Washington Times*, 29 July 2009, available at http://www.washingtontimes.com/news/2009/jul/29/cohen-says-fear-of-iran-now-tops-wrath-against-isr/?page=all.

defense.[40] Saudi Arabia on the other hand, as the world's most prolific defense spender as a percentage of GDP, averaged $ 44.24 billion per year in the same time span.[41] If defense spending is a good indicator, this suggests that Iran should be more worried about Saudi aggression than vice versa. Iran had less than one-third the spending of Saudi Arabia. A series of other Persian Gulf countries potentially threatened by Iran, including Oman, the United Arab Emirates, Qatar, Bahrain, and Kuwait collectively averaged $ 5.4 billion per year for the same time period.[42] In this instance, if perfectly coordinated, and even without Saudi Arabia, these states should have held a greater than 80 percent chance of denying Iran its military objectives in the event of an attack. Once again, however, it is the overall military capability that each nation should be concerned with, not necessarily aggregate spending. Although Iran may have the advantage of superior numbers in the personnel strength of its armed forces, it does not possess the desired minimum 3:1 advantage an attack requires.[43] A more detailed analysis could possibly uncover a lack in certain capabilities of Middle Eastern countries, but if so, these weaknesses could be overcome through altered spending choices that correct for shortcomings rather than having to compensate against a military threat more powerful than themselves. Short of possessing nuclear weapons, Iran enjoys no special advantage that makes its military the dominant force in the region. The fear of Iranian conventional military hegemony in the Middle East is unfounded. Furthermore, the opposition of Israel reduces the potential of Iranian dominance even further, although a wild card like Iraq could lend weight to either side or even both at the same time.

Hypothetically, if Iran posed a more serious threat to its neighbors, greater than the potential to be troublesome as it does now, Persian Gulf nations could form a mutual defense treaty based on the Gulf Cooperation Council (GCC). Much like the previous proposal to expand disposition of ASEAN from an economic association into a defensive pact for Southeast Asia, the GCC exhibits the potential for military cooperation as the EU has done. In fact, the GCC's "Peninsula Shield Force" was established for mutual defense purposes, and continues to increase its combined-joint military command capabilities.[44] This demonstrates the potential willingness of these nations to cooperate for their collective defense to block Iranian aggression in the region.

Finally, if the Persian Gulf nations truly see a need to inhibit Iran's potential for mischief, then a non-military solution to complete a new Trans-Arabian pipeline from the Persian Gulf to ports on the Red Sea or Mediterranean could be a solution. This would circumvent the need for such high volume sea traffic through the Strait of Hormuz, and

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[40]   SIPRI, Military Expenditures by Country, available at http://portal.sipri.org/publications/pages/expenditures/country-search.

[41]   Ibid.

[42]   Ibid.

[43]   For numerical comparison, see Hackett, *Military Balance*, op. cit., 187.

[44]   Kuna and Defense News, "Gulf Nations Announce Joint Military Command," *Atlantic Council*, 13 December 2013, available at www.atlanticcouncil.org/blogs/natosource/gulf-nations-announce-joint-military-command.

nullify Iran's threats to interdict it. Regardless, the threat of Iran's military to the region is overblown.

The Role of the United States and Other Global Powers

The United States is presently the world's only superpower possessing the capability to project conventional military power across the globe with sufficient strength to topple sizeable non-neighboring nations. The lone superpower has a self-serving interest to maintain its position and uphold the global *status quo*, since remaining the most powerful nation in the world benefits it most. There are several other global powers that can project conventional military power to achieve more limited military objectives around the world. Since they are also powerful nations, it is also mostly in their interest to maintain the *status quo*. The United Kingdom's conflict in the Falkland Islands, France's operations in North Africa, and both nations participation in the Gulf War demonstrated their global reach. Since these three countries are politically aligned and share many other interests, they are more likely to act in conjunction with one another rather than oppose each other's efforts. Fortunately, this set of global powers advocate liberty and freedom while, unfortunately, the set of potentially hostile regional powers exhibit tendencies of oppression and dictatorship. Global powers play an important role in tying together a strategy to confront hostile regional powers. They must bolster regional alliances, prevent the formation of an alliance of hostile powers, and maintain military capability that offsets at least two-thirds of their single greatest potential adversary in order to maintain the *status quo*.

Global powers can play an important part in bolstering regional alliances in at least three ways:

1. supporting formation of alliances at their inception,
2. providing the alliance with capabilities that only global powers possess, or
3. directly contributing military force, if necessary.

First and foremost, regional aggressors might attempt to destroy regional alliances during their formation in order to maintain dominance. For instance, the present unrest in Ukraine has been supported by Russia, to some extent, out of fear that Ukraine will align itself with the West. Had Ukraine's step towards the West been more decisive than merely considering EU membership, for instance openly expressing a desire to join NATO, Russia's action might have been even bolder. Russia might have escalated by cutting off the gas they provide Ukraine, on which the country so desperately depends. Regrettably, the nations of Eastern Europe are not presently unified on a collective approach to confront Russia, largely due to their dependence on Russian resources.[45] However, economic dependence is a two-way street. Russia is dependent on their European

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[45]   Author unattributed, "New Europe Is As Divided About Russia As Old Europe And That's Bad For Everyone," *The Economist*, 18 May 2014, available at www.businessinsider.com/new-europe-still-divided-about-russia-2014-5.

customers and vice versa.[46] If, through sanctions, global powers could impede Russia's ability to find replacement customers in the event of suspending Eastern European exports, Russia would lose its power to divide and weaken Europe.[47] This is one way a global power can prevent a hostile regional power from disrupting attempts at forming regional alliances. Furthermore, global powers should protect the formation of regional alliances by pressuring the aggressor not to attack and buying time for the new alliance to establish itself. Consider what Russia's reaction might be if a new alliance formed along its borders that promised to relieve threatened countries from potential intimidation. Russia would be tempted to somehow break the alliance apart. Global powers have a number of tools at their disposal to pursue this effort, such as economic sanctions, diplomatic and political isolation, information campaigns aimed at fomenting internal dissension, or even some level of military action.

Second, global powers can provide unique capabilities that come with their commensurate status as global powers. For example, military capabilities such as electronic warfare, airborne radar and early warning, space reconnaissance, theater-wide transportation, large-scale logistical support, ballistic missile defense, or nuclear deterrence capabilities are more readily available to powers with global reach than to regional ones. These enablers can significantly augment the overall military capability of an alliance, and if a global power offered to contribute these capabilities, then both parties would stand to benefit. Something similar recently occurred during NATO operations in Libya. The U.S. attacked with cruise missiles and provided air and enabler support to other nations, which in turn provided the preponderance of combat effort.[48] By providing enablers, the U.S. contributed resources to ensure maximum success of the operation, but avoided over-extending its forces.

Third, global powers can tip the regional balance if an alliance's military capability does not sufficiently match the hostile threat. If an alliance has not adequately invested in its own capability, or if a recent development alters the local balance of power in an unforeseen way, a global power has the option to intervene and tip the scales towards the side it prefers. This can occur prior to conflict to improve deterrence, or during a conflict to improve the chances of the desired outcome. Theoretically, this also allows for the possibility of transforming a defensive alliance into an offensive one, to change the *status quo*. Regardless, the global power should ensure that members of an alliance do their part in securing themselves rather than to encourage free-ridership, and limit the alliance's assurance that a global power will bail them out despite their own lack of

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[46] "Conscious Uncoupling: Reducing Europe's dependence on Russian gas is possible – but it will take time, money and sustained political will," *The Economist*, 5 April 2014, available at http://www.economist.com/news/briefing/21600111-reducing-europes-dependence-russian-gas-possiblebut-it-will-take-time-money-and-sustained.

[47] Ibid.

[48] Jean-Michel Guhl, "Strike Operations over Libya: A True Success for France and Britain," *Defence Review Asia*, 6 September 2011, available online at www.defencereviewasia.com/articles/119/Strike-Operations-over-Libya-a-true-success-for-France-and-Britain.

preparation. The countries that comprise an alliance should have a necessary responsibility to take protective measures beforehand.

A critically important strategic imperative of global powers is to disrupt the possibility of an alliance among and between the hostile regional powers. Although hostile regional powers might attempt to stop alliances from forming against them, turn-about is fair play. Such an alliance could conceivably join forces in an attempt to depose the *status quo*. President George W. Bush once spoke of an "Axis of Evil" composed of Iraq, Iran, and North Korea, and something like the alliance he described would be the worst-case scenario for global powers. Thankfully, this "Axis of Evil" was exaggerated since this collection of rogue states did not have strong combined capability to start with, but also, relationships that were not firm enough to publicly commit to each other's collective defense. The United States and other global powers must work to prevent the development of an alliance between Russia, China, North Korea, and Iran. If these forces united, they would wield the potential power to wreak havoc across the Eurasian land mass and beyond. Along these lines, the Shanghai Cooperation Organization (SCO) and Collective Security Treaty Organization (CSTO) are current examples of entities that could possibly solidify and expand into a more dangerous alliance of potentially hostile powers.

Global powers must deftly wield their combination of diplomatic, informational, military, and economic tools to maintain division between these potentially hostile nations. Ideally, the global powers could recruit one of these regional powers into its camp to further defuse their combined potential for mischief. Russia exhibits this possibility stronger than the other potentially hostile states. In negotiating the reduction of Syria's chemical weapons stockpile, allowing the U.S. use of its territory as a logistical supply line for military operations in Afghanistan, and cooperating in multi-national efforts ranging from counter-terrorism to international space exploration efforts, Russia demonstrates the potential to be a benefactor in managing the current global order.

China shows some glimmers of hope in this regard, as well. On several occasions China has sought to restrain North Korea from its bellicose rhetoric and actions. However, this effort has been very modest and had marginal effect. Furthermore, China has not sufficiently sought compromise over contested economic issues, criminal cyber activities, or territorial claims in the South China Sea, making it a potentially intransigent adversary to the present international order.

Assuming no combination of hostile regional forces or simultaneous aggressive actions, global powers protecting the *status quo* should invest in the military capability to match at least two-thirds of their greatest unopposed threat, or at least two-thirds of their greatest threat that remains after deducting the strength of allies that are opposed, whichever figure is higher. Fielding military capability commensurate to this would yield an 80 percent chance of denying a regional aggressor its military objectives, while expecting to incur 6 percent casualties.[49] This would provide the global power a stand-

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[49]   National Research Council, *Improved Operational Testing and Evaluation*, op. cit., 105–108. See note 5.

alone capability to deny the strongest hostile regional power its military objectives, thus giving assurance to threatened nations that they could form an alliance under the protective umbrella of the global power. A mathematical format to represent this is:

$$(2/3)\,T - Ayw \leq Gzx$$

where:

- T is the expected defense spending of the hostile power
- A is the combined defense spending of allied nations opposing hostile power T
- y is the coefficient for friction in the loss of spending efficiencies within alliance A
- w is the alliance's coefficient for spending efficiency compared to hostile power T
- G is defense spending of the global power
- z is the coefficient for friction in the loss of spending efficiencies between global power G and alliance A, and
- x is the global power's coefficient for spending efficiency compared to hostile power T.

To solve for G and determine the suggested defense spending of the global power, the equation becomes:

$$G \geq 2T/3zx - Ay/zx$$

Of course, further increasing the odds of success, reducing the expected level of casualties, developing capability to simultaneously confront multiple adversarial powers would require fielding even more military capability.

As a practical example, we can examine the case of China and the United States, since China had the highest defense budget of potentially hostile regional powers even after deducting Japan's entire defense budget, as Japan is the U.S.'s only formal ally with regional interests opposed to China. China's defense spending in 2013 was $188 billion.[50] Japan's defense spending was $48.6 billion.[51] We will assume a coefficient of 0.8 to for variable z. This supposes that there is a 20 percent loss of efficiency in military capability between the collective defense spending of Japan and the U.S. The variable y will equal 1 since there is no other alliance to consider at this point, and assume w will equal 1 to assume parity in spending efficiency between China and Japan. We will assume x is 0.95 since, despite maintaining many qualitative advantages in its armed forces, the U.S. would have to operate with extended, external lines of communication in this scenario, thus putting the U.S. at an assumed 5 percent disadvantage in

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[50] SIPRI, Military Expenditures by Country, available online at http://portal.sipri.org/publications/pages/expenditures/country-search.

[51] Ibid.

translating spending power to military capability. Therefore, seeking to deny China its potential military objectives with an 80 percent chance of success and counting on help from Japan, the U.S. should have had a minimum defense budget of $ 101 billion. Naturally, this budget would need to emphasize providing military capabilities, which Japan would have difficulty providing for itself.

Pursuing a minimum U.S. defense budget of $ 101 billion in 2013 would have been far lower than the $ 640 billion it actually spent.[52] However, this would have also significantly changed the United States' defense strategy by assuming:

1. The U.S. would have to engage only one hostile regional power at a time.

2. The U.S. would merely seek to maintain the *status quo* and not seek a new state of international affairs.

3. Assumptions to hold variables $y = 1$, $w = 1$, $u = 0.95$, and $z = 0.8$ would be valid.

4. The mixture of military capabilities acquired to defeat Chinese aggression would have provided at least the minimum levels of capability needed to defeat other regional aggressors.

The extent to which each of these assumptions may be wrong increases the level of error to some degree.

The desire to maintain the international *status quo* is a more limited goal than U.S. national security strategy has outlined in the past. From the 1990s through 2012, the U.S. sought capability to simultaneously defeat two regional aggressors.[53] A desired capability implied with this strategy has been to remove the aggressors' regime in the process, as was considered for Iraq during the Gulf War, and actually done in 2003. This would necessitate changing the *status quo* by altering the existing world order, and procuring an offensive military capability beyond that of simply denying an aggressor its objectives. According to studies, a 3:1 advantage in capability would incur a 50 percent chance of success in offensive operations and a 6:1 advantage would yield an 80 percent chance of success.[54] The formula to secure defense spending necessary to reach an 80 percent level of confidence would then become:

$$6T - Awy \leq Gzx$$

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[52] Ibid.

[53] Daniel Goure, *The Measure of a Superpower: A Two Major Regional Contingency Military for the 21st Century*, Special Report No. 128 on National Security and Defense (Washington D.C: The Heritage Foundation, 25 January 2013), available online at http://www.heritage.org/research/reports/2013/01/the-measure-of-superpower-a-two-major-regional-contingency-military-for-21-century. See also the 1997 U.S. Quadrennial Defense Review (QDR), Section III: Defense Strategy, sub-section "Fighting and Winning Major Theater Wars."

[54] National Research Council, *Improved Operational Testing and Evaluation*, op. cit., 105–108. See note 5.

For the purpose of this analysis, let us consider a combination of the two easier potentially hostile powers of the four identified thus far, and use the U.S. as the global power to defeat them. Consequently, if prepared to conduct two simultaneous conflicts to defeat North Korea and Iran,[55] assuming only Japan and South Korea's assistance as allies against North Korea, a perfectly coordinated defense spending program between the U.S., Japan, and South Korea ($w=1$, $y=1$, $z=1$, and $u=1$), and no capability could be shared between the simultaneous conflicts, the U.S. would have had to have spent approximately \$637 billion in 2013 to yield an 80 percent chance of success in the event of conflict.[56] This is remarkably close to the \$640 billion the U.S. actually spent,[57] and should have yielded greater capability than the United States' 2012 stated strategy of simultaneously defeating one regional aggressor while merely denying the military objectives of a second.[58] Therefore, if the coefficients and assumptions held true, the U.S. probably spent more than it needed to achieve its national defense goals in 2013.

Consequently, if merely funding the minimum level of \$101 billion in 2013 as proposed here, and limiting the global power's goal to simply denying the military objectives of the strongest potentially hostile regional power, the U.S. would have reduced its defense budget to 84 percent and yielded savings of \$536 billion in 2013 alone. Simply by seeking the capability to maintain the international *status quo* and by depending on alliances to complement capability, rather than maintaining independent capability to alter the existing international order, the U.S. defense budget would have been considerably lower. This is not to suggest that the U.S. would be best served by limiting itself to this strategy. However, it serves as an example of establishing a minimum amount that ensures the defense spending of a global power is adequate to meet conventional challenges. The most significant disadvantage of this defense strategy would have been that the U.S. would forfeit the simultaneous capability to defeat two smaller regional aggressors. Then again, if the U.S. reduced spending to a minimum level to confront regional threats, it would free up more funds to combatting transnational terrorism which more directly affects U.S. national security interests.

In addition, an alliance between global powers could further diffuse the costs necessary for supporting regional alliances. In this case, the combined global powers would form an alliance that would replace the term G in the formulas above with $A_1 w_1$ where:

- A_1 is the combined defense spending of global allies opposing hostile power T, and
- w_1 is the global alliance's coefficient for spending efficiency compared to aggressor T.

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[55] As suggested by Goure, "The Measure of a Superpower," op. cit.

[56] Without accurate defense spending information for North Korea, the author assumed military capability to be 3 times that of South Korea and calculated the North's spending to be equivalent to \$102 billion in 2013.

[57] SIPRI, Military Expenditures by Country, available online at http://portal.sipri.org/publications/pages/expenditures/country-search.

[58] Goure, "The Measure of a Superpower," op. cit.

The formulas discussed so far are a useful tool to help gauge a nation's minimum defense spending. By manipulating the formula depending on an entity's goals and considering the desired chances of success, it can be used to derive the expected level of defense spending necessary to achieve its national objectives. The table below exhibits several hypothetical national defense objectives and indicates the minimum budgets an alliance would need to achieve its corresponding military objective (assuming $y=w=z=u=1$). To explore this theory further, we will examine the First World War and Cold War to see how defense spending and military capability played a role in each side's interest to either maintain or alter the *status quo*.

	Defeat 1	Defeat 2 (simultaneous)	Deny 1	Deny 2 (simultaneous)	2013 Spending Required [59] confidence	
					50%	80%
Alliance 1	--	--	Russia	--	30.25	60.5
Alliance 2	--	--	China	--	55.4	110.7
Alliance 3	North Korea	Iran	--	--	329.3	658.6
Alliance 4	Iran	--	North Korea	--	71.8	143.6
Alliance 5	--	--	Russia	China	85.7	171.4
Alliance 6	China	--	--	--	498.3	996.6
Alliance 7	--	--	United States	--	213.3	426.7

The Failed Balance of Power Preceding the First World War

The year 2014 marks the 100th anniversary of the start of the First World War, and it is *à propos* to extract the lessons of its causes and consequences in order to prevent similar catastrophes from happening in the future. The prelude to World War I is well documented. Intricate, and occasionally secret, alliances linked the powers of Europe together like a ball and chain. Once the ball fell off the cliff, the whole chain fell along with it. The main belligerents were divided into two equally strong sides called the Central Powers and the Triple Entente. However, by declaring war first, the Central Powers were the side that sought to force change on the *status quo*, while the Triple Entente sought to maintain the international order by defending the territorial integrity of its members. When a nation or alliance matches the military capability of an aggressor with enough of its own, it improves its chances to deny the aggressor its objectives and thereby preserve the *status quo*. The Triple Entente invested in its military capability well enough to keep their adversaries at bay over the course of the war, and the Central Powers failed to procure enough capability beforehand to force a change to the interna-

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[59] Figures in billions of U.S. dollars.

tional system against the combined strength of its adversaries. Despite the Central Powers' lack of capability to achieve its desired change to the international system, this example also shows that defenders possessing enough capability to deny an enemy its objectives may not be enough to deter potential aggressors from attacking.

In 1913, the alliance of the Central Powers was formally called the Triple Alliance, and consisted of Germany, Austria-Hungary, and Italy. On the other side, the Triple Entente featured the United Kingdom, France, and Russia. Austria-Hungary was the first nation to declare war in 1914, initiating action against Serbia. In response, Russia began to mobilize its forces in preparation to defend their Serb allies. This triggered Germany to declare war against Russia, and the United Kingdom and France followed suit in honoring their Triple Entente agreement. Careful of *carte blanche* commitments, the United Kingdom considered opting out of the conflict as it brewed, but with Germany's invasion of Belgium, the UK decided it was in its interest to intervene.[60] Since Italy only intended to participate in a defensive arrangement, it withdrew from the Triple Alliance but was replaced by the Ottoman Empire, which sought to regain territory previously lost to Russia as well as to maintain its ties with Germany. The great powers of Europe became embroiled in a massive war as their network of alliances pulled each nation into brutal conflict.

The combined defense spending of the Triple Alliance in 1913 was $ 972 million in 2014 U.S. dollars, while the combined defense spending of the Triple Entente was $ 1181 million.[61] Although the military capability of the Triple Entente should have been superior to the Triple Alliance, Germany believed it held advantages in its ability to quickly mobilize and maneuver its ground forces, particularly against Russia.[62] Germany and Austria-Hungary also felt that time was not on their side under the *status quo*.[63] Germany expected the changing continental balance of power would put them at even more of a disadvantage in the future and, therefore, agreed that Austria-Hungary should attempt a bold, quick move into Serbia to reverse momentum in its favor.[64] They miscalculated that the Triple Entente would not respond in time.[65] Eventually, Germany and Austria-Hungary might have expected the addition of other allies to tip the balance of power in its favor, such as when the Ottoman Empire committed to the Central Powers, but Italy's declaration of neutrality at the start of the war inflicted a greater loss to

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[60] David Fromkin, *Europe's Last Summer: Who Started the Great War of 1914?* (New York: Random House, 2005), 279-280.

[61] Erik Sass, "WWI Centennial: The Arms Race Shifts into High Gear," *MentalFloss.com*, 6 March 2013, available online at http://mentalfloss.com/article/49253/wwi-centennial-arms-race-shifts-high-gear.

[62] Germany estimated that France would require two weeks to mobilize and mount an attack against Germany, while Russia would require six. From Barbara Tuchman, *The Guns of August* (New York: Macmillan, 1962), 19.

[63] Fromkin, *Europe's Last Summer*, op. cit., 94–97, 158.

[64] Ibid.

[65] Ibid.

the alliance than the addition of the Ottomans provided. The Ottoman Empire's defense spending in 1913 was $ 73 million while Italy's was $ 193 million.[66]

The defense spending levels of each side was so close that each alliance held more than two-thirds of each other's defense spending. This ensured that each side could expect a better than an 80 percent chance of military success to deny their adversaries military objectives and protect the *status quo* from each other's possible attempt to force change. After years of fighting that resulted in stalemate with an appalling level of lives lost, military operations failed to yield a decisive result. However, the Triple Entente had essentially preserved the *status quo* on the continent. In fact, since the Triple Entente enjoyed about a 4:3 advantage in military spending over the combined spending of the Triple Alliance prior to the war,[67] the Triple Entente should have enjoyed a greater than 90 percent chance of denying the Central Powers their military objectives.[68]

Believing that they held tactical and operational advantages to defeat the opposing alliance, with time against them, the Central Powers were tempted to strike a devastating initial blow in order to quickly achieve victory. This served to encourage the Central Powers to initiate war, and failed to preserve deterrence between the great powers. Although deterrence failed, the military capabilities of each side ultimately ensured neither was able to impose its will on the other through military force. In terms of military outcomes, the relatively even levels of spending and capability resulted in no change to the military balance of power at war's end. However, since the Central Powers failed in their attempt to change the *status quo* through armed force, they had been defeated politically, and a new international order supplanted the old to their disadvantage.

One stark lesson of World War I is to be wary of overlapping alliances because, once committed to defend a partner, a partner's obligation to defend a third-party essentially pulls all three into the same potential conflict. In the absence of agreement between all parties, it is likely that one of the original two partners would seek to avoid conflict on behalf of the third-party it hadn't previously made an agreement with. NATO's North Atlantic Treaty Article 1, which states that members must "settle any international dispute […] in such a manner that international peace and security and justice are not endangered,"[69] in combination with Article 8 which states that each ally must not "enter into any international engagement in conflict with this treaty,"[70] addresses some of this concern for the contemporary European alliance. This reassures member nations that an aggressive ally would not pull the others into war, since that would violate portions of the treaty. However, it still does not preclude a member from dragging the rest of the alliance into war if one member is attacked in the course of defending a third-party that

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[66]   Ibid.

[67]   Ibid.

[68]   National Research Council, *Improved Operational Testing and Evaluation*, op. cit., 105–108. Cf. note 5.

[69]   Ibid.

[70]   North Atlantic Treaty Organization, "The North Atlantic Treaty" (Washington D.C., 4 April 1949), available online at http://www.nato.int/cps/en/natolive/official_texts_17120.htm.

is part to another conflict.[71] Japan harbors similar concerns over its treaty with the United States, namely that if U.S. forces stationed in Japan attacked a third-party, a successive counterattack against U.S. facilities in Japan could pull it into a war in which it has no interest. Consequently, Japan negotiated an agreement that requires the U.S. to consult Japan prior its use of bases to launch combat operations outside of Japan.[72] It would be prudent for alliances and global powers to make similar agreements with their partners as a hedge against being drawn into similar predicaments.

A continuing debate among historians and political scientists surrounds whether Europe's even balance of power prior to the First World War served to postpone an inevitable war or contributed to its start. Although some propose that international systems are more stable when military power is evenly balanced and others propose it is more stable when there is a clear superiority among powers,[73] World War I provides an example where the existence of evenly balanced alliances led to a disastrous outcome. The reality is that there is no firm guideline to assure long-term peace, regardless of whether there is a balance of power or if one side holds preponderance. The inevitability of unforeseen events makes the assurance of peace as unreliable as stock market forecasts.

The Success of Cold War Containment

The Cold War was a prolonged period of tension between the world's major powers, which led to an arms race similar to the years preceding the First World War. Fortunately, unlike the First World War, a war between the major powers never broke out. Neither side succumbed to the temptation to strike the other quickly in order to land an advantageous blow. Instead, the conflict was characterized by a series of small-scale conflicts, proxy wars, and attempts at subversion, even within each other's spheres of influence. The balance of power and levels of defense spending were relatively even between the United States and Soviet Union, as were their respective alliances in NATO and the Warsaw Pact. Both sides could deny the other their military objectives to change the *status quo*, neither side could effectively alter it, and the result was that neither side attempted a direct bold attack on the other.

During the years 1967-1989, U.S. defense spending averaged $232.6 billion per year and the Soviet Union averaged $232.7 billion.[74] It is striking how similar the two nation's defense spending was. From 1976-1986, the alliances of NATO and the Warsaw Pact averaged $322 billion and $280 billion per year, respectively.[75] NATO held a

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[71] Article 5 of the North Atlantic Treaty states that "an armed attack against one … in Europe or North America shall be considered an attack against them all," without qualifying which side initiates conflict and without barring third-party defense agreements.

[72] John K. Emmerson, "Japan: Eye on 1970," *Foreign Affairs* 47:2 (January 1969): IV/6.

[73] See Doru Tsaganea, "Tension reduction by military power equalization: The USA-USSR case," *Kybernetes* 40:5/6 (2011): 778–788.

[74] Ibid., 783. Figures expressed in terms of 1983 U.S. dollars. Average calculated by the author.

[75] Noel E. Firth and James H. Noren, *Soviet Defense Spending: A History of CIA Estimates, 1950-1990* (College Station, TX: Texas A&M University Press, 1998), 120. Figures expressed in terms of 1985 U.S. dollars. Average calculated by the author.

spending advantage, but the Warsaw Pact maintained a little more than 2:3 ratio in military spending, which, if directly translated into military capability, provided a greater than 80 percent probability of denying NATO its military objectives in the event of attack. Furthermore, the Soviet Union enjoyed significant advantages in interior lines of communication for virtually any hypothetical conflict with the United States, which increased its relative military capability. Additionally, the Warsaw Pact had a better-integrated military alliance because its systems and organizations were derivative of the Soviet military, whereas NATO countries often developed their own equipment and operating methods.[76] Taking this into account, the spending efficiency for the Warsaw Pact (variable y) was probably greater than NATO's, which likely translated into an even closer military capability.

The West's grand strategy—outlined in NSC-68 and borrowing from George Kennan's theory of containment—concluded that preserving the *status quo* would eventually lead to the collapse of the Eastern Bloc. The West was able to prevent dramatic change to the world order over the course of several decades and, by maintaining sufficient military capability making the outcome of potential Soviet military adventurism uncertain, the West deterred the East and shaped the conditions for it to stagnate and decay in isolation. Without having to defeat the East's military in battle, the West concluded a successful strategy by preserving the *status quo*.

Some postulated that, if the Soviet Union realized that the West would eventually prevail while the East would meet its demise, the Soviet Union would seek an opportune moment and gamble with an attempt at striking first in order to seize dominance. Fortunately, the Soviet Union calculated that it would better serve their interests to persevere while its alliance crumbled, rather than undertake the risk of global nuclear war. The world probably has Mikhail Gorbachev to thank for this decision. However, neither choice nor outcome was ever certain. There was no guarantee that the Soviet Union would choose eventual collapse over warfare.

Conclusion

A series of potentially hostile regional powers have grown stronger, aggressive, and intimidating in recent years. Russia, China, North Korea, and Iran have demonstrated willingness to use military force to expand their spheres of influence and claim territory not internationally recognized as theirs. However, by forming regional alliances, groups of threatened nations in each of these respective regions could invest in their collective defense to block aggressive powers at reasonable economic cost. Sharing military capability would pool the resources necessary and increase the potential military capability of several nations, dispersing the costs across them and, thus, enabling a group of smaller nations to gain confidence in defending against a more powerful one.

Defense spending can be used as a quick rule-of-thumb to determine a nation's military capability. This is a simplification, admittedly, that assumes equal levels in wisdom,

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[76] Congressional Budget Office, *Assessing the NATO/Warsaw Pact Military Balance* (Washington, D.C., December 1977), xii.

efficiency, and economies of scale in dollars spent, and also assumes that the additional security threats each side faces cancel the other's out. It assumes that a given regional alliance would merely seek to maintain the military *status quo* at the conclusion of armed conflict, and that the defender's required mixture of forces against greatest perceived threat also provides the minimum capabilities necessary to counter other lesser threats. Nevertheless, defense spending analysis provides a reasonable rough estimate to determine the necessary budget capability to counter a hostile regional power.

Conventional military thought supposes that a defending military force enjoys a natural advantage three times its combat power over that of attacking forces. Attacking forces generally require a 3:1 advantage in combat capability to attain a 50 percent chance in defeating the defending force. Since the nations threatened by hostile regional powers seek to preserve the *status quo*, they are inherently in a defensive position to protect their territory and interests. These nations can increase confidence in their ability to withstand military attacks by ensuring adequate defense spending. Exceeding the 1:3 ratio improves a military force's chances for strategic defense with a greater than 50/50 chance of success.[77] Increasing the defender's military capability to a ratio of 2:3 increases its chances of successfully denying its adversary's objectives to 80%. By determining the formula:

$$R \geq T/(3yw)$$

Whereas:

- R is the combined expected defense spending of nations opposing hostile power T
- T is the expected defense spending of the hostile power
- y is the coefficient for friction in the loss of spending efficiencies within alliance R, and
- w is the alliance's coefficient for spending efficiency compared to hostile power T,

An alliance can determine the minimum amount of defense spending necessary—a floor—to procure the capability necessary to secure a 50/50 chance of successfully denying the hostile regional power's objectives of its military attack. Naturally, increasing defense spending above this level secures a stronger probability of success. Merely maintaining the capability is not enough, however. Threatened nations must demonstrate the willingness to use force to protect their interests. Maintaining adequate levels of military readiness demonstrates a level of resolve.

Global powers also play a role in countering regional aggressors in order to preserve the global order, as this is in their interests. Global powers should support regional

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[77] For further explanation on algorithmic equations to approximate military chances of success, see M.E. Tillman, "Optimizing Force Ratios to Develop a Course of Action," *Mathematical and Computer Modeling* 23:1/2 (1996): 55-63.

alliances at their inception, since hostile powers may seek to disrupt their formation. Global powers can contribute particular combat multipliers they uniquely possess due to their status, and at a comparatively lower cost than the smaller member nations of alliances. Also, by directly contributing resources to regional alliances, global powers can increase the alliance's probability of military success.

Global powers must prevent the formation of alliances between hostile regional powers, and undertake defense spending at a rate no less than two-thirds of its most significant potential adversary. This rate of defense spending ensures threatened nations can establish an alliance under the global power's protective umbrella. Global powers, as well as existing alliances subjected to changing security architectures that arise when new ones form, should review their treaty obligations to ensure that risks are shared appropriately across nations, and to mitigate the danger that a third-party could drag others into a much greater war.

Under circumstances where there is an even balance of power between alliances, some argue that the situation can be more stable. However, the example of the First World War shows devastating error to this reasoning. Ultimately, neither an even balance of power between sides, nor one side holding a preponderance of power ensures peace. The onset of war is as difficult to forecast as the stock market. However, the example of the Cold War shows us how preserving the *status quo* can be an effective national strategy. To change the global order through military force requires an offensive capability and entails significantly greater defense spending.

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