

# The Routledge Handbook of Security Studies

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## Deterrence

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Threat-based strategies have always been central to International Relations. Deterrence and compellence represent efforts to conceptualize these strategies to make them more understandable in theory and more effective in practice. These efforts, which have been underway since the end of the Second World War, remain highly controversial. There is no consensus among scholars or policymakers about the efficacy of these strategies or the conditions in which they are most appropriate.

Deterrence is both a theory in International Relations and a strategy of conflict management. It can be defined as an attempt to influence other actors' assessment of their interests. It seeks to prevent an undesired behaviour by convincing the party who may be contemplating such an action that its cost will exceed any possible gain (Lebow 1981: 83). Deterrence presupposes that decisions are made in response to some kind of rational cost-benefit calculus, that this calculus can be successfully manipulated from the outside, and that the best way to do so is to increase the cost side of the ledger. Compellence, a sister strategy, uses the same tactics to attempt to convince another party to carry out some action it otherwise would not. Although they have not always been called 'deterrence', threat-based strategies that attempt to manipulate the cost-calculus of other actors have long been practised: there is ample evidence of their use by all the ancient empires.

The advent of nuclear weapons made it imperative for policymakers to find ways of preventing catastrophically destructive wars while exploiting any strategic nuclear advantage for political gain. This chapter describes early theoretical approaches to deterrence, their application in practice and the subsequent critique of them. Drawing on works that made use of Soviet, US, Chinese and Israeli archives, and interviews with officials from these countries and Egypt, the following discussion provides an overall assessment of the consequences of deterrence during the Cold War. The chapter concludes with a brief discussion of post-Cold War deterrence and promising areas for research.

## The golden age of deterrence theory

In analytical terms, theories of deterrence must be distinguished from the strategy of deterrence. The former address the logical postulates of deterrence and the political and psychological assumptions on which they are based, the latter the application of the theory in practice. The theory of deterrence developed as an intended guide for the strategy of deterrence.

Scholars and policymakers became interested in deterrence following the development of the atom bomb. The first wave of theorists wrote from the late 1940s through the mid-1960s. Early publications on the subject (Brodie 1947) recognize that a war between states armed with atomic weapons could be so destructive as to negate Carl von Clausewitz's (1976: 75–89) classic description of war as a continuation of politics by other means. In 1949, the problem of deterrence gained a new urgency as the Cold War was well underway and the Soviet Union, in defiance of all US expectations, detonated its first nuclear device in October of that year. In the 1950s, often referred to as the Golden Age of deterrence, Bernard William Kaufmann (1954), Henry Kissinger (1957) and Bernard Brodie (1959), among others, developed a general approach to nuclear deterrence that stressed the necessity but difficulty of imparting credibility to threats likely to constitute national suicide. The 1960s witnessed an impressive theoretical treatment by Thomas Schelling (1966) that analysed deterrence in terms of bargaining theory, drawn from microeconomics, and elaborated a set of bargaining tactics based on tacit signals.

The early literature (Kaufmann 1954; Brodie 1959; Schelling 1966) began with the assumption of fully rational actors and was largely deductive in nature. It stressed the importance of defining commitments, communicating them to adversaries, developing the capability to defend them and imparting credibility to these commitments. It explored various tactics that leaders could exploit towards this end, concentrating on the problem of credibility. This was recognized as the core problem when deterrence was practised against another nuclear adversary – and the implementation of the threats in question could entail national suicide (Jervis 1979). Thomas Schelling (1966) went so far as to suggest that it was rational for a leader to develop a reputation for being irrational so his threats might be believed. Richard Nixon indicates that he took this advice to heart in his dealings with both the Soviet Union and North Vietnam (Kimball 1998: 76–86).

All of the so-called Golden Age literature focuses almost entirely on the tactics of deterrence, as do Kaufmann and Brodie, or, like Kissinger, on the force structures most likely to make deterrence credible. Thomas Schelling fits in the former category, but unlike other students of deterrence in the 1950s and 1960s, he attempts to situate his understanding of tactics in a broader theory of bargaining that draws on economics and psychology. His *Strategy of Deterrence* (1960) and *Arms and Influence* (1966) are the only works on deterrence from this era that are widely cited and continue to be read.

As a practising economist, Schelling might have been expected to privilege material capabilities in his analysis. In *Arms and Influence*, he makes a ritual genuflection in this direction on the opening page when he observes that with enough military force, a country may not need to bargain. His narrative soon makes clear that military capability is decisive in only the most asymmetrical relationships, and even then only when the more powerful party has little or nothing to lose from the failure to reach an accommodation. When the power balance is not so lopsided, or when both sides would lose from non-settlement, it is necessary to bargain. Bargaining outcomes do not necessarily reflect a balance of interests or military capabilities. Three other influences are important.

The first is *context*, which for Schelling consists of the stakes, the range of possible outcomes, the salience of those outcomes and the ability of bargainers to commit to those outcomes. In straightforward commercial bargaining, contextual considerations may not play a decisive role. In bargaining about price, there will be a range of intervals between the opening bids of buyer and seller. If there is no established market price for the commodity, no particular outcome will have special salience. Either side can try to gain an advantage by committing itself to its preferred outcomes. Strategic bargaining between states is frequently characterized by sharp discontinuities in context. There may be a small number of possible outcomes, and the canons of international practice, recognized boundaries, prominent terrain features or the simplicity of all-or-nothing distinctions can make one solution more salient than others. Salient solutions are easier to communicate and commit to, especially when the bargaining is tacit (Schelling 1966: 6–16).

The second consideration is *skill*. Threats to use force lack credibility if they are costly to carry out. To circumvent this difficulty, clever leaders can feign madness, develop a reputation for heartlessness or put themselves into a position from which they cannot retreat. Other tactics can be used to discredit adversarial commitments or minimize the cost of backing away from one's own (Schelling 1960).

The third, and arguably most important, determinant of outcome is *willingness to suffer*. Paraphrasing Carl von Clausewitz, Schelling describes war as a contest of wills. Until the mid-twentieth century, force was used to bend or break an adversary's will by defeating his army and holding his population and territory hostage. Air power and nuclear weapons revolutionized warfare by allowing states to treat one another's territory, economic resources and population as hostages from the outset of any dispute. War is no longer a contest of strength, but a contest of nerve and risk-taking, of pain and endurance. For the purposes of bargaining, the ability to absorb pain counts just as much as the capability to inflict it (von Clausewitz 1976: Book 6, ch. 26).

Schelling does not say so, but it follows from his formulation that the capacity to absorb suffering varies just as much as the capacity to deliver it. Clausewitz recognized this variation. Increases in both capabilities, he argued, made possible the nation in arms and the revolutionary character of the Napoleonic Wars (von Clausewitz 1976: 585–94). By convincing peoples that they had a stake in the outcome of the wars, first the French and then their adversaries were able to field large armies, extract the resources necessary to arm and maintain them, and elicit the extraordinary level of personal sacrifice necessary to sustain the struggle.

The Clausewitz–Schelling emphasis on pain has wider implications for bargaining. The ability to suffer physical, economic, moral or any other loss is an important source of bargaining power and can sometimes negate an adversary's power to punish. Realist approaches to bargaining tend to neglect this dimension of power and focus instead on the power to hurt and how it can be transformed into credible threats. Schelling also ignores the pain absorption side of the power–pain equation when analysing compellence in Vietnam, an oversight that led to his misplaced optimism that Hanoi could be coerced into doing what Washington wanted. The power to punish derives only in part from material capabilities. Leaders must also have the will and freedom to use their power. Schelling observes that Genghis Khan was effective because he was not inhibited by the usual mercies. Modern civilization has generated expectations and norms that severely constrain the power to punish. The US bombing campaign in Vietnam, in many people's judgement the very antithesis of civilized behaviour, paradoxically demonstrates this truth.

## Deterrence strategy

Deterrence played a central role in the US strategy in Indochina during the Johnson and Nixon administrations. Deployment of forces, the character of the engagements they sought and the level and choice of targets for bombing were never intended to defeat the National Liberation Front of South Vietnam (Viet Cong) or North Vietnam, but to compel them to end the war and accept the independence of South Vietnam. The Indochina intervention ended in disaster and helped to spawn a series of critiques of the theory and strategy of deterrence in the 1970s.

As mentioned, Vietnam paradoxically demonstrates the truth that modern civilization has generated expectations and norms that severely constrain the power to punish. The air and ground war aroused enormous opposition at home, in large part because of its barbarity, and public opinion ultimately compelled a halt to the bombing and withdrawal of US forces from Indochina. The bombing exceeded the Second World War in total tonnage, but was also more restricted. The US refrained from indiscriminate bombing of civilians and made no effort to destroy North Vietnam's elaborate system of dikes. The use of nuclear weapons was not even considered. Restraint was a response to ethical and domestic political imperatives. Similar constraints limited US firepower in Iraq in the Gulf War of 1990–91, and enabled the Republican Guard and Saddam Hussein to escape destruction.

The ability to absorb punishment derives even less from material capabilities, and may even be inversely related to them. One of the reasons why Vietnam was less vulnerable to bombing than Schelling and Pentagon planners supposed was its underdeveloped economy. There were fewer high-value targets to destroy or hold hostage. With fewer factories, highways and railroads, the economy was more difficult to disrupt, and the population was less dependent on existing distribution networks for its sustenance and material support. According to North Vietnamese strategic analyst Colonel Quach Hai Luong: 'The more you bombed, the more the people wanted to fight you' (McNamara et al. 1999: 194). Department of Defense studies confirm that bombing 'strengthened, rather than weakened, the will of the Hanoi government and its people' (McNamara et al. 1999: 191, 341f.). It is apparent in retrospect that the gap between the protagonists in material and military capabilities counted for less than their differential ability to absorb punishment. The US won every battle, but lost the war because its citizens would not pay the moral, economic and human cost of victory. Washington withdrew from Indochina after losing 58,000 American lives, a fraction of Viet Cong and North Vietnamese deaths even at conservative estimates. As Clausewitz understood, political and moral cohesion based on common interests is more important than material capabilities.

A comparison between South and North Vietnam is even more revealing. The Army of the Republic of South Vietnam (ARVN) was larger and better equipped and trained than the Viet Cong or the North Vietnamese, and had all the advantages of US air power, communications and logistics. The Republic of South Vietnam crumbled because its forces had no stomach for a fight. The Viet Cong and North Vietnamese sustained horrendous losses whenever they came up against superior US firepower, but maintained their morale and cohesion throughout the long conflict. Unlike ARVN officers and recruits, who regularly melted away under fire, more Viet Cong and North Vietnamese internalized their cause and gave their lives for it. At the most fundamental level, the Communist victory demonstrated the power of ideas and commitment.

## Critiques

From the beginning, deterrence theory and strategy has spawned critiques. The most interesting are those that evaluate deterrence strategy in the light of empirical evidence from historical cases. The work of Milburn (1959), George and Smoke (1974), Lebow (1981) and Jervis et al. (1984) is representative. George and Smoke recognized that challenges short of full-scale attacks – what they called ‘probes’ – were difficult to deter and might be instituted by adversaries to test a state’s resolve. They and Milburn attempted to put deterrence into a broader context and argued that it might be made a more efficacious strategy if threats of punishment were accompanied by promises of rewards for acceptable behaviour.

An important distinction must further be made between general and immediate deterrence (Morgan 1983). *General deterrence* is based on the existing power relationship and attempts to prevent an adversary from seriously considering any kind of military challenge because of its expected adverse consequences. *Immediate deterrence* is specific; it attempts to forestall an anticipated challenge to a well-defined and publicized commitment. Immediate deterrence is practised when general deterrence is thought to be failing. It is almost impossible to know when general deterrence succeeds because non-action by a target state can be the result of many reasons, including any lack of intention to use force. Because cases of the success or failure of immediate deterrence are somewhat easier to identify, most research has sought to explain their outcomes. Analyses of immediate deterrence that ignore its relationship to general deterrence offer a biased assessment of its success rate and an incomplete picture of the conditions and processes that account for its outcome.

For many years, however, empirical research on deterrence, whether qualitative or quantitative, drew primarily on cases of immediate, conventional deterrence. Empirical studies of immediate deterrence are surrounded by considerable controversy in the absence of compelling evidence about the intentions and calculations of the leaders of target states (Huth and Russett 1984, 1988; Lebow and Stein 1990). Beginning in the late 1980s, evidence on Soviet and Chinese foreign policy began to become available, and it became possible for the first time to reconstruct critical Soviet–US and Sino-US deterrence encounters and to make some observations about the role of general deterrence in these relationships. It transpired that there had been striking differences among leaders on opposing sides about who was practising deterrence and who was deterred. In many so-called deterrence encounters (Garthoff 1989; Lebow and Stein 1990), both sides considered themselves the deterrer. This is often due to different interpretations of the status quo. In the Cuban missile crisis (Lebow and Stein 1994), Khrushchev understood the secret Soviet missile deployment in Cuba to be part and parcel of his attempt to deter a US invasion of Cuba. Kennedy and his advisors interpreted the deployment as a radical and underhanded effort to upset the strategic status quo.

### ***Immediate deterrence***

From cases such as these, Janice Gross Stein and Richard Ned Lebow (Lebow 1981; Jervis et al. 1984; Lebow and Stein 1987) developed an extensive critique of immediate deterrence with three interlocking components: political, psychological and operational. The political component concerns the motivation behind foreign policy challenges. Deterrence is unabashedly a theory of ‘opportunity’. Adversaries are assumed to seek

opportunities to make gains and pounce when they find them. Case studies of historical conflicts point to an alternative explanation for challenges, including resorts to force, which Lebow and Stein term a theory of 'need'. Strategic vulnerabilities and domestic political needs can push leaders into acting aggressively. Khrushchev's Cuban missile deployment, to cite one instance, was motivated by his perceived need to protect Cuba and offset US strategic superiority, and his anger at Kennedy for deploying missiles in Turkey – making him look weak in the eyes of hardliners (Lebow and Stein 1994: 19–66). When leaders become desperate, they may resort to force even when the military balance is unfavourable and there are no grounds for doubting adversarial resolve. Deterrence may be an inappropriate and provocative strategy in these circumstances.

The psychological component is also related to the motivation behind deterrence challenges. To the extent that policymakers believe in the necessity of challenging the commitments of their adversaries, they become predisposed to see their objectives as attainable. When this happens, motivated bias can be pronounced and take the form of distorted threat assessments and insensitivity to warnings that the policies to which our leaders are committed are likely to end in disaster. Policymakers can convince themselves, despite evidence to the contrary, that they can challenge an important adversarial commitment without provoking war. Because they know the extent to which they are powerless to back down, they expect their adversaries to accommodate them by doing so. To continue with our Cuban missile crisis example, Khrushchev brushed aside the advice of top political and diplomatic advisors who warned him that the missiles would be discovered before they were operational and would provoke a serious crisis with the US. He sought refuge instead in promises of marginal military officials with little knowledge of Cuba or US intelligence capabilities (Lebow and Stein 1994: 67–93).

The practical component highlights the distorting effects of cognitive biases and heuristics, political and cultural barriers to empathy, and the differing cognitive contexts that the deterrer and would-be challengers are apt to use to frame and interpret signals. Problems of this kind are not unique to deterrence; they are embedded in the very structure of International Relations. They nevertheless constitute particularly severe impediments to deterrence because of a deterrer's need to understand the world as it appears to the leaders of a would-be challenger in order to manipulate effectively its cost-benefit calculus. Failure to do this in the desired direction can make the proscribed behaviour more attractive to a challenger. In the case of Cuba, Kennedy's deployment of Jupiter missiles in Turkey and his warnings that under some circumstances the US would not hesitate to strike first, given its strategic nuclear advantage, were intended to moderate Khrushchev, but instead they convinced him of the even greater costs to the Soviet Union of remaining passive in the face of these US threats. Kennedy, in turn, had made these threats because of Khrushchev's browbeating of him at the Vienna summit and threats to the Western position in Berlin (Lebow and Stein 1994: 19–50). The missile crisis was, in effect, the product of a series of escalating threats and actions by both sides, each attempting unsuccessfully to deter the other.

### ***General nuclear deterrence***

Research on the Cuban missile crisis, the Soviet–US crisis arising out of the 1973 Middle East War, and the two Taiwan Straits crises of 1954 and 1958 tend to confirm the findings of critics of conventional deterrence. So does research on general nuclear deterrence. Based on the study of Soviet–US relations in the Khrushchev and Brezhnev

eras, Lebow and Stein offer the following conclusions about the role of general nuclear deterrence:

- 1 leaders who try to exploit real or imagined nuclear advantages for political gain are not likely to succeed;
- 2 credible nuclear threats are very difficult to make;
- 3 nuclear threats are fraught with risk;
- 4 strategic build-ups are more likely to provoke than to restrain adversaries because of their impact on the domestic balance of political power in the target state;
- 5 nuclear deterrence is robust when leaders on both sides fear war and are aware of each other's fears.

We must distinguish between the reality and the strategy of nuclear deterrence. The former, at least in the case of the Cold War, led to self-deterrence, as leaders on both sides were horrified by the prospects of a nuclear conflict. Not knowing of each other's fears, or refusing to acknowledge them, both superpowers practised the strategy of deterrence with a vengeance. This entailed arms build-ups, forward deployments and threatening rhetoric, often in combination. Practised this way, the strategy of deterrence was responsible for the series of crises that escalated to the Cuban missile crisis, where both sides stepped down from the brink and sought to reassure their adversary (Lebow and Stein 1994: 348–68).

Zhang (1992), Hopf (1994) and Lebow and Stein (1994) further find that deterrers do worry about their reputations and the credibility of commitments, but that the targets of deterrence rarely question their adversary's resolve. For this reason, efforts to communicate resolve were often perceived as gratuitously aggressive behaviour and sometimes provoked the kind of challenges they were designed to prevent. In doing so, the strategy of deterrence helped to provoke the Cuban missile and Taiwan Straits crises and to prolong the Soviet–US and Sino–US conflicts.

### ***End of the Cold War***

The end of the Cold War, accompanied by the opening of the archives of the participants, brought another wave of reassessment. No consensus has emerged, but the issues have been clarified and enriched by much new evidence. The debate about deterrence has also extended beyond conflict management to conflict resolution. Supporters of former US president Ronald Reagan, and conservatives more generally, credit Reagan's arms build-up and the Strategic Defense Initiative (Star Wars) with ending the Cold War. They are alleged to have brought the Soviet Union to its senses and provided strong incentives for it to seek an accommodation with the US (Matlock 1995). According to this thinking, Gorbachev and his advisors became convinced that they could not compete with the US and ought to negotiate the best deal they could before Soviet power declined even further (Davis and Wohlforth 2004). Western liberals, former Soviet policymakers and many scholars attribute the end of the Cold War to 'New Thinking' and the political transformation it brought about within the Soviet leadership. Gorbachev, they contend, considered the Cold War dangerous and a waste of resources and sought to end it to bring the Soviet back into Europe, facilitate political reform at home and free resources for domestic development (Brown 1996; English 2000; Levesque 1997; Herrmann 2004).



These contending interpretations base their respective arguments on very different kinds of arguments. Those who credit Reagan's arms build-up with ending the Cold War build their case entirely on inference. The arms build-up is supposed to have signalled resolve to Moscow and convinced rational Soviet leaders to make the concessions necessary to end the Cold War. No evidence is offered to indicate that Gorbachev and his advisors were influenced by this logic. Those who attribute Gorbachev's eagerness to end the Cold War and to make some important one-sided concessions toward that end, offer considerable evidence in support of their contentions based on records of discussions among Soviet leaders, including notes of Politburo meetings; interviews with Gorbachev and his principal advisors from 1986–92; and interviews with former Eastern European officials reporting their discussions with the Soviet leadership. In any court, evidence trumps inference, so for the moment at least, the liberal claims that changing ideas were the catalyst for the Cold War's end is more credible than the conservative assertion that it was a growing differential in power between the superpowers.

## Contemporary deterrence strategy

The contemporary debate is far more international than it was during the Cold War, in part because there are more nuclear powers. Studies of deterrence by Indian, Pakistani and Chinese scholars and military think tanks have supplemented those of the US, the UK and Israel.

The big question for scholars may not be whether deterrence helped to prevent World War III, but why and how leaders and lesser officials in both superpowers and so many scholars convinced themselves that it was necessary to the point that, until the advent of Gorbachev, they repeatedly confirmed this belief tautologically. Such behaviour has not stopped with the end of the Cold War. Reputable scholars routinely claim that nuclear weapons have kept the peace between India and China, and that the US invasion of Iraq brought about an about-face in Libyan foreign policy. With the possible exceptions of Israel and conservative British defence analysts, the US appears to stand alone in the faith it places in deterrence and the credit it gives it for preventing war. What theorists say about deterrence may tell us more about their ideological assumptions and their country's strategic culture than it does about the nature and efficacy of threat-based strategies.

During the Cold War, the theory and practice of deterrence and compellence focused on making credible threats on the assumption that they were necessary to moderate adversaries. Self-deterrence – the unwillingness of actors to assume the risks and costs of using force independently of efforts by others to deter them – received little attention or credence. One of the more interesting characteristics of post-Cold War deterrence and compellence is the extent to which self-deterrence has become a major phenomenon for the US and European powers. In Somalia, the US withdrew its forces after losing 18 US Army Rangers. In Rwanda, genocidal Hutus deterred Western intervention by killing ten Belgian soldiers. In Bosnia, compellence clearly failed against Milošević, who continued his policy of ethnic cleansing of Albanians in Bosnia despite Western threats. Pushed by Western public opinion, NATO finally screwed up its courage to intervene, but then failed to go after known war criminals because of the vulnerability of its lightly armed forces, whose primary mission was the distribution of aid (Freedman 2004: 124f.). There is an important lesson here, and one that has been consistently ignored by theorists of threat-based strategies. As in the Indochina War, it has to do with the ability to inflict

pain versus the willingness to suffer it. As we observed, Schelling and US policymakers ignored the latter in Indochina, concentrating only on how much damage they could inflict on North Vietnam and the Viet Cong. The US lost the war because its Vietnamese opponents were willing to accept far more suffering than the American people were. This phenomenon is equally pronounced today. Self-deterrence, in effect, prevented intervention in Rwanda and stalled it for a long time in the former Yugoslavia. It did not have this effect in Afghanistan and Iraq, where the Bush administration grossly underestimated its costs and duration.

In the West, the focus of deterrence has turned away from restraining large state actors with nuclear weapons to smaller, so-called 'rogue' states thought to be trying to acquire such weapons. Since 11 September 2001, there has also been a debate about the applicability of deterrence to the problem of terrorism. Libya, North Korea and Iran have been the major targets of US pressure because of their support of terrorism and pursuit or funding of nuclear weapons programmes. Libya radically altered its foreign policy, and supporters of compellence assert that US pressure and an unsuccessful attempt to take out the country's leader in an air attack were responsible. If true, a failed assassination attempt does not qualify as compellence, which aims to use the threat of force to achieve political ends. If force is used, compellence has failed, even if it succeeds in its goals. Libya's leader, Colonel Muammar Ghaddafi, is by all accounts an enigmatic figure whose authoritarian rule has provided little information on which to base serious analyses of his policies. Until such information becomes available, all one can do is speculate about Ghaddafi's motive for his about-face, or indeed about most of his major policy initiatives.

North Korea resembles Libya in this respect. Its father and son leaders have run what is arguably the most reclusive regime in the world. Foreign experts are exasperated by the lack of information available to them and freely admit that their analyses entail considerable amounts of pure speculation (Harrison 2002). North Korea has been the target of US compellent threats and rhetoric and also of reassurance. At the time of writing, North Korea has agreed to dismantle a principal nuclear facility and to provide documents to the West about its nuclear programme in return for security guarantees and economic aid (Arms Control Association 2008). Once again, experts debate the extent to which the carrot or the stick, respectively, was primarily responsible for this result and whether the result is meaningful (Ihlwan 2008). Iran is a different case, as it is a more open society with many democratic features. Like North Korea, it appears to have an active nuclear programme, and one that the US has sought to deter through compellent threats, sanctions and its invasion of Iraq. The latter, among other goals, was expected to make Iran more compliant to US demands, but appears to have made it more truculent. Once again, proponents of carrots and sticks draw different conclusions (Shaw 2008).

## **Conclusion and promising areas of research**

Two concluding observations are in order. The first grows out of the record of deterrence and compellence during the Cold War and its aftermath. These conflicts suggest that the political and psychological dynamics governing cost estimates and the relative willingness to bear the costs of military action remain the critical consideration for leaders contemplating the use of threat-based strategies and their probability of success or failure. Much important research can be done in this connection, especially in conflicts that pit highly developed industrial powers, with a low tolerance for loss of life, against weaker,

less developed, more traditional countries where honour remains important and death in combat or by suicide missions is more acceptable.

The second concerns the general efficacy of deterrence as a strategy. Its many drawbacks do not mean that it should be discarded. Rather, scholars and statesmen must recognize the limits and inherent unpredictability of deterrence and make greater use of other strategies of conflict prevention and management.

There are many important theory and policy questions that need careful empirical research. Foremost among these is the role of nuclear weapons in conflict management. The contrasting views about the role nuclear weapons played in the resolution of the Cold War have been noted. Are these lessons transferable to other cases? Do other cases help us reflect back on the Cold War and discriminate more effectively among its competing sets of lessons? What about the lessons drawn by policymakers in other nuclear powers (i.e. France, China, Israel, India and Pakistan) about nuclear weapons and the Cold War, and nuclear weapons and the conflict in which they are involved? How similar and different is such 'learning', and on what grounds have these lessons been formed? Finally, there is the question of proliferation. Why do nations begin, halt or see through to completion their weapons development programmes? Under which conditions might those who have weapons use them? On proliferation, unlike some of the other questions, there has already been some impressive research (Solingen 2007; Hymans 2006).

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