



# **What is the Viability Deterrence Strategies for Non-Nuclear States?**

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# WHAT IS THE VIABILITY OF DETERRENCE STRATEGIES FOR NON-NUCLEAR STATES?

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## ABSTRACT

In this essay, the author examines the viability of deterrence strategies for non-nuclear states. He highlights the importance of deterrence strategies, followed by an examination of the various theories of deterrence such as classical deterrence theory and perfect deterrence theory. The author also notes the limitations of both theories in that both rely on an assumption of rationality. He then proceeds to discuss credibility and communication as the key factors to deterrence as well as the limitations of communication and conventional deterrence. This is then followed by a discussion on nuclear deterrence. The author then uses Singapore as a case study, illustrating the principles discussed after which, he concludes by stating that conventional deterrence is a viable strategy for both nuclear and non-nuclear states.

*Keywords: Conflict; Intensity; Evolution of Strategies; Industry; Total War*

## INTRODUCTION

Following the end of the cold war, there was a growing trend of emphasis from nuclear warfare towards conventional warfare.<sup>1</sup> Security analysts have since studied if conventional weapons could replicate the stable deterrence linked to nuclear deterrence.<sup>2</sup> Following the Russia-Ukraine crisis in 2014, deterrence was assessed to be growing in importance. This however was 'matched' with a perception that much of the knowledge on deterrence had 'evaporated'.<sup>3</sup> Harknett pointed out the differences between nuclear and non-nuclear deterrence, and highlighted the parity between conventional or non-nuclear deterrence and nuclear deterrence in terms of research, literature and concept development.<sup>4</sup> As such, an examination of the fundamental concepts associated with deterrence strategies for non-nuclear states is required. This essay will examine the viability of deterrence strategies for non-nuclear states and will define the concepts and theories of deterrence. Using past examples, the essay will attempt to distil insights on key success factors and possible pitfalls that limit the viability of conventional deterrence for non-nuclear states. The insights will then be applied to review the viability of deterrence for non-nuclear states using Singapore as a case study. The essay will briefly discuss how deterrence can be enhanced in view of the evolving nature of warfare before concluding.

## IMPORTANCE OF DETERRENCE STRATEGIES

Lee W. J. pointed out that Sun Tzu's *Art of War* listed the ability to subdue the enemy, without any battle, through attacks on the enemy's plans and strategies as the most supreme strategy.<sup>5</sup> This involves the use of deterrence and coercion to achieve military and political objectives without the need to invoke full-scale military campaigns, which are also considered as worst strategies and should only be used as a last resort.<sup>6</sup>

## WHAT IS DETERRENCE?

Deterrence has been defined as the threat of force in order to discourage an opponent from taking an unwelcome action. This can be achieved through punishment or denial. 'Deterrence by punishment' uses threat of retaliations involving unacceptable cost to prevent would-be adversaries from unwanted actions.<sup>7</sup> 'Deterrence by denial' convinces its adversaries through demonstration of its defensive capabilities that acts of aggression against it will have little or no probability of success.<sup>8</sup> Deterrence is considered successful if there is no need to carry out retaliation on an adversary.<sup>9</sup> Deterrence can be categorised as 'nuclear deterrence' and 'conventional deterrence', where the former is associated with the theories of 'deterrence by punishment', and the latter with 'deterrence by denial'.<sup>10</sup>

## THEORIES OF DETERRENCE

Lee L. H. listed two deterrence theories; namely Classical (rational) deterrence theory and Perfect deterrence theory (*Figure 1*) based on, Zagare & Kilgour, Quackenbush and Zagare F. C.'s work.<sup>11</sup>

**Deterrence will succeed if the threatened costs are effectively communicated, assessed by and believed by the aggressor.**

### Classical (Rational) Deterrence Theory

This theory was fully developed during the Cold War era in the 1960s and is confined to nuclear states. The classical deterrence theory can be sub-divided into 'Structural Deterrence Theory' and 'Decision-theoretic Deterrence Theory'.<sup>12</sup> Structural Deterrence Theory postulates that deterrence is more likely when there is a power parity between potential opponents, and when the cost of war is high. Decision-theoretic Deterrence Theory adopts a game-theoretic approach and emphasises the credibility of the deterrer's threats.<sup>13</sup>

### Perfect Deterrence Theory

Perfect Deterrence Theory explores the implications of a variety of strategic environments including those containing deterrent threats with imperfect credibility, varying costs of war (i.e. capability of deterrent threats are not constant) and where the motivation for states to change current status quo is not

taken as a given (i.e. states are differentiated).<sup>14</sup> The theory has the following characteristics:

- Mutual deterrence works best when both states have capable and credible threats;
- Strong linkage between rationality and credibility. Only rational threats are considered to be credible;
- Does not give special status to nuclear weapons. Allowing the theory to be applicable to conflict of interest situations between various combinations of large and small states, with or without nuclear capabilities.<sup>15</sup>

### Comparison Between Classical Deterrence Theory And Perfect Deterrence Theory

The fundamental difference between the two theories is that the former assumed conflicts always end up with the worst possible outcomes for both states. The latter assumed individual states have differing sets of internal characteristics and preferences to conflicts. Both theories emphasised rationality and assumed that all actors will deliberate the expected costs and benefits before acting.<sup>16</sup> Based on the assumption of rationality, both theories can produce similar outcomes where aggressor states will only act when the expected benefits exceeds the expected costs required to overcome other states' defences. As such, deterrence is more effective when deterring states increase the costs required by potential attackers to unacceptable levels.

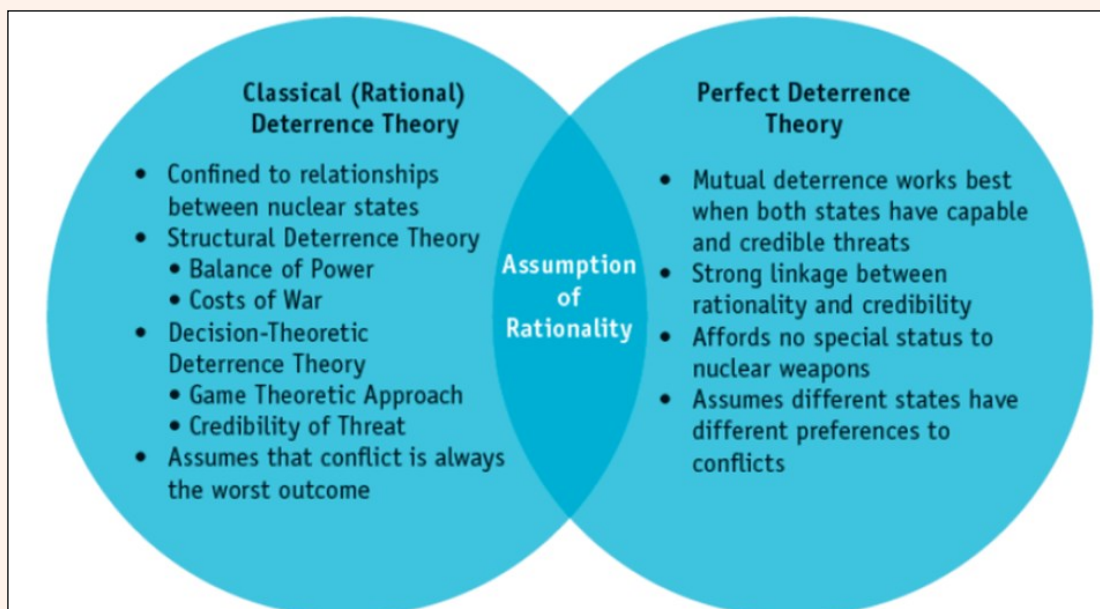


Figure 1: Classical Deterrence Theory and Perfect Deterrence Theory.<sup>17</sup>

## Limitation Of Rationality

However, these definitions often leads to a fallacy of over simplification thinking that deterrence is about a show of force, and that as long as all sides are rational, and if none of them are suicidal, the military potentials will deter and keep each other in check.<sup>18</sup> In reality, deterrence is a complicated social interaction involving at least two actors, and is susceptible to psychology, human nature and emotions such as fear, courage, trust, lust for power and vengeance.<sup>19</sup> A deterrence environment at the state level is detrimental for rational decision making. Both deterrer and aggressor need to make decisions under stress and a perceived lack of time while considering additional dimensions such as statehood, statesmanship and stakes concerning national survival.<sup>20</sup> These increases the complexity, hinders information recovery and proper evaluation of available options, which in turn degrades rational decision-making.<sup>21</sup> This often result in the use of short-cuts in decision-making and the impact of biased perceptions to support rationalised solutions instead of rational ones as evident during Korean Crisis involving President Truman and his Secretary of State, Dean Acheson.<sup>22</sup>

## KEY FACTORS TO DETERRENCE—CREDIBILITY AND COMMUNICATION

Lee L. H. identified credibility and communication as key factors affecting the efficacy of deterrence. 'Credibility' depends on the state's capability and commitment to thwart potential aggressors, while 'communication' is linked to how the credibility of a deterring state is being communicated to achieve the deterrence effect.<sup>23</sup> Harknett highlighted that deterrence can fail due to (1) the failure of the deterrence side to raise costs above the expected benefits to be gained by the challenger's military actions, or (2) when the challenger miscalculates. The possibility of miscalculation is increased due to the 'contestable cost' associated with conventional deterrence.<sup>24</sup> Deterrence will succeed if the threatened costs are effectively communicated, assessed by and believed by the aggressor.<sup>25</sup> This was also echoed in the recent report by Mazarr which emphasised the importance of clarity and consistency in deterrence communication.<sup>26</sup> Clarity of what the state is deterring against, and the state's response should deterrence fails is required. A lack of clarity invites opportunistic

aggression and may further motivate aggressors. Clarity can be demonstrated through actions such as specific alliances and partnerships, recurring reiterations by senior leadership, deployment of appropriate military forces, military exercises and training programs. Clarity backed up by concrete evidence of commitment and substantial military capabilities, is the basis of effective deterrence.

Mazarr proposed a 'firm but flexible' approach to strengthen deterrence.<sup>27</sup> It was highlighted that denying adversaries from 'a way out' may not be beneficial to long term deterrence. Compromise and concession may be part and parcel of successful extended deterrence from large-scale aggressions. The motivations of potential aggressors' motivations are highly complex and it is difficult to anticipate responses to multiple input variables and their interactions. Generally, aggression due to opportunism is less common than desperation caused by real or perceived threats to security or desired status quo.

## Potential Drawbacks Of 'Communications'



*Israeli soldiers from the 'Shaked' reconnaissance force during the Six-Day War.*

Harknett pointed out that a strategy dynamic of conventional deterrence is influenced by shared information.<sup>28</sup> Shared information meant that both the aggressor and the deterrer would hold specific knowledge such as each other's national objectives, commitment to the issue in dispute and their relative military, political, economic resources to support their commitment and national objectives. This shared information may present an impediment to the deterrer should deterrence fails, and war breaks out. The challenger may be able to formulate technical, tactical



or operational solutions to circumvent or mitigate the deterrer's threats. This results in a paradox where what may be for the sake of deterrence may make the infliction of costs more difficult when deterrence fails.

## WHY CONVENTIONAL DETERRENCE FAIL

Rühle highlighted examples of deterrence failing despite parity or superiority of the deterring forces.<sup>29</sup> In all the examples, the weaker attacking forces were able to gain the element of surprise during the initial phase of the conflict. An example was Imperial Japan's surprise attack on Pearl Harbour naval base despite being fully aware of United States (US) military superiority. Japan wanted to destroy a major part of the US Pacific Fleet and paralyse Washington politically so as to provide Japan a chance of prevailing in the Pacific front during World War II (WWII).

Syria and Egypt's attack on a militarily superior Israel in 1973 was another example. Syria and Egypt initiated the attack not expecting to win, but to regain their political clout after their defeat to Israel in the 1967 Six-Day-War. Israel had not anticipated the attack as they could not rationalise Syria and Egypt's intent for the attack, especially when they are militarily superior and confident of victory. As a result, Israel ignored the warning signals about a pending attack, allowing militaries of Egypt and Syria to gain a great degree of advantage during the onset of the attack.

During the 1982 Falklands War, Argentina is cognisant of the superiority of the British armed forces when it contested the United Kingdom's (UK) authority over the islands in the South Atlantic. As the UK had gradually reduced its military presence and protection of the islands over several decades, Argentina's military Junta concluded that UK was only paying lip service. It occupied the islands to generate public sentiment by playing the 'patriotic card' when the Junta's rule was threatened by a domestic crisis. Deterrence had failed because the UK lost credibility due to its gradually diminished presence. Subsequently, the British Navy sailed to the South Atlantic and re-conquered the islands, this time to Argentina's surprise.

It was argued that the Junta should have expected this based on the understanding that the UK, being a major power, would not stay idle when her

overseas territory was being occupied by another power. Argentina also did not have the means to deter or defeat the UK. Rühle highlighted that humans tend to exercise different sets of logic under crisis.<sup>30</sup> Human behaviour studies revealed that the fear of losing something valuable can cause people to take on greater amount of risks, than people who are hoping to make a gain. Rationality—one of the fundamentals required for a stable deterrence system has gone absent!

## A LOOK AT NUCLEAR DETERRENCE

Wee E. explained that nuclear deterrence was built upon the understanding that a state's possession of nuclear weapons raised the cost of aggression against it to the highest possible level.<sup>31</sup> 'Deterrence by punishment' is achieved if the potential aggressor does not act as the cost of nuclear retaliation is intolerable. Today's nuclear weapons are a thousand times more powerful than the original atomic bomb dropped in Hiroshima during WWII. When used, it would mean complete destruction of the enemy as a viable society. To date, there are no reliable defence against nuclear weapons or means to mitigate its damage.<sup>32</sup>

**'Deterrence by punishment' is achieved if the potential aggressor does not act as the cost of nuclear retaliation is intolerable.**

Due to the destructive potential of nuclear weapons, countries such as the Union of Soviet Socialist Republics (USSR), China, UK and France during the Cold War, and more recently, North Korea, had acquired nuclear capabilities as a hedge to prevent opponents from forcing them to accede to their demands via the use or threats to use nuclear weapons. During the Cold War, 'nuclear peace' was generated due to mutual second-strike retaliation capability that the US and the USSR possessed, the stalemate was brought about by nuclear parity and the fear for a nuclear holocaust.<sup>33</sup>

While it is theoretically sound, nuclear deterrence in the real world was not as absolute due to reasons such as 'aggression-related' or the simple disregard of nuclear deterrence. Over the past century, most of the military conflicts involved conventional military forces,

even if their opponents possessed nuclear capabilities. Wee E. highlighted the 1948 Berlin blockade imposed by Russia to keep the US and her allies out of Berlin to be an example.<sup>34</sup>

This was done even when the US had the supremacy in nuclear capabilities against the Russians. The 1950 Korean War was another example where conventional military forces were pitted against a nuclear adversary. The North Koreans and the Chinese attacked the American army in Korea despite being aware of the US's nuclear retaliation capabilities. Halperin hypothesised this to be attributed to the tradition of non-use or 'nuclear taboo' to prevent a repeat of the catastrophes of Hiroshima and Nagasaki, and also the importance of having a conventional military force capable of conventional deterrence and defence.<sup>35</sup>

## VIABILITY OF CONVENTIONAL/NON-NUCLEAR DETERRENCE—SINGAPORE AS A CASE STUDY

**To date, there are no reliable defence against nuclear weapons or means to mitigate its damage.**

It was observed that the geographically or numerically disadvantaged non-nuclear states such as

South Korea and Singapore tend to commit more effort and a larger budget to build up a credible force in pursuant of deterrence.<sup>36</sup> Despite the lowered likelihood to achieve stalemates which are stable and robust associated with nuclear deterrence, conventional deterrence can result in strategic interactions which are dynamic and competitive. This may in turn help to create 'space' and 'buy' time to de-escalate and resolve underlying disputes or hostilities through other means such as diplomacy. As such, conventional forces may be more useful than nuclear weapons in the deterrence of 'traditional' conflicts.<sup>37</sup> For the realm of conventional warfare, Rhode suggested that 'deterrence by denial' to be more effective than 'deterrence by punishment'. This in turn will require states to rely on a strong conventional military force to convince a potential opponent that any aggressions will be denied. The essay will use Singapore as its main case study subject. Singapore has espoused her defence strategy to be centred on diplomacy and deterrence, and should they fail, to defeat aggressors in a swift and decisive manner.

Singapore has consistently invested up to 6% of her Gross Domestic Product (GDP) toward defence, and the build-up of its Armed Forces. Singapore also consistently announces her defence spending and weapons acquisitions publicly; the latest being the Type 218SG Submarines and the F-35 multi-role fighter planes.



*RSS Invincible - the first Type 218SG submarine, photographed while under construction at Kiel.*

To strengthen deterrence and prevent aggression, Singapore also drew on other instruments of powers such as defence diplomacy to continuously strengthen relationships with her regional neighbours through bilateral exercises and platforms such as the Association of Southeast Asian Nations (ASEAN) Defence Ministers Meeting (ADMM)-Plus and the Five Power Defence Arrangement (FPDA).<sup>38</sup> These fora conform to the two factors of credibility and communications suggested by experts such as Harknett and Mazarr.<sup>39</sup> To date, there has been no major acts of aggression on Singapore since her independence in 1965. These supports the notion that deterrence can be a viable strategy for non-nuclear states.<sup>40</sup>

## ENHANCING DETERRENCE

The Crimea incident in 2014 was a textbook example of hybrid warfare involving regular military forces, unmarked Special forces, separatists, economic manipulation (through increase in the gas price) and a propaganda campaign designed to obscure the events on the ground. In the face of the evolving nature of warfare, Rühle highlighted the need to include non-military aspects in deterrence and defence strategies.<sup>41</sup> Due to the ambiguous nature of hybrid warfare,

decision-making process are hampered and cannot be deterred merely by the threat of military force. Additional means such as increased resilience of cyber networks, diversification of energy supplies, and strategic communications for timely response to false information will be required to enhance the ability to 'deter by denial' across the additional aspects.

**The TD programme was conceived to unite various sectors of the Singapore society in the defence against external threats and is centred on the assumption that political, economic, social and psychological warfare will be used to destabilise Singapore before a military attack.**

On hindsight, Singapore's deterrence strategy could serve as a possible model to enhance deterrence.

Stakeholders	Type of Deterrence
Military	Deter by Retaliation: Applying necessary force based on Rules of Engagement (ROE) on aggressors.  Deter by Denial: IDTF protection of key installations; Cyber defence Hub to deny cyber-attacks; Conduct of coastal patrols by MSTF; JTF to react to Humanitarian Assistance and Disaster Relief (HADR) contingencies; Chemical, Biological, Radiological and Explosive (CBRE) units to respond to bio-chemical threats and contain the spread.
Law Enforcement	Deter by Retaliation: Bringing perpetrators to justice; Imposing travel restriction on family members.  Deter by Denial: Internal Security Act to enforce preventive detention and prevent subversion.
Civil Defence	Deter by Denial: Quick response to limit damage.
Racial and Religious Groups	Deter by Denial: Promoting racial and religious harmony; Rehabilitation of radicalised Muslims.
Media	Deter by Denial: Limiting media coverage of terrorist attacks to prevent spread of terrorists ideology and demands; Block out websites which promote radicalisation; Spread messages of moderate religion and social harmony.
Financial Regulatory	Deter by Retaliation: Impose huge penalty on organisations, nations that finance insurgents, terrorist activities, spread of on Weapons of Mass Destruction (WMD).  Deter by Denial: Economic resilience to recover quickly; To deny financing of Terrorism and WMD proliferation.
Public	Deter by Denial: Physical and psychological resilience to recover from shock quickly; Being vigilant and alert to possible threats; Knowing how to react during contingencies to mitigate ill-effects.

Table 1: Singapore's Deterrence Framework against Non-conventional Threats.<sup>42</sup>



Lee L. H. explained Singapore operationalised its deterrence strategy through the concept of Total Defence (TD) in 1984.<sup>43</sup> The TD programme was conceived to unite various sectors of the Singapore society in the defence against external threats and is centred on the assumption that political, economic, social and psychological warfare will be used to destabilise Singapore before a military attack.<sup>44</sup> Drawing on TD framework, Tay recommended to continue strengthening 'Whole of Government' (WOG) approaches to improve deterrence against 'non-conventional'.<sup>45</sup> This effort involving home front agencies, other government ministries and international bodies and is summarised in *Table 1*.

## CONCLUSION

Through the review of deterrence theories, research papers and case studies, the essay has concluded that deterrence is a viable strategy for non-nuclear states and that even nuclear states may need to

engage in conventional deterrence. The success of the strategy requires rational adversaries and depends on the credibility, in terms of capability and willingness, to deny or retaliate by inflicting disproportionate cost on its potential adversary when threatened. Deterring state must also communicate its credibility to potential aggressors and to inform where the 'red line' of deterring states are demarcated so as to prevent miscalculations. Due to the contestable cost of conventional weapons, it is assessed that states, without access to nuclear capabilities, will need to be more cautious and exercise more effort to increase the efficacy of its deterrence strategy. States need to be realistic and understand that the deterrence strategy is not a 'silver bullet'. Even for a state practising nuclear-deterrence, it will not be able to prevent all attacks. To further enhance deterrence and to respond to the evolving natures of warfare, states will need to use other instruments of power such as diplomacy and economy.



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