

HEDGEMONY

A GAME *of* STRATEGIC CHOICES



PLAYER GUIDE

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Preface

This guide and the accompanying rulebook, *Hedgemony: A Game of Strategic Choices—Rulebook*, describe Hedgemony,¹ a pedagogical **war-game** designed for U.S. defense **strategy** and policy professionals, as well as graduate school faculty and students in related fields of study. This guide is written for prospective players who might not want to be bothered with **game**-specific rules or details (Hedgemony is designed to be expertly facilitated by people who have significant topical expertise and who have read and understand the contents of the rulebook). This guide is also intended for decisionmakers who may be considering using Hedgemony in a professional or academic environment. Therefore, this guide provides a top-level overview of what it takes to plan, prepare, and execute a **game session**, as well as notes on how the game was designed, including notable feature and trade-off choices that were made by the design team and that should be considered by anyone who is thinking about using Hedgemony.

The rulebook, on the other hand, provides detailed, technical descriptions of the game, including the rules of play, how to plan and set up a game session, and how to design, modify, and produce a game **session scenario**. The primary audience is game **facilitators**—people who will plan and execute a game session for the players.

In keeping with the pedagogical purpose of the game, an extensive glossary of terms (*Hedgemony: A Game of Strategic Choices—Glossary and Abbreviations*) is included in its own separate booklet. Because it is rou-

tine for the defense community to commandeer commonly used words and overload them with defense-specific meanings (often, unfortunately, with multiple conflicting meanings), we have tried to differentiate between common and **domain**-specific usage by indicating all formal terms in bold type when first used in each book and by providing definitions for those terms in the glossary booklet. The glossary booklet also includes an extensive list of abbreviations used throughout the books and the game pieces.

The initial research and development of Hedgemony was sponsored by the Office of the Under Secretary of Defense for Policy and conducted within the International Security and Defense Policy Center of the RAND National Security Research Division (NSRD), which operates the National Defense Research Institute (NDRI), a federally funded research and development center sponsored by the Office of the Secretary of Defense, the Joint Staff, the Unified Combatant Commands, the Navy, the Marine Corps, the defense agencies, and the defense intelligence enterprise. For more information on the RAND International Security and Defense Policy Center, see www.rand.org/nsrd/isdp or contact the director (contact information is provided on the webpage).

Funding to produce the game in a format useful for a broader policy-making audience was provided by gifts from RAND supporters and income from operations.

¹ The name **Hedgemony** arose from the nature of a common challenge facing those who craft U.S. defense strategy. For the past 30 years, U.S. defense policymakers have been focused on an environment that has presented the United States with options for employment of defense forces in many different roles (such as humanitarian assistance, counterinsurgency, and major power conflict) and in many different locations (such as Afghanistan, Estonia, Haiti, Iraq, Korea, and Somalia). U.S. defense policymakers must prepare for a variety of near-term contingencies while also building U.S. armed forces for the future. The tension inherent in this set of challenges led us to think in terms of “hedging strategies”—the kinds of strategies investment professionals use to deal with uncertainty in the investment markets. This challenge also typically entails efforts to either maintain **parity** or achieve **overmatch** with one’s adversaries. Hence, we have the term **Hedgemony**.

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1. Introduction and Overview

Hedgemony is a global, **multi-sided, turn-based**, facilitated, **adjudicated** wargame designed to teach U.S. defense professionals how different strategy and policy priorities could affect key planning factors in the trade space at the intersection of **force development, force management, force posture, and force employment**. In the game, players make difficult choices by managing the allocation of their **resources** and **forces** in alignment with their strategies to accomplish their objectives within resource and time constraints.

Players, representing **Blue** (the United States [U.S.], the North Atlantic Treaty Organization [NATO], and the European Union [EU])¹ or **Red** (Russia [RU], the People's Republic of China [PRC], the Democratic People's Republic of Korea [DPRK], and Iran [IR]), are presented with a global situation, competing national incentives, constraints and objectives, a set of **military forces** with defined **capabilities** and **capacities**, and a pool of periodically renewable resources. Players are then asked to summarize their strategies and objectives in writing before play starts. The game is about players making difficult choices by managing the allocation of resources and forces in alignment with their strategies to accomplish their objectives within resource and time constraints. How and to what degree players cooperate or compete depends on the session scenario,² as well as on the players.

A U.S. player,³ representing the U.S. Department of Defense (DoD), with a given defense strategy, is tasked with developing, managing, posturing, and employing a set of military forces with defined capabilities and capacities in alignment with that player's strategy. The player operates within an evolving **global security environment** alongside players representing strategic allies, partners, and/or competitors, and a constrained pool of periodically renewable resources represents a defense budget. The U.S. player's game objective is to increase U.S. **Influence**, both in absolute terms and relative to strategic allies and competitors, within some number of **game turns**. The U.S. player's learning objective, however, is to understand the implications of their strategy's priorities and objectives on the trade space of key planning factors that shape a military force's current and future capabilities, capacities, posture, and readiness over time.

Hedgemony is designed to be expertly staffed and facilitated. Facilitation is provided by a **White Cell**, a team composed of two or more domain experts who act as game masters and referees. Live players with **domain expertise**,⁴ representing NATO and the EU, Russia, China, Iran, and the DPRK, act as the United States' strategic allies and competitors in the game, and each player likewise strives to increase *their* country's or alliance's Influence in various absolute terms and relative to other players during play.

Although players are expected to try to win the game by achieving a certain amount of Influence, the game is primarily focused on the learning objectives of the U.S. player, with the NATO/EU player, the Red players, and the facilitators all serving, essentially, as "training aids." Thus, **play**

Abbreviations

AOR	area of responsibility
C4ISR	command, control, communications, computers, intelligence, surveillance, and reconnaissance
CF	Combat Factor
CONUS	contiguous United States
CRT A	Combat Resolution Table A
D10	ten-sided die
DIME	Diplomatic, Information, Military, and Economic
DoD	U.S. Department of Defense
DPRK	Democratic People's Republic of Korea
EU	European Union
FF	Force Factor
IAMD	Integrated Air and Missile Defense
IP	Influence Point
IR	Iran
LRF	long-range fires
mod	modernization
NATO	North Atlantic Treaty Organization
OSD	Office of the Secretary of Defense
PMESII	Political, Military, Economic, Social, Information, and Infrastructure
PRC	People's Republic of China (China)
R&D	research and development
RP	Resource Point
RT B	Resolution Table B
RU	Russia
S&T	science and technology
SECDEF	Secretary of Defense
SOF	special operations forces
tech	technology
USNORTHCOM	U.S. Northern Command

balance,⁵ the particular strategies and priorities of the non-U.S. players, and the specific sequence and frequency of events played by the White Cell may all be shaped by session learning objectives as part of a given session scenario.

In Hedgemony, a session scenario is embodied in a collection of card decks that represent **scenario-specific** "catalogs" of ready-to-adjudicate

¹ At the time this game was designed, the United Kingdom was still a member of the European Union. As we were going to press, the details of how the United Kingdom's departure would manifest itself in our game's abstraction of Europe were still uncertain. Therefore, we chose not to try to independently represent the United Kingdom in the default scenario built into the game.

² A **game session** is one instance of the game, played from start to finish. A **session scenario** is the situational, "state-of-the-world" context in which a particular game session is played. A given session scenario may be repeated over multiple **sessions** or may be adjusted from session to session, depending on the learning objectives. See the glossary for more details.

³ In the context of the game, the term **player** does not necessarily refer to an individual person. Instead, each **player** might be multiple students or defense professionals working together, as a team.

⁴ **Domain expertise**, in this guide, refers to any narrowly or broadly defined field, area, arena, sphere, discipline, or sector of expertise defined by the professional categories and/or specialties that are typical of defense, intelligence, or government strategy, policy, planning, or operations.

⁵ **Game balance, or play balance**, is a measure of perceived fairness among the players—the perception that each player's freedom of actions and their chances for success relative to other players are reasonable or can be justified by the scenario context.

actions and events that may be invoked by either players or the White Cell or that may occur at random. The cards are intended to suggest, define, shape, and constrain the variety of actions that players may take or to which they may need to respond during each **turn**; how often (and, sometimes, in what sequence) those actions may occur; the costs, in resources or forces, of actions or events; the range and probabilities of outcomes that could occur as a result of player responses; and the ways in which the relative capabilities and capacities of forces involved could affect those probabilities. The cards also specify the conditions and procedures by which the outcomes of those actions, interactions, and events should be **resolved** in accordance with the game rules and the scenario in play.

This guide is for readers who want to understand how to use and play Hedgemony without immersing themselves in the details of specific rules and procedures. This guide also describes how we designed the game, including the methods we used and the key tenets of its design. Readers that need to understand specific details of how the game works (particularly those readers who plan to design and/or facilitate a game session or series) should also read *Hedgemony: A Game of Strategic Choices—Rulebook*, which accompanies this guide. The rulebook not only overlaps the content in this guide but also details the game rules, procedures, and guidance for the White Cell to use in planning, setting up, and facilitating a game session. In addition, the rulebook includes the procedures and calculation tables that players use to develop, manage, deploy,

and employ their forces; manage their resources; and adjudicate actions and game events.

Although RAND personnel collaborated with DoD representatives to develop this game, the game itself does not necessarily represent or reflect U.S. defense policy. The choice of NATO/EU, Russia, China, Iran, and the DPRK as principal players alongside the United States is consistent with contemporary published research,⁶ and it is not meant to represent, imply, or predict any specific **threat** or allied intentions, interactions, or conflicts. Likewise, the selection of cards in the **default** scenario is not intended to suggest or predict the ranges or types of actions, interactions, or events that might occur or to be reflective of a particular strategy or posture. The card decks provided with the game represent a “due diligence” assessment of the ranges and types of actions, interactions, and events that players *should consider*, given the game’s teaching objectives, including some that may be highly unlikely or risky. It is up to session planners to determine whether the actions and events in the default scenario meet their needs or must be tailored to meet specific game session objectives.

For more-comprehensive details on how Hedgemony works, how to plan for a successful game session, how to play the game, and how to develop new scenarios, consult the rulebook.

For more information about the art and practice of wargaming and its use in defense planning and operations, see the bibliography.

⁶ See David Ochmanek, Peter A. Wilson, Brenna Allen, John Speed Meyers, and Carter C. Price, *U.S. Military Capabilities and Forces for a Dangerous World: Rethinking the U.S. Approach to Force Planning*, Santa Monica, Calif.: RAND Corporation, RR-1782-RC, 2017.

2. Planning a Game Session

Hedgemony can be played in a modestly sized conference room equipped with a projection screen and a table big enough for the game board and ten to 12 people. Assuming trained players and facilitators are available,⁷ a game session of the length necessary to complete a useful number of turns for the session's learning objectives will typically require a half-day or full-day commitment. Detailed lists of required game components and full descriptions of the facilities and setup procedures necessary for a successful game session are provided in the Hedgemony rulebook.

Executing a successful Hedgemony game session requires more than just a room, a table, the game components, and a group of players, however. Hedgemony is designed to be expertly facilitated and requires a certain amount of domain expertise from the participants. Although specific requirements will vary by learning objective and scenario, we provide some baseline recommendations in this section. Also fundamental to a game's success are the preparations that the game sponsor and the facilitators should make prior to play.

Learning Objectives and Data Collection

To get the most out of the considerable investment in time and human resources that it takes to run a game or series of games, the sponsor and facilitators should have a clear idea of what they hope to learn (or teach). Therefore, it is important to develop a set of learning objectives that will influence

- What guidance is given to the Blue and Red players
- The pace and balance of play and how (and how often) to inject events into the game
- How many iterations (sessions) of the game are run and how many turns are played before each session is ended
- How the **default scenario** is to be modified to suit the session objectives.⁸

At its heart, Hedgemony is not really a game qua game; it is a flexible pedagogical tool. Although Hedgemony's game system is designed to accommodate a wide variety of scenarios and to facilitate making significant changes to existing scenarios with relatively modest time and effort, the key questions in planning a game event revolve around deciding what is to be learned (or taught) in each game session.

For example, the intent might be to test aspects of a Blue defense strategy against a variety of **world security environments**. In this sense, a Blue strategy might be represented as "prioritize *Readiness* over *modernization*," "minimize forward stationing of forces," or some other a priori rank ordering among the Blue "levers" of force posture, **force structure**, **force modernization**, and **force readiness**. A world security environment could include directing the Red players to be relatively "peaceful" in a first iteration, to be highly aggressive in a second, and to find a balance in a third. Such guidance to Red players should influence not just the actions that they might play but also the events that the White Cell injects into the game.

Alternatively, the goal might be solely to allow the players to observe how actions in the world affect their preset strategic assumptions about their investment and action paths. This might be best accomplished by facil-

itating one or more free-play iterations while still holding players to the strategic goals that they developed prior to the first turn.

The intent might also be to provide (or simply to include) a format or forum in which players can try to test or expand regional, security, and defense policy learning. Whatever the objectives, though, the key for sponsors and facilitators is understanding what those objectives are and how to use the game system and components to accomplish them. Therefore, the most important aspect of the game is not a game's outcome (measured in terms of winning or losing). It is instead the game's ability to help players understand what trades they had to make and how they made them, as well as how those trades might have caused the players to adhere to or diverge from their initial strategic goals.

Therefore, capturing dialogue and identifying key decision points, decision criteria, and the factors that influenced those decisions are where the opportunities to expand on the learning value of the game take place. The White Cell needs to focus as much on helping capture, integrate, and share these observations as it does on ensuring efficient and effective game play. The means to collect these data (i.e., notetakers) and guidance on what to collect and how to capture it from turn to turn are key planning factors for a successful game session.

The Scenario

A session scenario in Hedgemony is embodied in a collection of card decks that represent scenario-specific "catalogs" of ready-to-adjudicate actions and events that may be invoked by either the players or the White Cell or that may occur at random. The cards are intended to suggest, define, shape, and constrain the variety of actions that players may take or to which they may need to respond during each turn; how often (and, sometimes, in what sequence) those actions may occur; the costs, in resources or forces, of actions or events; the range and probabilities of outcomes that could occur as a result of player responses; and how the relative capabilities and capacities of forces involved could affect those probabilities. The cards also specify the conditions and procedures by which the outcomes of those actions, interactions, and events should be resolved in accordance with the game rules and the scenario in play.

Once the intended learning objectives are settled, game planners should sketch out a scenario that includes an outline of the **security environment** and the actors needed for the game, which could include allies, proxy forces (proxies), and third-party entities that may need some representation. Then, the card decks should be reviewed to ensure that they provide the variety and types of actions and events that could lead to or compel the types of interactions and decisions players should face to accomplish the session's learning objectives. For example, planners may suggest leaving out certain cards for a game session to align with a specific scenario or may recommend creating new ones. The Hedgemony rulebook provides suggestions for how to modify or create new game content as part of scenario development.

U.S. Player

The U.S. player is the reason the game exists—accomplishing the learning objectives of the people who represent the U.S. player is the purpose for which Hedgemony was designed. In general, the U.S. player should constitute graduate students or professionals who are at least fa-

⁷ Lessons learned from numerous game sessions have shown that a pregame training session involving a live walk-through of a few game turns by the intended players and facilitators is essential to accomplishing Hedgemony's learning objectives.

⁸ A default scenario is included with Hedgemony. It consists of several **Action Card**, **Investment Card**, and **Event Card** decks and a set of **Starting Conditions** and **Victory Conditions** for each player.

miliar with military strategy and have a sense for the roles strategy plays in shaping the forces that may be called on to execute the strategy. Some **operational** experience is useful but not required. If the U.S. player does not have at least one individual with some background in force development or force management (i.e., some familiarity with the processes and relationships central to planning and programming force structure, force modernization, and force readiness), then a facilitator with such experience should be assigned to assist the U.S. player.

Non-U.S. Players

Non-U.S. players should be graduate students or professionals with at least some expertise in the country or region that they will represent. If such expertise is thin, players can compensate somewhat through pregame research into recent news and foreign affairs articles on appropriate countries and regions.

Specific expertise that will significantly enhance the value of NATO/EU and Red play to the U.S. player's learning objectives includes some intelligence and/or foreign affairs experience, including executive briefing experience. The main reason this is desired is that non-U.S. players are "double-hatted" in Hedgemony. On the one hand, they are expected to represent allies (in the case of NATO/EU) and adversaries (in the case of Red) of the U.S. player. On the other hand, however, non-U.S. players also are expected to play the role of advisers to the U.S. player and to answer the U.S. player's questions concerning their country's or region's game-relevant policies and trends. During the **Red Signaling Phase** of each game turn, Red players are expected to perform the role of intelligence briefing officers for Blue, presenting a summary of what Blue is likely to know about their nation's or region's intentions and of other salient intelligence relevant to Blue planning.

Facilitators

Facilitators constitute the White Cell, serving as both game masters and player advisors. A minimum of two facilitators is needed, although having three is preferable. Four facilitators are desirable if the U.S. team needs force development and force management assistance. Facilitators must understand both how to run a wargame generally and how to run Hedgemony.

It is highly desirable for at least one facilitator to have both operational experience and a solid grounding in force development and force management (i.e., an appropriate staff assignment in the Pentagon on a Ser-

vice headquarters staff or the Joint Staff, or on the staff of the Office of the Secretary of Defense [OSD]), because the most-complex aspects of Hedgemony's game rules and **adjudication** procedures revolve around these factors. It is also desirable for at least one facilitator to have some defense strategy background (again, a staff assignment with OSD or the Joint Staff or in a defense think tank would be very useful).

The reason for these prerequisites is the need to quickly and seamlessly translate player intentions into the appropriate game abstraction during play, and, conversely, translate what happens in the game into players' frames of reference. The facilitators' main job in Hedgemony is to help players (both Blue and Red) execute their strategies and carry out their intentions—without the players getting bogged down in unfamiliar game mechanics or irrelevant detail. It is also the facilitators' job (as the White Cell) to provide guidance to Red players to shape their play (e.g., how aggressive to play; the turn-by-turn pace, scope, and focus of actions; the trade space between planning factors) in alignment with Blue learning objectives.

Participant Training

Accomplishing a typical game session's learning objectives requires completion of a "useful" number of turns so that players can see meaningful changes in the force development, force management, force posture, and force employment trade space that result from their attempts to execute their strategies. In our experience, between five and ten turns may be needed, depending on the scenario. To achieve the pace of play needed to get through this number of turns in a half-day or full-day session, both players and facilitators will need to be trained (unless all but one or two participants and facilitators have played a full game session before).

Training involves a "dry run" through several game turns with all participants to familiarize everyone with the sequence of play, the rules of play, a representative set of actions and events, and the way in which adjudication works. Three to four hours should be allocated for this because the first few turns will, obviously, be unfamiliar to everyone and involve "churn" as players try to find their frames of reference, figure out how to translate their strategic and operational intentions into the game abstraction, and learn enough of the rules to feel comfortable. Facilitators will also need some time to get comfortable with their roles in the sequence of play if they have not facilitated a Hedgemony game session before.

3. Player Guide

Hedgemony is a fairly simple game because it assumes some degree of both player expertise and expert facilitation. It was designed to be easy to learn and play, and it is not necessary for players to have read the rulebook or even this guide before playing the game (although facilitators must certainly read *both* documents). Several facilitated dry-run training turns with a representative scenario are usually enough to get started. What *is* necessary, however, is that players understand

- The key factors that Hedgemony models (i.e., the abstraction of the world presented in the game)
- The trade space between the key factors
- What choices are open to players to influence that trade space.

The ways in which changes in the trade space between key factors affect players' abilities to accomplish their strategies *is the reason Hedgemony was designed in the first place* (i.e., it is the baseline teaching objective). So, whether players read this section of the guide, are taught or trained by facilitators or other players, or both, learning and understanding the topics and considerations described in this chapter are keys to getting the most from a game session.

This chapter is intended as a pregame planning and in-game operations guide for players who are assumed to have the requisite skills outlined in Chapter Two who either might be unfamiliar with the rules or have never played Hedgemony before.

Player Span of Control

Because Hedgemony's focus is on the U.S. player's learning objectives and because the U.S. player represents DoD, the game is inherently biased toward what can be accomplished through the posturing and **employment** of military forces. While planning their moves, the U.S. player should consider the variety of authorities and options that would reasonably be open to the U.S. Secretary of Defense (SECDEF) and OSD. Although the game assumes that the NATO/EU and Red players will take a broader, "whole-of-government" perspective when considering the variety of authorities and options open to them, the main "playing pieces" in the game are still military forces because the game's learning objectives are built around how different strategies may affect the military forces.

Therefore, Hedgemony is, fundamentally, an *asset allocation* game. For a given session scenario, players are presented with an abstraction of the global security environment, a set of military forces with defined capabilities and capacities, and a pool of periodically renewable resources. Players are expected to plan for what they want to try to achieve in alignment with their strategies, and their plan must include how they intend to use their resources and military forces over time to accomplish their strategic objectives.

The Global Security Environment

Hedgemony presents players with an abstraction of the world as it was in 2017, using a game board (shown in Figure 3.1) similar to the Unified Command Plan map.⁹

The boundaries on the game board include both national boundaries and the boundaries of U.S. combatant command **areas of responsibility**

(AORs). In Hedgemony, AOR boundaries are used to regulate movement of military forces and impose costs when moving forces from one AOR to another. Specific rules and procedures are detailed in the rulebook.

The specific time frame and security situation presented in a session (e.g., an outline of the relevant **DIME/PMESII**¹⁰ conditions at game start, recent history) should be spelled out in the session scenario.

Military Forces

Each player is given a set of military forces. Each player's forces are assumed to have specific capabilities and capacities, and these are specified as part of a session scenario. How **modern** (or technologically sophisticated) each player's military capabilities are, along with the capability and capacity of each player's defense industrial establishment to deliver or improve the player's forces' capabilities, is also specified in the session scenario. The differences between players' starting force capabilities and capacities, each nation's capability and capacity to deliver or improve its forces and capabilities over time, and the amount of resources players are given to do so are intended to be representative of the global security environment defined in the scenario. More-specific information on the forces available to players and how they are represented in Hedgemony is provided in the rulebook.

Players' forces are represented by cardboard **forces counters** (or **chits**) in various denominations of **Force Factors (FFs)**, according to force size and capability. At the start of a game, players' forces are placed on the game board according to the Starting Conditions specified in the session scenario. The size of a player's military forces (i.e., the force's capacity) is represented in the number of FFs the player has on the board. How *capable* a player's forces are for a given number of FFs is represented by their **Modernization (Mod) Level** (from 1 to 7), with higher levels being more modern or technologically advanced than lower levels.

A player's forces may have a mix of Mod Levels (i.e., some number of FFs may be more modern than others). The specific capability and capacity configuration of a force at game start is set out for each player in the session scenario Starting Conditions. How the capabilities and capacities of players' forces may evolve during play is shaped both by the outcomes of investments or actions that they and other players choose and by events they may encounter during the game.

The sample forces counter in Figure 3.2 shows two U.S. FFs at Mod Level 3. Figure 3.3 provides additional examples of forces counters that show a variety of FFs and mod levels.

Hedgemony does not explicitly differentiate among ground, sea, air, space, cyber, or special operations forces, as is common in more-traditional wargames. The rough proportions and mix of such different capabilities in each player's forces are either set out in the session scenario or established in negotiations between players and the White Cell during play. Players are expected to do "reasonable" things with their forces within "reasonable" constraints. This level of abstraction was chosen and works in the game because Hedgemony is not about evaluating the effectiveness of one player's forces in interactions against others. Rather, it is about understanding the effects of different U.S., allied, and adversary

⁹ The Unified Command Plan map was found at DoD, Combatant Commands, homepage, undated.

¹⁰ **DIME (Diplomatic, Information, Military, and Economic)** is a framework that emerged from U.S. military academia for characterizing powers that a state may use to influence outcomes in the world. **PMESII (Political, Military, Economic, Social, Information, Infrastructure)**, often referred to now as **PMESII-PT**, which adds Physical Environment and Time, is a framework for understanding the operational environment as part of the operational planning process. For further information, see Office of the Secretary of Defense, 2009.

Figure 3.1. Hegemony Game Board

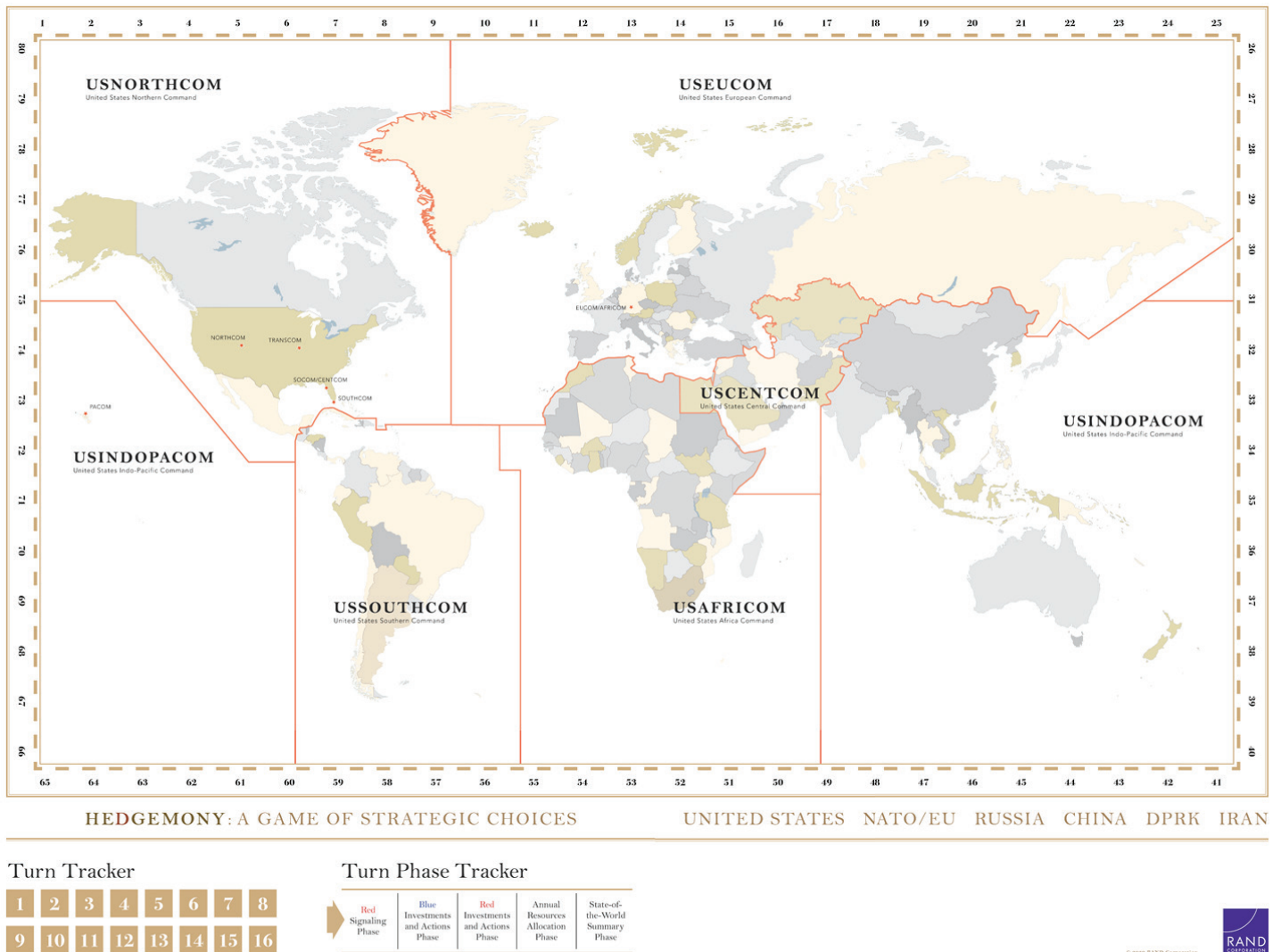


Figure 3.2. Example of U.S. Forces Counter

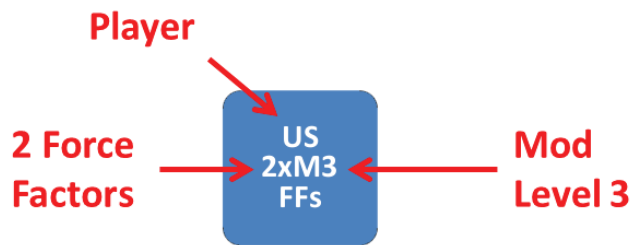


Figure 3.3. Examples of Other Forces Counters



strategic choices on key factors affecting U.S. forces' posture, employability, and the ability to maintain parity or achieve overmatch with adversaries over time.

Resources

In general, both employing a player's military forces to accomplish some objective and improving the capabilities or capacities of a player's forces for future employment cost resources. The details for how much it costs

to do these things and how long it takes to deliver are scenario dependent, but suffice it to say that doing (or improving) more costs more, and, as forces get more capable, those costs go up.

For the U.S. player, employment and improvement are not the only things that cost resources. The U.S. player must also pay for force *read-*

iness (which, in the real world, includes the costs of training, consumables, and maintenance).

Each player receives a pool of resources, in units of **Resource Points (RPs)**, that is used to pay various force development, readiness (United States only), **deployment**, employment, and investment costs. This resources pool is replenished each turn, but the amount may vary based on the outcomes of player actions or events. Resources carry over from one turn to the next, but players may not spend more resources than they have.

For the U.S. player, the resource pool is a rough abstraction of the U.S. defense budget, and its starting size and per-turn allocation are designed specifically to force tough trades between (1) how active U.S. forces can be around the world in alignment with the U.S. player's defense strategy and (2) the U.S. player's intentions for their force's current readiness and capabilities and their force's future capabilities and capacity.

For non-U.S. players, the resource pool is designed mainly to constrain and pace the range and frequency of actions open to players over time. Non-U.S. players do not have to pay the same deployment costs or pay for force readiness, because the game was designed to focus on the U.S. team's learning objectives. Therefore, non-U.S. player resource pools are much smaller than that of the U.S. player.

In Hedgemony, players may spend resources to do the following:

- Posture or employ forces to accomplish some objective
- **Procure** new forces (i.e., buy force structure, capacity)
- Modernize existing forces
- Improve specific force capabilities
- Improve a nation's capability or capacity to modernize forces
- Sustain or adjust force readiness (U.S. player only)
- Take other direct actions that may increase the players' Influence.

Various events, normally injected by the White Cell, also may invite or compel players to expend resources on these or other topics.

The resource pools assigned in a typical session scenario make it challenging for players to modernize multiple capabilities and significant portions of their forces at the same time. Attempting to simultaneously procure new forces while modernizing forces and capabilities is generally unaffordable for *all* players in typical scenarios. This is because a constrained resource pool is fundamental to forcing the kinds of tough trades among key planning factors that Hedgemony was intended to teach.

Time

Hedgemony is a turn-based game. A game turn *very roughly* represents a year in time and corresponds to a notional DoD planning, programming, and budgeting cycle. We caveat turn length for two reasons. First, the precise time interval is an irrelevant detail—it is important to know only that a turn is *at least* months long, so that the logistics details related to flowing or repositioning forces from one operating location to another are simplified. Second, force development timelines, including how long it takes to mature an advanced technology and how long it takes to transition that technology through **acquisition** or modernization, have been artificially compressed in the game, because accurately representing how long it takes for new capabilities to be introduced would take too many turns to become relevant in the game.

A key objective of the game design was to provide an abstraction of the world that permitted a useful number of turns to be played in a single half-day or full-day game session. Therefore, technology and capability development timelines are artificially compressed to permit players to see

the effects of capability and capacity changes in a few turns of play. We also do not saddle players with the burden of planning and managing the logistics of major force movements—players simply move forces where they want to posture or employ them and then pay the cost in resources.

The game *does*, however, account for the effect on military force capacity when a force is responding reactively to a crisis. If a force is already postured or deployed near the crisis location, its full capacity (in FFs) is available on that turn. If, on the other hand, a force deploys *reactively* from some distant location in response to a crisis, only a fraction of its capacity is available on the turn of arrival. The specific procedures for what constitutes “distant” and how to calculate relative force capacity are detailed in the rulebook.

The bottom line is that, in Hedgemony, a game turn represents roughly a year in time, and a game session spans multiple years.

Strategic Objectives and Victory Conditions

Players are expected to have a strategy in mind before the game begins. For the U.S. player, this would represent a defense strategy, because the U.S. **side** represents SECDEF and DoD. For all other players, their strategies represent national strategies. At the start of a game, facilitators instruct players to write down their strategic objectives for the game. Players are then expected to align their actions during the game with those objectives. Postgame discussions should normally focus on players' strategies and objectives, their assessments of the degree to which they were able to meet those objectives, and the major events, factors, and considerations they encountered that affected their ability to meet those objectives.

Wargames typically define one or more criteria that are used to measure and track players' relative progress toward a set of conditions that indicate who won and who lost. These are usually called Victory Conditions, with the specific conditions normally spelled out in a session scenario. Hedgemony is no different, but because its learning objectives are focused on key planning factors affecting the ability of U.S. forces to execute a strategy, winning and losing are much less important in Hedgemony than in typical wargames. Hedgemony has a single victory metric: Influence. Victory Conditions are, therefore, measured and tracked in terms of **Influence Points (IPs)**, and players compete for Influence during the game.

Think of **Influence** as a representation of a country's standing, capability, and/or capacity to shape events and outcomes in its region or the world using military power and other means. The session scenario specifies the number of IPs that each player starts with (in the Starting Conditions) and each player's Victory Conditions. Victory Conditions may be expressed in either absolute terms (e.g., acquire some number of IPs) or relative terms (e.g., get within x IPs of some other player). In typical scenarios, the Victory Conditions are asymmetrical (i.e., players might have different Victory Conditions, and more than one player may win). Victory Conditions also may be measured after a certain number of turns, or the game may end as soon as one or more conditions are satisfied. Starting and Victory Conditions for the default scenario are listed in the appendix of the rulebook.

The aforementioned notwithstanding, key factors that are central to Hedgemony's teaching objectives and that are explicitly represented and/or tracked in the game include

- Each player's RPs
- Each player's **National Technology (Tech) Level**
- U.S. force **Readiness Levels**
- Each player's **Force Mod Levels**

- Each player's **Critical Capability Mod Levels**
- Each player's force posture
- Each player's scope and pace of action in their region or around the world.

Figure 3.4 illustrates the “dashboard” of Starting and Victory Conditions for the default scenario, which are printed on the back of the U.S. player screen (typically placed on the game table, facing the U.S. player's place-mat). Each player's screen is similarly configured with their own Starting and Victory Conditions and the Victory Conditions and starting **Critical Capabilities** of the other players.

Note that the specific configuration of factors in the default scenario was not meant to reflect a real-world assessment of specific relative capabilities and capacities between participants. Rather, this configuration was a game design decision intended to both provide opportunities and force trades among the players. These factors form the central *trade space* about which players' decisions revolve. Although specific details and procedures concerning these factors may be found in the rulebook, a discussion concerning how to think intuitively about and manage this trade space is provided in a later section of this guide. The integration and collective trends of these factors over the course of some number of turns are the *main teaching points* for which the game was designed. Influence is an *adjunct* measure that provides players with both a motivation to act or respond and a sense of the **outcome** trends of their actions and responses relative to the other players.

Investments, Actions, Events, and Outcomes

The “levers” players may use in a game to execute their strategies and meet the scenario Victory Conditions involve either making investments or taking actions. Another lever that may influence players' abilities to achieve their strategic objectives lies in the hands of the White Cell, who

may inject various **International Events** (involving more than one player) or **Domestic Events** (focused on a single player, but with potential consequences to others) during play.

Players may invest resources to procure (grow) or modernize their forces or to modernize specific capabilities. They also may invest resources to improve the nation's or alliance's capability or capacity to procure or modernize. Some of these investments are “certain” (i.e., “pay to play,” make the investment, and the result follows), while others involve some risk of failure or delay. Some investments and their outcomes are **public** (i.e., visible to all players), while other investments and/or their outcomes are **private** (i.e., hidden from other players).

Players also may take actions involving the posturing, deployment, and/or employment of their military forces, or (depending on the player or situations) actions involving other instruments of national power (including diplomatic and economic actions). The U.S. player represents DoD and is thus limited to those actions that would be within the authorities of SECDEF and subordinate organizations. Because all other players—NATO/EU and Red players—represent their entire governments, their portfolios of actions are more diverse.

As part of the session scenario, decks of cards are provided to each player to assist them in planning and sequencing a set of investments and actions that will accomplish their strategic objectives during the game. Think of each deck as a “catalog” of potential actions and investments. Blue players have relatively limited decks because the game was designed to give Blue players wide latitude in the types of actions they may propose during a turn (i.e., “free-play”). The Red players' decks are larger and more diverse in terms of the number and variety of actions and investments they represent, because the means to rapidly adjudicate the

Figure 3.4. Example of Starting and Victory Conditions on Player Screen

U.S.		OTHER PLAYER VICTORY CONDITIONS AND CRITICAL CAPABILITIES	
VICTORY CONDITIONS			
IPs > IPs of everyone, and DPRK does not win			
PER-TURN RESOURCE POINTS	30 RPs		
STARTING CONDITIONS			
Resource Points: 40 RPs		RU	IPs ≥ U.S. IPs – 5 C4ISR (+2), LRF (+4)
Influence Points: 50 IPs		PRC	IPs ≥ U.S. IPs – 3, and DPRK neither wins nor loses C4ISR (+2), LRF (+4)
Force Factors: 20 at Mod Level 3		DPRK	IPs > 15, or if U.S. leaves Korean Peninsula Lose if IPs = 0 Nuclear Forces (0), LRF (+1)
National Tech Level: 4		Iran	IPs > 20 LRF (+2), SOF (+1)
Critical Capabilities:		NATO/EU	IPs > IPs of RU, and RU does not win C4ISR (+3), IAMD (+3)
C4ISR Mod Level +3			
IAMD Mod Level +3			
SOF Mod Level +3			

outcomes of those actions in stride during play is provided as part of the session scenario.

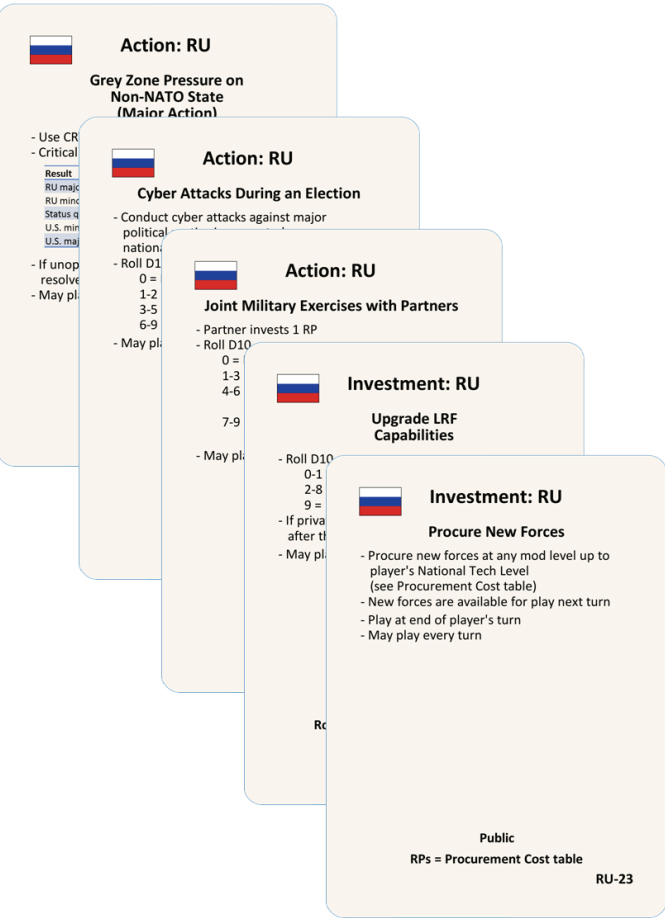
For all players, each card represents a preconsidered, ready-to-adjudicate set of conditions and potential outcomes. It is the player’s job to provide the surrounding context when playing each card (e.g., what is going on in a particular event or at a given time, what the rest of the world would see, the revealed intentions), to make the action “real.” A selection of **Action and Investment Cards** from the Russian player deck is shown in Figure 3.5.

Although actions and investments may take place during specific phases of a player’s turn, events may occur at any time. Together, the outcomes and consequences from player investments and actions and from events injected by the White Cell are manifested in changes to the status of players’ forces, to the sizes of their resource pools, and to the relative amounts of Influence they may exert in regions or in the world.

Figure 3.6 illustrates the types of outcomes players should expect to see from interactions between military forces during play. The outcomes were designed to be reasonable abstractions of what historically occurs in the real world. Hedgemony typically boils down the potential results of interactions between forces into one of five outcomes:

- Red Major Gain
- Red Minor Gain
- Status Quo
- Blue Minor Gain
- Blue Major Gain.

Figure 3.5. Sample Action and Investment Cards



Favorable outcomes *typically* result in increased Influence for the gaining side and, often, decreased Influence for the losing side (which affects a side’s Influence balance with other players). The rulebook describes in more detail how to read and adjudicate outcomes.

Few interactions between military forces—short of combat—result in decisive outcomes because so many other nonmilitary factors are usually in play that lead to termination of a conflict before a decisive outcome is reached. Even many combat actions are not decisive on a regional or global scale (the scale at which Hedgemony is played). Therefore, the most likely outcome to most interactions between forces where one side does not have an overwhelming advantage or capability overmatch is for neither side to gain an advantage (i.e., status quo).

As in the real world, few outcomes in Hedgemony are certain (i.e., most involve a probability distribution and are resolved with a die roll), and this means that players need to consider the odds of success, failure, or status quo when considering what they want to do or respond to and what steps they might want to take to increase their chances for success. For example, to achieve an advantage in an outcome, a player might need to do some combination of the following actions:

- Commit enough FFs to change the **ratio of forces** from 1:1 to a higher ratio
- Commit FFs with a higher Mod Level than those of the opposing forces

Figure 3.6. Sample Action Card with Outcomes

Action: RU

Grey Zone Pressure on Non-NATO State (Major Action)

- Use CRT A
- Critical Capabilities: None

Result	RU	NATO/EU	U.S.
RU major gain	+3 IP	-2 IP	-2 IP
RU minor gain	+2 IP	-1 IP	-1 IP
Status quo	0 IP	0 IP	0 IP
U.S. minor gain	-1 IP	+1 IP	+1 IP
U.S. major gain	-2 IP	+1 IP	+1 IP

- If unopposed, U.S. & NATO/EU -1 IP and RU resolve on RT B Red Advantage column
- May play every turn

3 RPs to play

RU-01

- Use a Critical Capability with a higher Mod Level than those of the opposing forces.

Some proportion of the investments that players make in a typical game will usually be aimed at improving or maintaining one or more of these ratios because ratios of forces and/or capabilities that favor one player increase the likelihood of a favorable outcome. The rulebook details the ways in which the ratios do this and the procedures for determining them.

The process for determining outcomes is called **adjudication**, which is facilitated by the White Cell. Players should expect to be guided through the procedures and probabilities, and—similar to other wargames—one or more die rolls may be involved. The bottom line for players here is that different types of investments, actions, and events present different costs, probabilities, opportunities, and risks. The costs and probabilities are shown either explicitly on the cards or on one or more calculation mats on the game table. In either case, the costs and probabilities have been precalculated as part of the scenario design, to enable on-the-fly adjudication (i.e., outcomes are determined and recorded by the White Cell, with player participation, during the course of a game turn). Although players do not need to learn all of the variations and details, they do need to learn how to interpret the different costs and probabilities as they plan and execute their turns, to give themselves reasonable chances for success.

Defining the Trade Space

Hedgemony confronts players with two classic challenges analogous to those that all defense planners face every day:

- How best to use their resources and/or military forces over a series of turns to accomplish their strategic objectives today
- How best to invest their resources over a series of turns to preserve or improve the relevance or utility of their military forces to accomplishing those objectives into the future.

The first challenge involves managing the allocation of resources and forces available each turn toward *actions in the present* to directly or indirectly influence outcomes in the world over time. The second challenge involves managing the allocation of resources over time toward *investments for the future* aimed at developing and/or sustaining the mix of military capabilities and capacities that will be available for allocation in future turns. Hedgemony was designed specifically to confront players with this *present versus future* and *action versus investment* trade space.

The boundary conditions for this trade space are defined for each player by their existing pool of resources (i.e., players cannot spend more than they have) and by the forces they have on the board (i.e., the sizes and capabilities of the forces in play limit the range and intensity of actions a player may take with a reasonable chance of a favorable outcome).

One can think of this present-future action-investment trade space as an *n*-dimensional asset allocation problem, whose Starting Conditions are defined as follows:

- The game itself supplies abstractions of key trade-space factors and rules for how they interact (detailed in the rulebook).
- Players supply their strategies and their strategic priorities at the start of the game session.
- The session scenario, which consists of the following, supplies each player with everything else:
 - A mix of forces with defined capabilities and capacities
 - Catalogs of potential actions, investments, and events (in the form of card decks)

- Potential costs and consequences of each action, investment, and event
- A constrained pool of resources that makes it challenging or impossible for players to optimize their actions and investments between the present and the future.

The dimensions of the trade space that are modeled in Hedgemony comprise the following.

Resources

- **Resources** are represented in the game as some number of RPs allocated to each player—this periodically renewable pool of resources is used to pay for anything a player wants to do in the game.
- Initial resource allocation is defined in the session scenario Starting Conditions.
- Resources carry over from one turn to the next (i.e., players can “save up” for later turn actions or investments).
- Resources are renewed each turn by a scenario-dependent amount (which may vary depending on the outcomes of other actions or events in the game).
- Players may not spend more RPs than they have.

Force Structure (Forces, Capacity)

- **Force structure** is represented in the game as some number of FFs allocated to each player.
- Think of each FF as an abstraction of a military unit or formation (e.g., brigades, squadrons, battle groups).
- Exact formation size (team, company, squadron, group, etc.) and force type (ground, sea, air, space, cyber, special operations, etc.) *are not explicitly represented or differentiated* in the game—these characteristics are instead considered and/or revealed *when a FF is used in play* by either the players or the White Cell.
- The greater the number of FFs (i.e., the size of the force) is relative to that of an opposing force, the greater the capacity advantage is in deciding the outcome of an interaction.

Force Capability

- **Force capability** is represented in the game as a FF's Mod Level.
- Think of a force's **Mod Level** as an indicator of how technologically, operationally, or tactically advanced the force is.
- The higher the Mod Level (i.e., how much more capable a given number of FFs is) is relative to that of the opposing force, the greater the capability advantage is in deciding the outcome of an interaction.

Asymmetrical Capabilities

- **Asymmetrical capabilities** are represented in the game as one or more Critical Capability Mod Levels (1–7).
- Asymmetrical capabilities are used to substitute for explicitly modeling **mission**-specific capabilities in the game.
- Examples include command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR), Integrated Air and Missile Defense (IAMD), long-range fires (LRF) (which can include both tube and missile artillery and ballistic missiles), special operations forces (SOF), and nuclear forces.

- The higher the Critical Capability Mod Level is relative to that of the opposing force, the greater the capability advantage is in deciding the outcome of an interaction.
- The capability advantages that Critical Capabilities provide are *independent of force size* (i.e., they provide the same outcome advantage to both smaller and larger forces, which can offset a capacity disadvantage).
- Critical Capabilities are mission- or context-specific (i.e., they affect certain types of interactions) and usually apply to combat interactions (i.e., they do not affect most noncombat interactions).

National Science and Technology (S&T) and Research and Development (R&D)

- **National S&T** and **R&D** are represented in the game as the National Tech Level (1–7).
- Think of **National Tech Level** as a nation's or alliance's S&T and R&D capability and capacity—the player's national capability and capacity to develop and deliver advanced technologies to military forces.
- The National Tech Level places an upper limit on how modern a player's military capabilities can be (i.e., neither force Mod Level nor Critical Capability Mod Levels may exceed a player's National Tech Level).

Force Readiness (U.S. Player Only)

- **Force readiness** is represented in the game as a Readiness Level percentage (50 percent to 100 percent).
- **Force readiness** is the relative capability and capacity of a force to deploy and/or operate with full mission capability (e.g., training, munitions, maintenance, parts, fuel).
- Readiness is force-specific; therefore, U.S. FFs may have a mix of Readiness Levels (a frequent consequence of a posture called **tiered readiness**).
- Any level of Readiness below 100 percent affects a force's combat capacity and capability in interactions with opposing forces.
- The readiness of all U.S. forces must be paid for during each turn in the game.
- The higher a force's Readiness Level is, the more it costs a force to keep operating.
- On any given turn, it costs less to maintain a force's Readiness Level than it does to have reduced it earlier and then have to buy it back when it is needed. But reducing Readiness does save resources over multiple turns, although the player must accept the risk that they will have insufficient resources on a later turn to buy back Readiness if that force is needed for an emerging crisis.

Force Posture

- **Force posture** is represented in the game as where forces are located or operating in the world.
- It costs less to operate forces at or near their home locations than it does to operate them forward (deployed to some more-distant location).
- For the U.S. player, "home" is the U.S. Northern Command (USNORTHCOM) AOR, which includes the contiguous United States (CONUS), and any deployment to another AOR is considered an overseas operation.

- For all other players, home is the home country (or Europe, in the case of the NATO/EU player) at game start, and all **operations** outside those boundaries are considered out-of-area operations.
- For the U.S. player, posture costs are accounted for in the Readiness costs; a given level of Readiness overseas costs more than the same level of Readiness in CONUS.
- For non-U.S. players, forces may operate in their home countries for free, while forces operating away from their home countries cost some number of RPs.
- In the default scenario, an aggressive, high-readiness forward posture will normally require the U.S. player to implement some type of tiered readiness scheme, with some proportion of CONUS-based forces reduced in readiness.

Force Deployment

- **Force deployment** is represented in the game by moving forces from their home location to an operating area outside of home borders or by repositioning forces from one country or region to another.
- For the U.S. player, **deployment** means moving forces from CONUS to another AOR, while **redeployment** is moving forces from one AOR to another.
- For all other players, moving forces out of their home borders is a deployment, and moving forces from one country to another is redeployment.
- Deployments and redeployments cost some number of RPs.
- All other movement within an AOR (for the U.S. player) or within national boundaries (for all other players) is free.

Force Employment

- **Employing** forces means using them to achieve some outcome through military operations.
- Although there is a wide range of military operations (called the ROMO), Hedgemony groups operations into just two broad categories: **combat operations**—interactions between forces using lethal force—and **noncombat operations**—essentially, every other kind of interaction short of combat, including **gray zone** actions, exercises, and posturing.
- The outcome of combat operations usually depends on both military capacity (force size) and military capabilities (including how modern forces are, as well as the mix of asymmetrical capabilities they may possess).
- The outcome of noncombat operations may depend more on military capacity (especially for a range of low-tech operations) or on a mix of capacity and capabilities (especially for higher-tech operations, including cyber).

Time Frame (Present and Future)

- This last dimension cuts across all the others because each dimension has a timeline associated with it that starts with now and goes as far into the future (upcoming turns) as a player may care to plan.
- Time frame historically dominates defense planning in general, and a constrained resource pool ensures that Hedgemony is no exception.

- There is always an inherent tension in defense planning between the need to commit resources to support what is happening in the near term and the need to invest in preparing for what might happen (or what one may want to happen or prevent from happening) in the future.

Although real-world force planners must confront many more dimensions than these, the dimensions listed in this section are those that Hedgemony models to help teach players the impacts that different combinations of strategic priorities can have on a military force's capabilities and capacity to execute a strategy over time. The rules and procedures governing how these dimensions work in the game are detailed in the rulebook.

To play the game well, players need to string together, over multiple turns, a sequence of investments and actions that increase the likelihood that favorable outcomes will outweigh unfavorable ones. To do that, players must have a plan of priorities and decisions that consider *every dimension in the trade space*. The next section outlines intuitive ways for players to think through those priorities and decisions.

Trade-Space Considerations

Although we have just defined a daunting n -dimensional present-future decision space in the previous section, there are ways to simplify it in one's mind that capitalize on some key characteristics of the trade space. First, the planning bias typically leans heavily toward improvement (e.g., more capability or capacity, more missions, more places, less risk). This characteristic alone weeds out many combinations of decisions that do not make sense or that have little to no chance of success. Second, some dimensions and some relationships between dimensions dominate the decision space (i.e., the impact of the decisions in those dimensions can render decisions in other dimensions irrelevant).

Existing resources and trends (for reallocation), existing forces, and time tend to be dominant dimensions in the trade space. For example,

- Players typically will not have enough resources to do “too much”—aspirations likely will exceed available resources. (Although this is by design in the game, it is usually true in the real world as well.)
- Available forces limit in how many places in the world actions can be mounted simultaneously with a decent chance of favorable outcomes.
- Existing forces take time to change (either through procurement or modernization of forces or capabilities).

If, under a constrained resource environment, a player wanted to play a strategy that involved being **proactive** in more places than they had forces, then priorities and decisions about growing force structure and modernizing certain capabilities would likely be irrelevant. Because most of the player's resources would likely be expended in current operations and readiness, future force structure and modernization priorities would be moot.

The third characteristic of the trade space is that decisions in some dimensions are fundamentally dependent on decisions in others, which means one can define a logical sequence through the decision space that can reduce its complexity, particularly if some of the “upstream” priorities are already known. For example, a regionally focused strategy could imply accepting risk in terms of threats to the lower-priority regions, which would in turn imply focusing on capabilities tailored to regional overmatch, instead of equally addressing multiple threats across all regions.

A Representative Decision Sequence Through the Trade Space

Given the aforementioned, it is possible to logically sequence the decision space so that the more “independent” decisions can inform the more “dependent” ones. For example, consider the following outline of possible choices and implications for assumptions that underlie a strategy.

Resources

- Constraint versus growth
 - In periods of resource *constraint*, expect hard choices between present and future (capability, force structure, readiness, etc.), which will require adjusting the pace of operations, delaying/spacing out modernization or procurement, or some combination of these remedies.
 - In periods of resource *growth* (which are historically rare and of short duration), players have more opportunities to strengthen multiple dimensions.
- Stable versus uncertain
 - If resource *stability* is assumed, then a player, confident in the next turn's allocation, could exhaust resources closer to zero resources each turn.
 - If resource *uncertainty* is assumed, then a player always has to hedge for the possibility of fewer (or more) resources next turn.

Threats

- Global versus regional
 - Addressing threats on a *global* scale means having to spend more on modernizing both forces and capabilities against a diverse variety of threats and regions.
 - Focusing on threats in specific *regions* (and taking risks in others) could free up resources for more operations or more-aggressive investment (at the risk of potential surprises elsewhere).
- Parity versus overmatch
 - Because status quo is the most likely outcome—unless one side has a significant advantage—a sensible strategy for some players might be simply to maintain *parity* with the high-priority threats.
 - *Overmatch* requires a player to outpace an adversary in investments in one or more areas; *symmetrical overmatch* means a player outpaces an adversary in investments in the same area (i.e., the adversary builds force structure to a given Mod Level, the player builds more; the adversary modernizes specific capabilities, the player modernizes the same ones faster), while *asymmetrical overmatch* means the player outpaces an adversary in investments in a different area.
 - The key here is for players to choose capability or capacity areas that will tend to work in their favor in the interactions they are seeking.
 - In a constrained resource environment, seeking overmatch usually means taking a risk in another dimension (e.g., force readiness or pace of operations).

Force Posture

- Forward (proactive) versus garrison (reactive)
 - It is more expensive to maintain *forward* posture than garrison (operating from a player's home AOR or country), but maintaining forward posture means that the full capability and capacity of a force are available when reacting to a crisis (i.e., the force is already nearby).
 - *Garrison* forces are cheaper, but reactive deployments mean a loss of capability and/or capacity on the turn of arrival, meaning that more forces must be deployed to compensate—which also adds costs.
 - The U.S. player has the option to use tiered readiness, taking a proportion of CONUS-based forces to significantly lower Readiness Levels to free resources for force development and current operations.

Current Operations and Readiness

- Current operations and readiness versus future capability and capacity
 - Focusing on *current operations* (which, for the U.S. player, also means keeping forward deployed forces at higher Readiness Levels) usually means taking a risk in force development (modernization and/or procurement).
 - Reducing the Readiness Levels of some CONUS forces can free up resources to buy back risk in force development.
 - Focusing on *future capability and capacity* (to maintain parity or achieve overmatch with one or more threats) usually requires adjusting the scope and/or pace of current operations.
- Combat versus noncombat operations
 - All operations cost resources and pose risks; the greater the scope and potential consequences are, the greater the cost is to the initiating player, and the greater the risk is if the outcome favors the opponent.
 - Unless one player has a clear capability or capacity advantage, expect the most likely outcome to be Status Quo; this favors players whose strategies toward particular threats are to maintain the status quo.
 - *Noncombat operations* (including posturing, gray zone operations, and exercises) usually pose fewer risks in the event of loss than do *combat operations*, but it is also more difficult to achieve decisive outcomes in noncombat operations.
 - There are no combat losses, per se, in Hedgemony; a major defeat instead may require a player to return the forces back to their home (starting) location for some number of turns—the player must then expend resources to **reset** them to full capability (reset procedures are detailed in the rulebook).
 - Trying to achieve decisive outcomes with large shifts in Influence usually involves significant cost and risk and takes some number of turns to prepare (forces and capabilities).

Opportunities and Risks

- Win/win (cooperative) versus hedging versus competition
 - Players have the option to **cooperate**, although there might be limited opportunities, depending on the guidance that Red players are given as part of the scenario; nevertheless,

cooperation is a way to reduce some risks, particularly when following a more regionally focused strategy.

- Players can choose a *competitive* strategy, in which all of their actions are aimed at a succession of proactive posturing or responses intended to challenge adversaries in ways that advance players' strategic objectives.
- *Hedging* involves posturing enough forces against each threat to guarantee no worse than parity (i.e., avoid adversary advantage); doing this on a global scale usually means trades in at least some capability areas.

Force Development (Future Operations, Capability, Capacity)

- Procure new forces (capacity) versus modernize existing forces (capability)
 - The relationship between *capability* and *capacity* is represented in **Combat Factors (CFs)**, calculated as a function of the number of FFs and their Mod Level (see the rulebook for calculation procedures).
 - The higher a force's Mod Level, the more CFs are generated *per FF*. Thus, it is possible for a smaller, more modern force (with fewer FFs but a higher Mod Level) to overmatch a larger but less modern force.
 - The least-costly way to increase combat capability in the game is to *modernize existing forces*.
 - The next most efficient way to increase combat capability is to *procure new forces* at a higher Mod Level, which also grows force structure, which is an increase in force capacity (which, for the U.S. player, also means increasing the per-turn readiness bill).
 - The most expensive way to increase combat capability is to *procure new lower-Mod Level forces and then modernize* them.
- Modernize forces versus modernize Critical Capabilities
 - *Modernized forces* improve capability in all interactions where CFs matter to the outcome; the greater the size of the force committed is, the greater is the potential advantage.
 - *Critical Capability Mod Levels* are situation-dependent but agnostic to force size; this means that there may be some interactions where those investments will not matter, but the advantage accrued is independent of the size of the force (which means that a smaller force with a capability advantage can defeat, or prevent a loss to, a much larger force that does not have that advantage).

The interdependencies between factors revealed in this outline should be enough to illustrate how decisions nearer the top of the outline affect those nearer the bottom. Also, the implications of the dominance of resources, forces, and time limitations on the trade space simplify the decision space because certain combinations of decisions are either impractical or impossible. For example, players should not expect revolutionary changes in force characteristics; changes will be incremental. This means that the implications of gradual changes in an adversary's force might be hard to appreciate on any given turn (i.e., by the time a change is large enough to be obvious, it might be too late to react or compensate), *and* it means that if a player wants to make meaningful changes to their forces, they need to start doing so immediately and keep doing so

every turn (which will likely constrain the range or pace of other actions that they may take from one turn to the next).

Another takeaway from this outline is the importance of starting to modernize one's forces (and at least one Critical Capability) as soon as is

practicable—and to keep doing so throughout the game—if the player's intent is to achieve useful overmatch against an adversary or to prevent an adversary from doing the same to them.

4. Play Sequence

A typical game turn in Hedgemony involves the following **phases**, played in sequence:

- Red Signaling Phase
- **Blue Investments and Actions Phase**
- **Red Investments and Actions Phase**
- **Annual Resources Allocation Phase**
- **State-of-the-World Summary Phase.**

Facilitation is provided by a White Cell composed of two or more experts who act as game masters and referees. Facilitators are responsible for the following:

- Advising players on game rules and play strategies to accomplish learning objectives
- Keeping play on pace and on track through the various phases of each game turn
- Advising and walking players through the adjudication procedures for each action and event
- Maintaining and summarizing the overarching “story” of what player actions or interactions, game events, and their outcomes would likely represent in the real world
- Resolving disagreements over interpretation of game situations and rules
- Overseeing note-taking and data-recording.

Red Signaling Phase

Think of the Red Signaling Phase as Blue’s daily intelligence briefing. The main purpose of this phase is for each Red player to summarize what Blue players would likely know about their intentions, consistent with the state of the world at that time in the game. As outlined in Chapter Two, the scenario provides each Red player with a card deck representing a catalog of potential investments and actions from which they may choose. Red players select three cards from the deck and lay them face up on their placemats as a signal to Blue of the proactive investments and/or actions they *may* execute during their **Investments and Actions Phase** (during which they may execute all, some, or none of the investments and actions they have chosen).

During the Red Signaling Phase, Red players “work for” Blue, building an intelligence summary around the three cards they have selected. In the course of their summaries, Red players are expected to answer U.S. and NATO/EU player questions about context and details. What these players reveal about their intentions should reflect an honest assessment of what Blue *would or could likely know* based on Blue intelligence capabilities or on specific pregame guidance as part of the session scenario.

Blue Investments and Actions Phase

In the Blue Investments and Actions Phase, the Blue players deliberate on how they propose to posture, act, respond to, and/or hedge against everything they heard during the signaling briefs. This phase is also where Blue needs to finalize their trade-space plans and decisions and then decide what investments and actions to make or take. This includes paying the readiness bill associated with their force posture, and its costs will likely be a dominant factor in Blue decisionmaking.

The Blue team is encouraged to walk around the game table during this phase and look at the Red player cards that have been signaled. This is

not only to refresh what they heard in the signaling briefs but also to allow Blue to see the conditions, odds, and costs associated with those actions and investments, get a sense for the specific scope and scale of the actions they may need to respond to, and see what Red’s chances of success might be.

Once Blue settles on a plan, the U.S. player needs to pay the readiness bill associated with their chosen force posture. The high cost of readiness in proportion to the U.S. player’s total resources allocation is intentional (i.e., this is a feature, not a bug) and is intended to force difficult choices across the trade space outlined in Chapter Three.

With the resources that remain after readiness costs are paid, the U.S. and NATO/EU players then play and resolve whatever Investment Cards they choose, in whatever order they choose. In each case, the costs and outcomes are paid and recorded *as they occur* (facilitated by the White Cell), which may affect, enable, or prevent subsequent investments and actions.

When they have completed their investments, the U.S. and NATO/EU players then execute and resolve whatever actions they choose, in whatever order they choose. Remember that, for Blue, actions are mostly free-play. However Blue may wish to employ their forces (consistent with the session scenario and Blue strategy), the players need only to articulate their desired force employment, and it is the White Cell’s job to accommodate it by translating it into the game abstraction on the fly.

For all investments and actions, the only limiting factor for Blue (other than the rules and specific conditions on the cards) is resources—neither the U.S. player nor the NATO/EU player may run an RP deficit at any time during play, unless specifically authorized as part of the scenario or by the White Cell.

Once all Blue investments and actions have been made or taken, play shifts to the Red Investments and Actions Phase.

Red Investments and Actions Phase

In the Red Investments and Actions Phase, each Red player chooses which card or cards (of the three that they signaled) they will play, and in what order. Red then plays and resolves each in sequence, facilitated by the White Cell. Players should accompany the play of each card with a “narrative,” during which they summarize the action(s) they are taking, in the context of the “intel brief” presented earlier (in the signaling phase), and any other pertinent details. It is not mandatory for players to reveal everything they are planning during the signaling phases, nor is it mandatory for them to stick entirely with their signaling story when they play their cards. Any differences, however, should be justifiable and consistent with the security environment defined in the scenario.

Annual Resources Allocation Phase

During the Annual Resources Allocation Phase, some number of RPs is added to each player’s existing resource pool (budget). The amount added during each turn is specified in the scenario, but it may be adjusted by the outcomes of various Action, Investment, or Event Cards. RPs are *added* to the existing pool, and they carry over to subsequent turns if they are not used.

In addition, the baseline per-turn allocation for the U.S. player may change each turn as a result of budget variation.

State-of-the-World Summary Phase

During the State-of-the-World Summary Phase, the White Cell provides a brief summary of the notable actions, events, and outcomes that occurred during the turn. This is expressed in real-world terms, as part of the coherent backstory of the game as it has unfolded. The White Cell is responsible for updating and maintaining this story over the course of game play, as this will also provide foundational context for any post-game discussion of lessons learned and insights.

Event Cards

As stated earlier in this guide, International and Domestic Event Cards typically are managed by the White Cell (although they also may be injected at random, based on a die roll or draws from a shuffled deck). Although Event Cards may be injected at any point during a turn, lessons learned from prior sessions strongly suggest that facilitators should use care and consider preceding context in deciding when to play Event Cards, what cards to play and in what sequence, and what players may be involved. Event Cards are a powerful tool that can shape play toward (or away from) accomplishing the session's learning objectives, because events can compel certain actions or interactions by or between players. If preceding events or actions have happened too quickly or too slowly, if certain desired actions or interactions have not yet occurred within the hoped-for number of turns, or if one or more players have had too easy or too difficult a time of it, Event Cards can serve to adjust the situation and keep a game session on track. In short, Event Cards can both unbalance or rebalance a game.

The White Cell needs to pay continuous attention to how play is unfolding and consider

- Whether one or more events could advance or improve play toward the session's learning objectives

- What types of events should be considered in the context of, and would be coherent with, preceding player actions/investments and preceding events
- Which player(s) could or should be affected if the new events were played
- What the potential consequences to play and the session learning objectives might be in subsequent player responses to the new events.

Adjudication Procedures and Game Rules

Adjudication is the process of resolving the outcomes of player actions and interactions, as well as game events. This process is facilitated throughout a game session by the White Cell and normally involves consulting the rules in the rulebook, as well as the conditions and procedures specified on various Action, Investment, or Event Cards as they are played.

For some actions, the adjudication procedure is represented entirely on the card in play. For other actions, various tables are used to determine an outcome. In all cases, the card in play specifies what procedure should be followed, and that procedure is facilitated by the White Cell.

It is also the White Cell's job to guide players through any rules that apply to the interactions they are planning, executing, or reacting to. Although players should be at least familiar with most of the rules, assuming a few turns of dry-run training were completed before the main game session, the White Cell needs to know the rules because it is their job to advise the players. The best way to learn the rules is, of course, to play the game. For further details, consult the rulebook.

5. Designer Notes

Hedgemony was designed to teach U.S. defense professionals how different strategy and policy priorities could affect key planning factors in the trade space at the intersection of force development, force management, force posture, and force employment. The original tasking was for a game that met the following requirements:

- Able to be played at a global-strategic scale
- Multi-sided, with live play (not scripted)
- Adjudicated on the fly
- Simple enough to play a useful number of turns in four hours.

Design Process

The project team had significant active duty experience in joint ground, sea, and air warfare, as well as significant experience in force development and force management from multiple staff assignments in the Pentagon. Some members of the project team had been lifelong wargamers (starting with commercial games from such companies as Avalon Hill and Simulations Publications Incorporated [SPI]), although no members had formal game-design experience.

After a quick survey of readily accessible sources about board wargaming (see the bibliography for specific references) and drawing on the team's traditional board-gaming experiences, we researched several contemporary games before considering what types of game systems might be suitable, including the following:

- COIN Series, including Andean Abyss and sequels, Cuba Libre, and A Distant Plain; GMT Games
- Gathering Storm, GMT Games
- Triumph & Tragedy, GMT Games
- Twilight Struggle, GMT Games¹¹
- Wings for the Baron, Victory Point Games.

After brainstorming various game system ideas from multiple sources, we challenged ourselves over a weekend to each develop a straw-man game design and roughed-out paper prototype. The following Monday, we demoed and discussed each design, selecting the best ideas for a team straw-man design. Versions were then iteratively prototyped and refined with client participation and feedback, which was a key contributor to the game's success.

Game Features and Design Trade-Offs

This game borrows several features from traditional and contemporary board games. The game uses cardboard **counters** (i.e., chits) to represent military forces, has a map game board, and uses **resolution tables**, all of which have been features of board wargaming throughout its history. "Card systems" used to structure and encapsulate player actions and events are a relatively newer feature that has been refined over the past 15 years to provide abstractions for a variety of phenomena relevant to the art of war. These include the following:

- Events beyond the control of players that inject uncertainty into game play and affect one or more players' range of actions, forces,

and/or resources (including international, natural [e.g., weather], economic, and political)

- A "fog of war," which is created by introducing variations or constraints to player perceptions or differences between perception and "ground truth"
- Command and control constraints, which are created by limiting the number of forces players can move or introducing the possibility of misinterpretation of orders
- Precedence and dependence, which are created by controlling the order in which players are given the opportunity to act or react.

Hedgemony is "unbalanced" by design,¹² and it is tailored specifically to Blue learning objectives. Red players and the White Cell are essentially "training aids." Red players participate in both Red and Blue roles during a turn, and Red play is simplified and is highly dependent on player expertise.

Time is highly abstracted, with a turn very roughly representing a year (analogous to the DoD planning, programming, and budget cycle).

Resources are highly abstracted and asymmetrical, with U.S. player and non-U.S. player resource pools having different amounts and purposes.

Force development cycles are highly abstracted and artificially accelerated. Although the life-cycle development "sequence" is preserved (i.e., first develop the technology, then integrate it into military solutions), the duration is compressed to allow players to see and react to the resulting changes in force capabilities and capacity within the nominal number of game turns in a typical game session (usually a half-day or full-day session).

Deployment and maneuver are highly abstracted (because a turn represents at least months of time), so the impact of force flow when responding to an adversary action over some distance is simply accounted for as a reduction in force capacity on the turn of arrival.

A session scenario and adjudication are embodied in the cards—the game system itself is just a framework. The card decks essentially define the scenario and the range of possible actions and events. Adjudication steps for each action and event are specified on the cards. This makes the game highly adaptable to different scenarios (simply adjust, add, or remove cards and content to suit the desired teaching or learning objectives).

There is no explicit differentiation between types of forces in Hedgemony. There are Force Factors (FFs) denoting the size of forces (i.e., force capacity), but there is no explicit representation of ground, sea, air, space, special operations, or cyber force types, units, or formations. This context is *added by the players* when they employ their forces—players are expected to do "reasonable things" with their forces (enforced by the White Cell), and the historical or scenario-defined force mix for each player's forces is used to constrain the numbers of FFs that may be employed in any given interaction. The game also uses abstract asymmetrical capabilities to account for side-specific differences in mission capabilities (e.g., C4ISR, LRF, missile defense, SOF).

Force interactions and adjudication also are highly abstracted. Although both combat and noncombat interactions are accounted for, combat losses are not explicitly represented. Forces suffering significant defeats

¹¹ Although this list suggests a bias toward GMT Games, what drew us to these products in particular was collective familiarity, having played some of them; GMT's innovative use of abstraction and card systems as a way to focus play on particular player interactions and decisions of interest; how combat and noncombat interactions are represented; the use of asymmetrical Victory Conditions; and, for the COIN Series games, the levels of abstraction, game artifacts, and rules that enabled relatively quick play times. The other motivator was an aggressive schedule imposed by the client—we could afford to commit only a few days to research before fleshing out a straw-man design.

¹² See **game balance** in the glossary.

are instead taken out of action and returned to their home base for some number of turns, where they must “reset” at some cost to restore their combat capability and their ability to deploy. Players must build a story behind actions that cause interactions between forces and must add context to describe what is actually going on and to facilitate how the interaction should be adjudicated.

Surprisingly, these levels of abstraction (largely caused by the project timeline and game session duration constraints) were immediately tolerated by players because the game assumed significant player exper-

tise and was expertly facilitated. This likely would *not* work with a more traditional commercial wargame audience.

We found that the biggest challenge at this level of abstraction is how to account for “small-unit” events—one FF is the smallest employable unit of force in the game (i.e., a fairly “blunt” instrument of force). Although we knew this could be remedied by simply increasing the allocation of FFs to each player (to allow forces to be divided into relatively smaller sub-formations) and by adjusting some of the calculation tables, it was considered an unnecessary complication given the game’s primary teaching objectives.

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