

Making Strategic Risk Assessment Strategic: A Departure from Doctrine

by

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Abstract

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The doctrinal view of risk and its assessment is inadequate for use at the strategic level. The reliance upon models which assign a single-value, such as low, medium, or high, to risk creates an over simplistic view of risk and its consequence. Shifting the definition of risk from the probability and severity of loss calculus in doctrine to a definition that incorporates ends, ways, means, interests, and consequence sharpens the view of risk. This definition demands a new framework to assess risk. A five-step risk assessment process is proposed to broaden the view of risk and how it may be more sufficiently conveyed to strategic leaders by shifting away from an actuarial model of risk assessment to a framework suitable for strategy.

Making Strategic Risk Assessment Strategic: A Departure from Doctrine

Existing definitions of risk in Army and Joint Doctrine are inadequate for useful application at the strategic level. Expressing risk as a qualitative value and the use of probability and severity of loss as its principal variables lends little clarity to strategic situations that are ambiguous, volatile, and uncertain. The uniqueness of each situation in this environment confounds the use of empirical experience as a way to determine the probabilities of each event and their associated costs. A different definition of strategic risk and how to assess it will provide an alternative framework to the doctrinal view of risk and enhance our ability to express risk to various strategic audiences using languages more suited to strategy than accounting.

The Doctrinal View of Risk

The Army defines risk as the, “Probability and severity of loss linked to hazards”; this is similar to the Joint definition.¹ To put this into context, Department of the Army Pamphlet 385-30 states, “Unidentified and unmanaged hazards and their associated risks impede successful Army missions, undermine readiness, decrease morale, and deplete resources.”² Risk, as officially defined, takes on a loss characteristic suitable for actuarial analysis given the certainty of identifying hazards, their associated probabilities, and some reasoned calculation of expected loss.

General McChrystal’s Assessment of the Afghanistan Mission

The McChrystal assessment of the International Security Assistance Force’s (ISAF’s) mission in Afghanistan is a recently documented example of a complicated political-military problem that highlights the inadequacy of our doctrinal approach to risk assessment. He notes:

A 'properly-resourced' strategy provides the means deemed necessary to accomplish the mission with *appropriate and acceptable risk*. In the case of Afghanistan, this level of resourcing is less than the amount that is required to secure the whole country. By comparison, a 'fully-resourced' strategy could achieve *low risk*, but this would be excessive in the final analysis.³

Two insights emerge from this section of the assessment. First, the language in his assessment is more suited to strategic thought. It links ends, ways, and means with an articulation of risk. Second, the authors cast risk valuation into a singularly defined level of risk. General McChrystal later notes, "No strategy can guarantee success," and then lists various risks outside of ISAF's control that could undermine the mission.⁴ He incorporates uncertainty and unpredictability in his assessment but does not explain their contribution to the overall level of risk to mission. On one hand, he describes the relationship among ends, ways, means, and risk but then fails to assess the impact of these uncertainties on the strategy. A more complete assessment may have laid the foundation for flexible mitigation measures when events in Afghanistan defied the predictions made based on adopting the 2009 strategy.

As the National Security Council deliberated the strategy, one misalignment quickly came to the fore. While military leaders conveyed the speed at which the approved surge forces could deploy to Afghanistan, it did not fit well into the political realities in President Obama's calculus.⁵ This disconnect between the means, force levels, and ends, withdrawal of United States (U.S.) forces beginning in July 2011, created the risk of failing to fully arrest the Taliban's momentum prior to the beginning of the withdrawal.

Research Question

The contrast between the doctrinal definitions of risk and the example from McChrystal's assessment raises two fundamental questions that this paper examines. First, what is strategic risk? Second, how should strategic risk be assessed? Answering these two questions will provide strategists with a functional definition of strategic risk and a corresponding framework with which to assess it.

Doctrinal Limitations

There are two aspects to the doctrinal definition that limit its utility in assessing strategic risk. First, the use of a model that relies upon certainty, as the doctrinal method does, is inappropriate for use in analyzing strategic situations that are anything but certain. These situations are relatively unique in their setting and the use of empirical experience as a way to determine risk outcomes and likelihoods is intellectually tenuous. Each situation has a range of outcomes, making it difficult to precisely measure risk, and demands a more flexible approach to risk assessments of political-military problems.

National Security Issues Challenge Certainty

The nature of political-military problems challenges the underlying assumption of certainty offered in our doctrinal definitions. As the Strategic Leadership Primer states, "strategic leaders must succeed in an environment marked by volatility, uncertainty, complexity, and ambiguity (VUCA).⁶ Hebrew University Professor Yaacov Vertzberger argues, "Intervention decisions, like most important political-military decisions pose problems that are complex, ill defined, indeterminate, and sometimes wicked."⁷ Risk assessment models that rely upon precision in measuring probability and severity of loss are both unrealistic and distracting; such precise estimates do not exist, and a

reliance upon precise measurement distracts leaders from a more productive approach to understanding the components of risk in the VUCA environment.

Precise assignment of risk probability requires empirical repetition. That is, we learn how likely x is given y conditions after observing y repeatedly. Yet the empirical basis for probability estimates is subverted by a stark truth: at the strategic level, no two strategic situations are alike. Participants may change, or their rules for behavior change in light of experience. The political, economic, temporal, and technological context constantly evolves. Consider the current challenge that Russia poses to the U.S. and its European allies. The current conflict with Russia is not the Cold War; Russia is not the Union of Soviet Socialist Republics. This conflict is dissimilar to the Cold War, and comparisons and assessments of risk differ for each situation. One cannot analyze the 1980s-era nuclear deterrence equation in the same fashion as the balance of nuclear forces today between the U.S. and Russia. Each demands its own analysis unique to its time and setting. This makes it hazardous to rely upon historical data to analyze future strategic problems as the data must be used in like contexts, bordering on the near impossible when looking at strategic situations.

Given the novel character of the global environment, the Army definition of risk is inadequate when applied at the strategic level. It relies upon the product of probability and severity to calculate an expected loss. Each element of VUCA makes this prognostication difficult at best—imagine valuing the risk of a significant terrorist attack on American soil pre-9/11 and then trying to defend that thesis on September 12th. This environment makes the Army definition of risk insufficient for the types of ill-structured problems found at the strategic level.

Deficits in the Defined View of Risk

These deficits in our view of strategic risk create two problems. First, the doctrinal view of risk as a product of severity and probability leads to incomplete risk assessments and contributes to inadequate risk mitigation strategies. One risk factor in Afghanistan was the relationship between the U.S. and President Karzai. At times, the nature of the relationship created risk to the overall mission. Yet, how does one convey the risk of a poor relationship with Karzai in terms of probability and severity? Additionally, if an analyst were to shape the relationship risk simply as probability and severity, how does one make reasonable recommendations of risk mitigation? While risk mitigation lies outside the scope of this paper, how risk is framed greatly impacts the resulting mitigation strategy.

Second, while Army doctrine provides some guide on identifying and assessing risk, it offers no underlying logic of its assessment valuation. Figure 1 shows the standard valuation tool from ATP 5-19:

Risk Assessment Matrix		Probability (expected frequency)				
		Frequent: Continuous, regular, or inevitable occurrences	Likely: Several or numerous occurrences	Occasional: Sporadic or intermittent occurrences	Seldom: Infrequent occurrences	Unlikely: Possible occurrences but improbable
Severity (expected consequence)		A	B	C	D	E
Catastrophic: Mission failure, unit readiness eliminated; death, unacceptable loss or damage	I	EH	EH	H	H	M
Critical: Significantly degraded unit readiness or mission capability; severe injury, illness, loss or damage	II	EH	H	H	M	L
Moderate: Somewhat degraded unit readiness or mission capability; minor injury, illness, loss, or damage	III	H	M	M	L	L
Negligible: Little or no impact to unit readiness or mission capability; minimal injury, loss, or damage	IV	M	L	L	L	L
Legend: EH - Extremely High Risk H - High Risk M - Medium Risk L - Low Risk						

Figure 1. Risk Assessment Matrix from ATP 5-19⁸

This chart has two problems. One, the risk value from the chart is independent of the relative importance of the objective or interest involved—high risk of nuclear destruction

is equivalent to high risk of sanctions failing to deter Russian aggression in Eastern Europe. Without any relationship to the intensity of the strategic interest, it is difficult to prioritize risk mitigation measures. Two, the magnitude of uncertainty, the volatility or stability of a situation, or the complexity of relationships among components of risk confound precise judgments of risk. Our doctrine is insufficient to adequately address strategic risk and should adopt another course for relevance.

What Risk is Not

Before proposing a definition of strategic risk, it is useful to rule out what strategic risk is not. Practitioners imprecisely use uncertainty, threats, and hazards as risks. Each of these may help contribute to or identify a risk but they themselves are not risks.

Uncertainty refers to the degree of information availability. The Strategic Leadership Primer defines it as, “The inability to know everything about a situation and the difficulty of predicting the nature and effect of change (the nexus of uncertainty and volatility).”⁹ Vertzberger’s risk typology addresses two types: descriptive and measurement.¹⁰ Descriptive uncertainty relates to the lack of information about the dimensions of the problem whereas measurement uncertainty exists when information about the problem may be known but the outcome values are difficult to measure.¹¹ Uncertainty creates risk when adverse consequences, either unforeseen or underappreciated, misalign strategy.

Defined classically in international relations theory, a threat is a marriage of a capability and intention. Professor M. Hough from the Institute for Strategic Studies in Pretoria refines this definition as, “A capability multiplied by intentions, probability, consequence, and time span.”¹² His definition is useful to separate it from risk. The components of the Army definition, probability and consequence, are present. However,

the discriminating element is intention. A threat without a focus is not risk; it exists but perhaps outside of the strategic situation's boundary. Once the threat has a focus within the boundary of the situation, it can be measured and determined to be a risk or not.

Army doctrine defines a hazard as, "A condition with the potential to cause injury, illness, or death of personnel; damage to or loss of equipment or property; or mission degradation."¹³ Hazards can create risk, but assessing the risk of a hazard requires measuring the hazard against the situation. For example, engine failure can be thought of as a hazard in aviation. But the risk that engine failure poses to a mission depends on several situational factors: How many engines on the aircraft? How long will the aircraft be in flight? How far will it be from a safe landing site at any given time? And so on. Much like uncertainty or a threat, hazards only translate to risk once the analyst applies it to the situation.

If uncertainty, threats, and hazards are not risk, then what risk is must come from other sources and definitions. A comparative analysis of three different definitions, one institutional and three academic, will provide a broader spectrum from which to sharpen our view of strategic risk. An Army War College document defines risk as, "The degree to which strategic objectives, concepts, and resources are in or out of balance."¹⁴ Three parts of this definition vary from the Army's doctrinal definition. First, it addresses ends, ways, and means—the basic components of strategy. Second, the balance of ends, ways, and means must create some condition that translates to risk. Third, and most importantly, the definition begins to assess a valuation of risk by using the degree to which ends, ways, and means are balanced. This institutional definition is a significant contrast to the probability and severity formula in doctrine.

Other Definitions of Risk

Academic usage of risk offers a variety of perspectives. Vertzberger defines risk as, "The likelihood that validly predictable direct and indirect consequences with potentially adverse values will materialize, arising from particular events, self-behavior, environmental constraints, or the reaction of an opponent or 3rd party."¹⁵ Ulrich Beck, a German sociologist, defines risk as, "A systematic way of dealing with hazards and insecurities induced and introduced by modernization itself. Risks, as opposed to older dangers, are consequences which relate to the threatening force of modernization and to its globalization of doubt."¹⁶ Hough describes the dimensions of risk analysis as having a consumer, focus, locus, and cause.¹⁷ The three authors make an important distinction from the War College view in that risk has a source. Hough extends this thinking further by the focus and locus portion to his view of risk. In his context, the focus is a component of the system (political, military, economic, etc.) and the locus refers to levels of analysis (international, nation-state, and individual). Each author argues that risk emanates from a source, interacts with a situation, and, as a result of that interaction, creates an adverse condition. Comparing this broader perspective of risk to the doctrinal perspective will reveal several flaws in our doctrinal view of risk that require an alternative definition of risk.

The most striking difference between the doctrinal and War College views of risk is the use of ends, ways, and means versus the probability/severity view in doctrine with the former being more suitable for analysis of strategy. While ascertaining probabilities and outcome values when assessing risk is common at all levels of policymaking and military operations, it implies that analysts can predict the probability of events and adequately measure the severity of their outcomes. Moreover, valuing risk using this

product of chance and outcome value does not translate commonly across audiences—each audience likely values risk differently. Another issue with the doctrinal view is that the ends-ways-means perspective implies more continuity to the situation than the episodically focused definition in doctrine. This change in perspective offers a nuanced difference when assessing strategic risk.

Vertzberger's definition provides a further refinement to the sources of risk in that risk can arise from self-behavior as much as from external sources. This is a key distinction that neither the Army nor Joint definition makes. It gets to the heart of decision-making and the effect those decisions have on risk. Acknowledging internal sources of risk is necessary to include in any definition of risk, particularly for military practitioners who rely upon decisions from Congress and non-Department of Defense entities.

Finally, none of the definitions address the relative importance to ends or interests. Whether one examines individual strategies or collectively across the whole of government, the importance of the objective or interest and its relationship to means and ways matters, especially when allocating limited resources to solve strategic problems. Degrees of imbalance from previously discussed definitions refer to a state of adequately aligned ends, ways, and means. It does not confer importance to the end itself. A definition that includes the intensity of interests and how risk becomes more salient proportionally to the interest's intensity adds greater utility to the concept of risk.

Risk Defined

In the light of this analysis, I define strategic risk as the adverse consequence, relative to the intensity of the associated interest, arising from internal and external sources of the strategic environment that misaligns ends, ways, and means. This

definition combines strategic interests with the elements of strategy. Combining these concepts allows leaders assess the alignment of ends, ways, and means to the interest(s) satisfied by the strategy. Misalignment creates consequences that can translate into definable risks. As it will be shown in the next section, this definition permits a sharper risk assessment than the existing definition.

Risk Assessment

The definition offered in the previous section creates a different method for risk assessment than the simpler doctrinal definition. If the doctrinal definition is rejected as insufficient—to achieve a risk value using current doctrine, two variables, probability and severity, which are defined below, are combined into a single value:

Probability is the likelihood an event will occur; it is assessed as frequent, likely, occasional, seldom, or unlikely. In the context of RM, *severity* is the expected consequences of an event in terms of injury, property damage, or other mission-impairing factors; it is assessed as catastrophic, critical, moderate, or negligible.¹⁸

The cross-product of the two variables produces a risk value: low, moderate, high, and extremely high. These values convey a sense of scale that permit comparison after mitigation and facilitate decision-making. For risks that have well-studied underlying probabilities and outcomes, this model is particularly useful. Accident rates, component failures, and weapon-system effectiveness combined with actuarial losses and values are a few examples that have mature data sets for which the doctrinal model is well-suited. In the following example from the 2008 financial crisis, there are some flaws with the use of single-value risk assessment.

Value-at-Risk and the Dangers of a Single-Value Risk Model

A notable failure of single-value risk assessment models was the use of Value-at-Risk (VaR) in the financial sector and its contribution to poor risk decisions leading up to

the 2008 financial crisis. The VaR was a measure of leverage and indicated capital requirements that institutions had to set aside against potential losses, usually expressed in a confidence interval at 95 or 99 percent confidence.¹⁹ Each institution calculated VaR at the end of each trading day to determine their level of risk. Several problems from this, post-mortem, came to light.

The VaR relied upon historical data from periods of lower volatility and gave a false sense of security in risk managers and decision-makers.²⁰ Financial firms took positions based on faulty assumptions about the spread of price fluctuations that were possible in their portfolios. The danger of these assumptions was compounded by the historic *lows* in volatility that the market witnessed from 2003-2006. This encouraged institutions to take more risk (because risk was artificially cheap), and acquire more leverage. When market conditions changed, the VaR models were slow to react since their data relied on conditions no longer present in the market. As losses accumulated, firms began to sell-off their worst assets, which accelerated price declines and led to more selling. Banks which had borrowed money from other banks and used overpriced assets as collateral (mortgage-backed securities, for example) could no longer borrow money when the value of these assets came into question. The Lehman Brothers bankruptcy was the most notable manifestation of this loss of confidence.²¹ When the cessation of interbank lending to Lehman deprived them of funds to cover daily activities and losses, Lehman succumbed to market conditions and was forced to file for bankruptcy. The use of VaR proved meaningless.

The VaR approach to risk management also failed to account for asset quality. This meant that the nearly riskless Treasury bills were treated equally as the risky

mortgage-backed securities that precipitated the crisis, despite each security having a significantly different risk profile.²² The speed at which mortgage-backed securities deteriorated was also a challenge. Policy makers had to rely on a patchwork of deals under moments of extreme crisis and uncertainty to stave off disaster.

There are two lessons that strategists can draw from this example. Like asset quality, interests vary in quality and importance. Leaders cannot treat each risk as equivalent and should relate the risk's consequence to the importance of the affected political interest. This enables leaders to prioritize resources to mitigation measures that reduce our most important risks first. Second, the speed at which Lehman collapsed was not anticipated by their leadership nor by the models they used to value risk. Confidence in real estate rebounding, overvaluing of those assets, assuming that interbank lending would continue, and the belief that they would not be allowed to fail led to invalid assumptions about the efficacy of their strategy to survive the impending crisis. Short of a government takeover, a decision the government did not take, time became the enemy of any strategy that may have saved the company from bankruptcy, something that none of the models predicted.

In retrospect, VaR was a simple, yet seductive, risk measure that failed to signal an accurate measure of risk and its potential consequences. According to one analyst, the crisis fell outside of the model's confidence interval and punished those banks who were highly leveraged.²³ In the end, a highly improbable event occurred but regardless, risk controls were inadequate. Institutions failed and the government lacked the authority to unwind an investment bank's failure during the 2008 crisis.²⁴ Many in the industry and investors also failed to inquire about the underlying assumptions of their

investments and make appropriate risk decisions that may have prevented the crisis in the first place. Thus, the risk measure standard failed and decision-making under risk failed in some cases and in others, barely sufficed.

Simplifying risk assessments for the complex problems of strategy fails to create a useful construct from which to evaluate and compare risks. Risks cannot be summed, fractionally multiplied, and converted into a single value, however tempting it may be. Many of these strategic situations are not comparable, making it difficult to distill risk into a single measure that decision-makers can use to analyze tradeoffs of resources, relative threats to interests based on their importance, and the political implications for each unique situation where decisions are likely as varied as the underlying politics.

A New Approach to Risk Assessment

If the doctrinal approach is insufficient to properly assess risk, then an alternative method of assessing risk is needed that uses the new definition. I propose the following five-step process to assessing strategic risk:



Figure 2 Risk Assessment Process²⁵

This revised process incorporates concepts from prospect theory, existing doctrine, and various studies of risk. This process identifies the need for a reference point from which risk is assessed, the use of existing methods to identify sources of risk and evaluate a strategy's sufficiency in the face of these risks, a method to describe these

consequences that arise of insufficient alignment of ends, ways, and means, and finally, the import of valuing those consequences relative to the interest.

Establish a Reference Point

Prospect theory began as a study of decision-making under risk posed in economics.²⁶ It has since been used to analyze decision-making of international relations and other political-military applications. One aspect of prospect theory is the concept of a reference point. Prospect theory incorporates this idea to frame loss and gains with respect to an individual's risk preference.²⁷ It postulates that individuals will be risk seeking in preventing losses and risk adverse in seeking gains and that value is measured in terms of gains and losses rather than the final state.²⁸ The reference point is the point of departure from which these losses and gains are judged. In the context of this study, the reference point is useful to establish in the analysis of risk. If a study of a strategy's risk is assessed relative to the status quo versus a desired future state, the risk assessment may be quite different in terms of how it is measured. This requires a clear understanding from the decision-maker and analyst the point from which risk is analyzed. The decision to begin withdrawing U.S. forces from Afghanistan in July 2011 and the different frames of reference used by the President and the military highlight the value of a common understanding of this reference point.

One of the decisions made by President Obama after the 2009 strategic review was to determine when to begin the withdrawal of U.S. forces from Afghanistan. There would be a review of progress in Afghanistan and in July 2011, the President would decide the timing of a change to the military mission in Afghanistan.²⁹ According to Bob Woodward's account, the President's reference point of July 2011 represented 18 months of military effort to demonstrate success or not in beginning to reduce U.S. force

levels: General Petraeus felt that showing progress in July 2011 would reset the discussion and the military would get more time and resources to reinforce success.³⁰

This disconnect implies that the two leaders would view risk in completely different fashions. In the President's case, failing to begin withdrawing in July 2011 signaled to the American people and President Karzai that the U.S. commitment was open-ended. To General Petraeus, July 2011 was a waypoint to judge success or failure and then make decisions on next steps. This lack of shared understanding represented a failure to establish the baseline from which the risk assessment would proceed. In this case, the military's perspective may have led to assumptions that they had more time than the President envisioned.

Identifying Risk Factors

Risks come from a variety of sources. They may simply be threats such as a nation-state, terrorist group, or another malign actor. They may arise from environmental factors such as climate change, natural disasters, and the like. In the end, there is an abundance of assessments and methods by which national security practitioners identify a source of risk. These risk factors may be internal or external to the strategic situation. This analysis assumes that the various methods used to identify these risk factors are sufficient for this revised process.

Evaluate Strategic Alignment

Once these sources affect the alignment of ends, ways, and/or means in a strategy, analysts must evaluate if the source of risk misaligns the strategy or not. Whether this analysis comes from a war game or case studies of similar historical settings, what is important is that strategists bin risk factors into two categories: those that do and do not misalign the strategy. Misalignment creates consequences that

strategists can further analyze to evaluate risk. However, viewing this risks discretely versus holistically could lead to overconfidence in the strategy's ability to mitigate risks. Lieutenant General Doug Lute, serving at the National Security Council, counseled the President on this exact issue when assessing the risks of the proposed strategy in Afghanistan. Woodward notes:

So when you look at these discretely, Lute continued, like we did in the review, Mr. President, you might be left with the impression we can manage this risk. But I would offer you another model. That is, look at them as a composite. Look at them as a set, and then you begin to move, in my mind, from a calculated risk to a gamble.³¹

Properly designed strategies are resilient to a number of shocks. However, the example above shows the importance of understanding the relationship of these risks to each other in time and space. The complex nature of the types of risks arising from national security issues and how they may emerge can determine whether or not a strategy is sufficient. This characteristic of complexity leads to the need to develop a typology of risk attributes that can lead to a more complete evaluation of the risk's impact on strategy and its consequence.

Describe Risks Using Attributes and Error

Risks, like many other objects in national security, has attributes that if describes, convey a sense of its impact on strategy. I propose that there are four broad categories of attributes that analysts can use to describe risks in greater detail. These attributes are: intrinsic, boundary, value, and decision. Figure 3 provides a list of these attribute categories and what composes them:

Complexity consists of four components that gives risk its relevance to complex, adaptive systems. These are: measurability, variability, interactivity, and multiplicity.³² Measurability addresses whether or not the risk can be measured and how well we can

Intrinsic	Boundary	Value	Decision
Complexity	Certainty	Severity	Reversibility
Self-producible	Horizon	Transparency	Accountability
Volatility		Controllability and Containability	

Figure 3. Risk Attributes³³

assess its effects.³⁴ Variability and interactivity are complementary ideas. Variability is used to address how many components of the system a risk touches, e.g. political, economic, diplomatic, etc., while interactivity describes the relationship of changes one element of a risk dimension has with others (outcome probability, outcome value, and assessment validity).³⁵ Many of today’s security challenges share this interrelatedness, making risk highly interdependent. The authors of a study of Hurricane Katrina described how systemic risks in supply chains and personnel limited the effectiveness of the response and showed how tightly interdependent these systems have come to be.³⁶ The final attribute, multiplicity, refers to the degree that risks materialize in the same time frame that creates an additive or multiplying effect on the risk assessment of a system.³⁷ Woodward notes again:

‘You can’t look at these in discrete bites and say, well, with Pakistan, I can take a few mitigating steps’ to reduce the risk. Each of the four risks overlaps and reinforces each of the others. The Afghan governance and corruption problem, for example, made the security force problem worse, and vice versa.³⁸

These attributes provide additional degrees of precision in our ability to describe risk as they are consistent with our understanding of complex, adaptive systems. At some

point, risks may transition from singular events into self-producible risks that no longer need a catalyzing event to precipitate them.

Beck provides one insight in the notion of self-producible risks. He contends that risks create their own markets from risk demands in the same fashion as economic markets.³⁹ From the assessment perspective, it is useful to ascertain when a risk reaches critical mass, much like a nuclear chain reaction, where the opportunity to eliminate or contain it is gone and from that point other strategies must be employed to manage risk acceptable to the decision makers. Over time, terrorism fits this situation where risks posed by transnational terrorism have grown and now the extremist ideology shared by many groups has made it self-producible.

Finally, the pace or rate at which risk can change can significantly derail any strategy, as shown by the example about the Lehman Brothers' bankruptcy. Hough alludes to this in his definition of certainty by addressing the stability of the risk's orientation.⁴⁰ This is more in line with the concept of volatility from War College convention. Volatility allows for analysis of the rate of which, accelerating or decelerating, risk can change. The Middle East's deficit of governance is a risk factor frequently discussed. Yet, the Arab Spring, in part, needed a catalyzing event. The self-immolation of a Tunisian fruit vendor was a violent yet strategically innocuous event. However, it became the spark that led to the Arab Spring.⁴¹ This act, when combined with the underlying volatility in the region, reshaped the strategic landscape so quickly that it outpaced the ability of the U.S. to effectively address it.

This boundary formed by time and probability, as shown in the previous example, is the subject of the next category of attributes. Certainty and horizon place boundaries

on risk physically and temporally. Certainty is similar to the use of probability in doctrine while horizon relates the appearance of risk within a given timeframe.⁴² Assessing risk based on threats fits these variables since threats by definition are capabilities with respect to potential, intention, and a time span. This provides direct linkage from threat assessment to risk assessment but there is one consideration about certainty that must be addressed.

Risk assessments in strategic matters generally take place outside of the laboratory where studies of decisions in the face of risk are made in structured and controlled settings. Commenting on the use of prospect theory in international relations, Jack Levy cautions, "Few of these conditions are satisfied in the highly unstructured choice problems which foreign policy decision-makers typically face."⁴³ He notes the challenge of uncertainty as decision-makers must estimate these probabilities.⁴⁴ Simon French, a professor of Operations Research, observes, "To a subjectivist probability represents an observer's degree of belief that a system will adopt a particular state. There is no presumption of an underlying series of experiments."⁴⁵ While the nature of probability is useful for assessing strategic risk, there is little scientific basis for many of the underlying assumptions about the certainty of risks materializing. Part of the risk assessment must address the uncertainty and validity of any estimate of risks when dealing with these subjective pronouncements. These uncertainties impact how risk is valued.

Risk exhibits three attributes concerning its value: severity, transparency, and controllability/containability. They relate the consequences' value to a risk. Severity is synonymous with the doctrinal definition. Transparency is related to the Army War

College's use of ambiguity in that Vertzberger uses it to address the degree to which consequences are understood or not.⁴⁶ Controllability and containability refers to the ability to manage the consequence to an acceptable level.⁴⁷ These attributes can assist the decision-maker understand the nature of the consequence with a level of descriptive power that can help prioritize risks with a finer degree of precision. This prioritization is a component of the decision-making that must occur when resolving risk with limited resources. This implies that there are risks from decision-making that must be considered.

The final category of risk attributes are related to decisions. Reversibility and accountability are attributes linked to the risk decision and are reflexive in nature. Reversibility is defined as whether or not the risk is reversible and at what cost.⁴⁸ Accountability is the degree of responsibility a decision-maker will bear for decisions and how much public perceptions of risk matter in the process.⁴⁹ These attributes link risk assessment to a secondary level of analysis that incorporates the effects of the decision itself. This could raise or lower the overall level of risk depending on analysis of the decision's effect. Secretary of Defense Robert Gates provides insight into the military's analysis of reversibility in the context of the Taliban's momentum. McChrystal notes:

. . . I believe the short-term fight will be decisive. Failure to gain the initiative and reverse insurgent momentum in the . . . (next 12 months) - while Afghan security capacity matures - risks an outcome where defeating the insurgency is no longer possible.⁵⁰

This provides clear between the decision and the irreversible risk, at least in General McChrystal's calculus, that the insurgency could not be defeated.

This collection of risk attributes adds a diverse spectrum from which analysts can better judge risk. However, these attributes, while creating a greater quality to risk assessment, cannot be taken as an absolute value to risk. Error must accompany the value associated with the measurement of risk. The next section discusses sources of errors that arise from risk assessment so that analysts can present leaders with their best judgment about risk but also where error influences our understanding of risk.

Errors in Risk Assessment

Addressing error provides two benefits to risk assessment. First, it conveys a sense of how precise or not the risk assessment may be in qualitative terms. As discussed earlier, these problems cannot be expressed in uniquely quantitative ways. “Iran will achieve a nuclear weapons capability in 3 years, plus or minus 1 year,” is an impressive-sounding prediction, but such statements are empty. A more useful expression would describe what risk factors accelerate the timeframe and misalign the strategy relative to the interest. Second, describing what factors could misalign the strategy can help leaders understand the range of possible outcomes and the information that is needed to comprehend the implications of this variance. Subsequent studies, intelligence collection, and consultations with other experts can fill in these gaps.

These errors arise from two sources: human and environmental. Human sources of error may include bias from lessons learned or learning the wrong lessons from previous experience, incorrect predictions, arbitrary simplification, technique weakness, and interpretation.⁵¹ Hough addresses another source based on self-defined roles—analysts are more likely to view risk from their perspective than from others.⁵² These errors differ from environmental factors that are more closely related to risk attributes.

Environmental sources of error are directly measured by the risk attributes they represent. Controllability, one of our attributes, may contribute to error because it induces belief that one is at less risk.⁵³ Other environmental errors include uncertainty, acceleration of change, collapsing time horizons, and incompleteness or overabundance of data.⁵⁴ Regardless of source, these errors correspond to how we use attributes to assess risk and merit a meaningful discussion with the decision-maker. While little may be done to reduce these errors, their acknowledgements help leaders understand where analytical flaws may exist and how they may be overcome.

Connect Risk to Interest Intensity

Interests have a scale of importance. The War College divides this scale into four degrees of interests: Survival, Vital, Important, and Peripheral.⁵⁵ Ultimately, decision-makers must prioritize risks and their attendant mitigation measures. This scale provides a yardstick strategists can use to help decision-makers set these priorities. President Obama highlights why this distinction matters when addressing the impact of the attempted Times Square attack in May 2010. He noted how resilient the American people were and his belief that we could absorb another 9/11 attack yet a game changer would be a nuclear weapon in the hands of a terrorist.⁵⁶ This separates the generalized terrorist attack into degrees of importance based on the associated risk; and, in this case, sharpen the counterterrorism strategy to focus on the nexus of terrorist groups and nuclear material, as opposed to a more global assessment of all terrorist groups with the capability to attack the U.S. The distinction focuses the strategy.

From the preceding sections, this expanded view of risk assessment has three components: value of risk assessment based on measuring attributes, the error

associated with those measurements, and the reference point from which risk assessment begins. This is a departure from our doctrinal, single-value based measurement of risk and provides a richer description and valuation of risk that may prove more meaningful for use by strategists.

Conclusion

Risk is complicated and oversimplification of it can lead to disastrous consequences. The shift of defining risk from its simpler doctrinal form to the one proposed in the first section moves the discussion from likelihoods and severities into language more suited to strategy such as consequences, the alignment of ends, ways, and means, and interests. This framework for defining strategic risk is more cogent to strategy than the actuarial model in doctrine.

Using this refined definition, analysts can move from identifying risks to assessing them. To begin this assessment, analysts and decision-makers identify the reference point from which risk will be measured. Measuring risk incorporates a value and its error. The value assigned to a particular risk is a qualitative assessment of the risk attributes from Figure 3. This valuation is qualitative and is combined with an error assessment. These errors, human and environmental, assist the analyst and decision-maker in understanding where more information is needed or where the uncertainty of the situation may contain more risk than the current assessment indicates. Staffs, if understanding where sources of error exist, can sharpen subsequent risk assessment as information becomes available or more valid.

This modification of the assessment valuation model from doctrine does make the communication of risk potentially more difficult. The pervasive use of single value assessments measured in terms of low to some form of high simplifies the discussion

but may not be the best method to convey risk assessments given the nature of political-military problems. The risk assessment narrative employed in McChrystal's initial assessment moved away from the probability/severity model, while still relying on a low-medium-high valuation.

As shown in the discussion on the 2008 financial crisis, there are significant issues with single value risk models. While the crisis did not just hinge on risk valuation, the simplistic nature of VaR lulled institutions into complacency to the ruin of many. Likewise, the use of a low to high valuation of risk in strategic affairs is fraught with similar challenges. This method should be rejected. The proposed method offers a sharpened way to describe risk and its attributes but without the problematic single value method.

Endnotes

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