MICHAEL TAILLARD



ECONOMICS AND MODERN WARFARE

THE INVISIBLE FIST OF THE MARKET - SECOND EDITION

Economics and Modern Warfare

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The Invisible Fist of the Market

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To those who have been injured due to negligence,

Hold those responsible to account for their actions. Do not let them bully or bribe you into submission, because there will be others who will suffer as you. The only language understood is that of caveat emptor, and it will not be until the cost of buying the medical care and the future earnings potential of those who have been injured is greater than the cost of fixing the problem that any action will be taken. For those facing the challenge of consumer safety regulations that limit the rights of the consumer, this is the heart of economic warfare. If a single person is not enough, then know that there will be more, and it is only when each stands strong and insists that what is wrong by the hand of the negligent be made right again that they will be forced from their complacency.

Laissez faire is apathy disguised as economic philosophy. Do not let it reign as the rule of law, or norm of society.

A Note from the Author on the Second Edition

The 1st edition of this book was written in 2011, and it was the first book I had ever written. Since that time, many things have happened. World events have taken a turn in which there has been a dramatic increase in the concern for, and application of, economics in combat situations. Many of these things offer a more modern look at the principles described throughout the 1st edition, while others offer clearer, less abstract examples of concepts which may, on their surface, seemed to be difficult to believe as having truly useful benefits. There are even brand new types of economic tactics being used today, offering us an opportunity for a wholly new chapter.

It is not just the world that is new, either. Since the 1st edition of this book, I have been published many more times, and my writing has matured, primarily due to my improved understanding of what makes a good book. Despite the popularity of this book, still distributing roughly 3500 copies per year even 5 years after it was originally written, I consider this my 2nd worst book in terms of style (the worst being Analytics and Modern Warfare). So, while the purpose and structure of this 2nd edition will remain wholly true to the original, you will note that there are many changes to the book which incorporate clearer descriptions, better examples, and subtle improvements to the style of writing used.

The ultimate goal of this 2nd edition is to ensure that the contents of this book provide the most up-to-date information available and to improve upon those things which provide no fundamentally new or updated information. With luck, this will bring greater exposure to the

potential applications for using economics as a tool of resolving conflict that is more effective than traditional combat, validating a 2nd edition of Psychology and Modern Warfare. I absolutely will not write another edition of Analytics and Modern Warfare, though, unless there is just an absolutely massive amount of money being offered, because I imagine that book was just as miserable to read as it was to write, but even Analytics and Modern Warfare remains a vital component to this trilogy which functions as a detailed instruction manual on ending warfare by making it an outdated approach to winning conflicts.

Preface

If a thing has a system, then it can be systematically exploited. If there is effect, then causation can be engineered. If there is behavior, then influence can be applied. If one can see the puppet strings, then one can learn to pull them regardless of which side of them you're on. Accept nothing. Fear less than nothing. There is rationality in all things. Even that which is irrational can be identified and measured for the degree to which it deviates from rationality. With no fear there is no need for bravery. Problem solving is the finest crusade; knowledge the only weapon necessary. Economics is unique in that, without exception, every action that any person takes will influence the external environment. Economists seek to identify, measure, and, when proper, control those influences. That is the heart of economic combat.

This book is arranged in such a way as to isolate the individual economic principles as applied to military strategy. It is pointed out throughout the book that when used alone, some of the military tactics described would not be entirely effective. These tactics should be looked at in the greater context of a comprehensive military strategy that involves multiple economic approaches and, when only completely necessary, physical conflict. Combinations of economic combat tactics have been addressed, particularly when they have been used successfully in the past, or when the economics naturally lend themselves to a causal relationship. The reader should take note that chapters later in the book build on principles and elements set forth early on. The reason this is important is twofold. First, jumping straight to the middle or the end is

not advised as much of it may be difficult to understand. Second, some of the strategies described within are intended to be used in conjunction with some other strategy to remain effective.

Since the contents of this book will be of interest to people of a wide variety of backgrounds, attempts have been made to explain all economic mechanisms by which the strategies within function very simply and in detail. For those times that an explanation of the economics would require an extended digression from the issues of economic combat, a basic description is given with examples for those that do not have a prerequisite understanding of economics, but without a full explanation to remain prudent to the intentions of this book.

It is the purpose of the book to develop the foundations upon which a full field of study may be developed that overlaps military strategy with economics, creating something new that is not quite yet addressed in either. As such, the contents included within these pages are kept to the proven and pragmatic, with analysis only of events that have already occurred and, from those events, deriving the fundamentals of this study. There is a great deal more that is yet to be explored and, with success, a sequel may be forthcoming that is far more experimental, delving into the untested and unproven. Given the nature of this book, I can only hope that they continue to remain untested. Should the time come that we need to use these strategies I'm sure few would argue that preparing one's self to end a conflict with fewer lives lost is a much better option than continuing to make what some call "progress" by simply improving the efficiency with which we put ourselves and others in mortal risk.

***

In 1776, Adam Smith's pivotal economic treatise, *An Inquiry into the Nature and Causes of the Wealth of Nations*, was published wherein Smith describes what he saw as "the invisible hand of the market"; a metaphorical reference to the market forces of supply, demand, and price that naturally control production and consumption within and between nations assuming no intervention by the government. He detailed with great accuracy and at great length the nature of the free market as he saw it and the processes by which we, as people, allocate resources through production and trade. The natural behaviors that we exhibit and processes to which we all adhere in our interactions to acquire the necessities for comfort and survival are, as Smith described them, predictable and measurable. Since that time, and particularly since the start of the

twentieth century, we have built on and refined our understanding of economics to the end that it is possible to manipulate these processes and behaviors to create specific benefits or detriments, to include its potential to compel nations and peoples into submission during conflict.

The application of economics to international conflict is old but not yet well understood and is nearly always used improperly. Economic warfare today takes the form of sanctions, embargoes, and other macroeconomic political policies with the goal of resolving a conflict of interest without the use of armed combat. In the USA, a formal office for these activities was created in 1940. The Office of Administrator of Export Control was soon dismantled and followed by a series of predecessors, including The Economic Defense Board, the Board of Economic Warfare, and The Foreign Economic Administration before finally being completely disbanded in 1945. Though severe, ongoing mismanagement was the problem cited by both Presidents Franklin Roosevelt and Harry Truman, the operations of this department arguably yielded no benefit at all anyway. While the goal of resolving conflicts without inflicting the hardships of armed struggle on either nation is an honorable goal and very nearly an achievable one as we'll see, those economic tools currently used are entirely ineffectual. Such actions, as they have often been used in recent history and current events, are simply too broad to have any meaningful effect and even create a large degree of collateral damage, including to the sanctioning nation. A simple example is in the US embargo of Cuba beginning in October 1960 and still remaining as of 2011. Though Cuba's economy has struggled extensively for some time due to poor economic policies, the embargo has greatly exaggerated the devastation leaving the USA the lone target for the animosity of Cuban citizens. This embargo, rather than being directly related to the desired goal of eliminating the totalitarian regime of the Communist Party of Cuba or even isolating and targeting members of the regime, has more greatly affected the general public. The embargo has also more greatly affected the USA itself, as the policy restricts the USA from any benefit associated with importing cheap supplies of sugar and tobacco as well as the benefits of gains from exporting much needed supplies. The result of this ongoing embargo has been to create harm for everyone except the intended political infrastructure.

Despite the shortcomings of these methods, they've given us important insight into the actions and reactions taken in response to the exertion of economic force by both civilian and military entities.

It's often overlooked that the use of economic manipulation was, for centuries, successfully employed in combat settings despite the lack of full understanding at the time for its potential. Since eras as ancient as the Roman Empire until as recent as World War II, innovative strategists have utilized economic tools without realizing exactly the implications of their actions. As a result, many or most of these battles of seemingly unorthodox methods have been all but forgotten, yet these battles are the ones that illustrate most clearly the practical application of microeconomics and trade theory in submitting enemy forces while greatly diminishing the risk of death and injury, particularly to friendly forces. By analyzing the accounts of these records, a robust new division of military strategy becomes possible that gives even small forces the potential to significantly change battlefield dynamics.

In his book *The Art of War*, Sun Tzu says that, "Those who render others' armies helpless without fighting are the best of all." He argues that by the time physical conflict began it could already be determined who the final victor would be. In fact, Sun Tzu believed that it could be possible to win a war without any casualties at all, and it is through economics that this belief has finally become nearly a reality. While armed combat may never truly be completely replaced by other means so long as irreconcilable differences occur, by learning from those successes and failures of past events through the lens of established economic principles it is possible to come ever closer to this result. This is done through the pursuit of original research based on new theory with the potential to have important implications not for whether combat forces will be needed but in what ways they will be most effective in submitting the opposition with minimal, if any, physical confrontation.

It is the purpose of this book only to provide those details relevant to the subject in question while making recommendations for areas of possible future research. This is an introductory manual for the science of economic combat kept simple for laymen and with mere insinuations of advanced theory and mathematics to provide insight for those familiar with the subject or inclined to pursue the study. By simply arranging existing knowledge and providing the proper context for its understanding, greater validity can be given to a brand new study with the potential to change warfare as we know it than if a lot of theoretical models and speculation were to be provided, although that may come in future books. As such, this book is arranged to as to explain very conservatively how these principles work, then the final chapters of each "Part" will

describe the limitations of the subject as well as give recommendations on where future research may be possible.

The science of economic combat, as is currently available and understood, can be separated into three primary divisions of increasing sophistication: supply manipulation, trade manipulation, and market manipulation. Each is given its own "Part" in this book. Supply manipulation describes the means with which one can alter the quantity of resources, both specific and general, available to enemy forces as well as to friendly ones. Trade manipulation describes how one might alter the trade of resources and the terms by which such trade occurs. Finally, Market manipulation describes how it is actually possible to alter the forces of supply and demand to one's own strategic benefit. As ordered, these three divisions gradually take an increasingly indirect approach wherein much more subtle influence is applied in order to maintain the integrity of those resources available and valuable to friendly forces, to manage social order and public opinion, as well as to simply keep our own forces as much out of harm's way as possible. Together, it is possible to force enemy combatants to surrender without a single physical engagement and in many cases these missions can even be completed without the enemy being sure any outside intervention has occurred given the unseen and subtle use of the invisible fist of the market.

Beulah, USA Michael Taillard

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As with the 1st edition of this book, I still hold my old Army unit, the 456th MCT, in the highest esteem, attributing much of the inspiration and success of this book to them.

456th MCT (2011)

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Master Sergeant Blackmon (First Sergeant)
Mrs. Precious Nelson (Unit Administrator)
Staff Sergeant Devin Brisois
Staff Sergeant Shad Beman
Sergeant Shawn Reynolds
Sergeant Marcus Knyte
Sergeant Kristen Fuchser
Specialist Kendra Sadle
Specialist William Bittenbender
Specialist Christopher Ames
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Private First Class William Allebach
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Since then, I would also like to offer acknowledgements to those in military strategy who encouraged my work and treated it with the highest respect and gravity of importance. In particular, in 2013 Colonel Edmund Degen, who invited me to Washington DC on behalf of the Chief of Staff of the Army's Strategic Studies Group to discuss how to utilize the findings of all 3 books in the Modern Warfare trilogy, and before that in 2011, Vice Admiral Cecil Haney, who not only brought the findings of Economics and Modern Warfare 1st edition to US Strategic Command, but gave me the inspiration I needed to develop Psychology and Modern Warfare.

These books would not have been made possible if not for their efforts, and this 2nd edition of the first book I've ever written is the result of the popularity of the 1st edition even several years after its release, so that these people continue to have a profound influence even after many have retired. Even though many have likely forgotten my name by now, it matters not, for I have not forgotten theirs, and I continue to thank each of them for what they contributed to the Modern Warfare trilogy in their own way.

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CHAPTER 1

A Critique on Current Methods

Economic warfare, in its modern incarnation, has come to be something of a misnomer. More than anything, those tools that currently compose the body of economic warfare are those of political maneuvering in the context of international relations. The tools of economic warfare today come primarily in the form of fiscal policies, which change the amount that a government spends and earns, but also include monetary policies, which alter the quantity and value of a nation's currency. These economic policies are most frequently used for the purposes of appealing to pressure on domestic issues and are, for the most part, entirely ineffective or even self-destructive when applied for the purposes of protectionist foreign economic policy. In order to make the distinction between the topics of this book, which are intended to be applied to military operations in a direct and strategic manner, and those political concerns described above, the phrase economic combat will be used. Economic combat is the use of applied economics for combat purposes.

Protectionism consists of any economic policies that restrict international trade for a nation. Such policies can be generally applied, where trade is restricted indiscriminately, but for modern economic warfare, these policies are typically narrowly applied to trade with a single nation. One might stop exports to a particular nation, or imports from, or they might try to stop that nation from trading with anyone globally. For less invasive methods, one might attempt to increase taxes on imports from that nation or else pay domestic companies to ship their goods to a nation so that those exports appear cheaper to foreign consumers.

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If the targeted nation is a recipient of international aid, one might consider eliminating future plans to continue providing that assistance. These policies are considered protectionist because their purpose is to keep the domestic economy from being intruded upon by foreign trade. A nation that has been importing a lot of low-cost manufactured goods might attempt to put a tax on those goods, or stop them from entering the country at all, because domestic companies who produce the same things can't compete.

This has become the nature of economic warfare, where all nations attempt to politically position themselves in order to appease domestic concerns about economic issues by developing policies against each other in an ultimately futile game that harms all participating nations. Even during those rare times where one's intentions are truly to attempt to circumvent violent engagements, resorting to such political strategies that are meant to withhold economic benefits rather than exerting economic force will not yield the desired results.

1.1 Embargoes

Among the longest running economic attacks that the world has ever seen is that set in place by the USA against the Republic of Cuba. First established in March 1958 and gradually increased in severity over the course of decades until at least 2012, it grew into a full embargo that excluded only a narrow range of humanitarian aid. The USA first began enforcing economic penalties against Cuba in response to the overthrow of the Cuban government (which was then led by President Fulgencio Batista who was supported with arms by both the USA and Britain) by the communist rebel group led by Fidel Castro called The 26th of July Movement. One of the first acts of the Communist Party of Cuba (which was the political party formed out of The 26th of July Movement) was to seize all properties of the USA and Britain for supporting the previous administration in their suppression of the rebels attempt to overthrow them. This pushed the US government to turn what had previously started as a minor ban on arms trade with Cuba into a much more comprehensive ban on nearly all trade. These economic penalties are intended to remain in place until Cuba achieves a series of subjective political and economic reforms meant to develop free elections and private ownership of businesses and other economic activity.

These penalties placed on Cuba fall into a specific type of economic warfare tools called embargoes. Embargoes include attempts to stop transactions of a particular type from occurring between two nations. When the USA stopped all transactions of weapons between the USA and Cuba, for instance, this was an arms embargo because the trade of any arms was banned. As the ban came to include all other goods, as well as bans on travel, it became an extreme type called a full embargo, which was established in the Trading with the Enemy Act after Cuba agreed to host a number of Soviet nuclear weapons intended to threaten the USA. A full embargo does not allow for any type of transaction to take place between nations and does not allow for travel, or for ownership in either nation by citizens of the other. In the case of the US embargo on Cuba, the restrictions were eased somewhat during the 1970s after the retirement of Fidel Castro as the Prime Minister of Cuba and then again during the 1990s. This transition to something less than a full embargo allowed for humanitarian aid to be distributed, and some forms of restricted travel were also once again permitted with federal permission.

Despite Cuba's largest trading partner at the time (the USA) enforcing the most extreme type of embargo available (and even threatening to stop providing economic aid to some other nations who traded with Cuba under the Democracy for Cuba Act of 1992) for such an extended length of time, the USA completely failed to accomplish any of their intended objectives when they established the embargo. The results of the embargo were not harming the administration of the Communist Party of Cuba through economic and social pressures as intended, but instead were to create public backlash against the USA as well as cost inefficiencies in those products that the USA had imported from Cuba prior to the embargo.

The USA, prior to the embargo, was Cuba's biggest trading partner, importing a majority percentage of Cuba's total exports in both sugar and tobacco. While it's in the nature of a fully communist nation that all economic decisions are made by the government, since federal entities produce nothing on their own, they are not greatly influenced, if at all, by economic penalties such as an embargo. The people who were harmed by the embargo, then, were those who worked in the industries that produced products for export. The damage caused to the general populace causing widespread resentment of the USA, giving the Cuban government the opportunity to use the embargo (which they call *el bloque*, meaning "the blockade") as a scapegoat for the natural market

unresponsiveness that results from a fully controlled economy (a topic that will be discussed later in this chapter). For some time, the lost business that resulted from the US embargo was purchased by the USSR, thereby strengthening the relationship between the two nations as many Cubans now saw the Soviets creating jobs and stimulating production where the USA had left them with huge inventories left unsold. Rather than the public revolting against the new government as a result of the economic troubles created by the embargo as intended, then, they instead shunned the USA to a great degree.

The USA was purchasing many products from Cuba prior to the embargo rather than producing it themselves for a reason: They could get high-quality sugar, tobacco, and many other products for much cheaper than if they purchased comparable products from some US manufacturer. As a result, the embargo caused prices within the USA to increase. In addition to raw sugar, anything that used sugar also increased in price, causing a wide variety of foods to become more expensive. Tobacco products also increased in price which, at the time, was a rather large concern given that tobacco was still widely used (despite having greatly fallen out of favor in the USA since then).

The fact that the Cuban government did not significantly change over the period of time that the US embargo was implemented is proof enough of its complete ineffectiveness. The only damage created by these economic penalties was to the USA, as the issuing institution. This is the same result that occurs from any policy that broadly prohibits the trade of goods between nations.

Note: The differences between a market economy and a planned economy are not particularly important to the subject matter of this book, but since the terminology is being used, the exact nature of each will be discussed briefly.

Planned: A planned economy is one wherein all economic decisions are made by the government. Since market forces are always at work, properly managing a planned economy would take incredible amount of data received instantly and calculations being made continuously on an astronomical scale. In other words, planned economies are not responsive to market forces which results in resource inefficiencies and shortages. Without competition between companies attempting to take market share from each other, innovation also stagnates. On the other hand, planned economies do tend to avoid many of the problems associated with market economies (discussed below).

Market: A market economy is one in which the government has no involvement in transactions decisions at all. By its very nature, then, a government can only be funded through the profits made by charging for services they provide in direct competition with other companies providing the same service. While market economies allow for maximum responsiveness to demand for products creating optimal resource efficiency, they are also subject to market failures. Without getting into a great degree of detail, some of the most prominent market failures include price distortions, the lack of accounting for externalities, cyclical and speculative volatility, and the creation of natural monopolies. Basically, it would be impossible to have a military, police force, road system, or many other services we rely heavily on available without a system of government taxes and spending.

Mixed: A mixed economy is one that is somewhere in the middle; one in which a nation attempts to benefit from the best traits of both a planned and market economy. Mixed economies can range greatly in the amount of control exerted and also the exact types of control exerted, so it is difficult to classify them. The most successful examples in history have been those that attempt to limit the degree of control exerted to that which is necessary to avoid known and measurable market failures.

1.2 Blockades

The Cuban Democracy Act of 1992 established policy that attempted to threaten any nation that traded with Cuba with retaliation in the form of the elimination of any foreign economic aid distributed by the USA. This attempt to stop all nations from trading with Cuba fell short of being considered a blockade because it lacked the ability to stop trade between Cuba and nations that did not receive US economic aid, and it was not well enforced even for those nations that did receive aid. This policy simply became an empty threat known politically as "sword rattling" (a term that refers to the act of making noisy threats but with no intent to actually follow through on them). Still, blockades have been attempted quite frequently throughout history and with an equal degree of failure as the US embargo on Cuba. A blockade is an attempt by a nation to stop trade between the entirety of a targeted nation and anyone else on earth. Given that nations are not prone to accommodating written requests to stop trading, enforcement of such a policy typically requires the issuing nation to physically deploy military forces to physically block any shipments entering or exiting the nation, giving way to the name blockade.

Full blockades require that the enforcing nation stops shipments in and out of a nation by patrolling and guarding by force at least the primary shipping routes used by a target nation. By their very nature, blockades have all the same problems associated with embargoes. They create cost inefficiencies for the enforcing nation in those goods that the enforcing nation would have otherwise imported from the target nation. Should the nation enforcing the blockade (or the embargo, although it didn't quite matter in the case of Cuba) export goods to the target nation, then the companies of the enforcing nation will lose business equal to the value of the exports to the target nation. Also comparable to embargoes, full blockades lack the ability to specifically target groups leading to generalized economic hardships that will harm workers and companies more than any organization relevant to the conflict. This, as history has shown, creates a great deal of negative public backlash against the enforcing nation. Even more than these problems associated with embargoes, although blockades are a more extreme strategy that utilizes a greater degree of direct control, unless done properly full blockades have the additional problem of being nearly impossible to enforce. Nations are simply too large and the methods of shipping too varied to completely stop all trade of even a single type of product, much less all products as in a full blockade, without some sort of tactical economic manipulation (discussed later in the book).

As for itemized blockades wherein a single type of good or a few types of goods are targeted to be stopped at the border, for decades the USA has attempted to identify and stop shipments of drugs entering their borders from Mexico with nearly no success. Restrictions on the distribution of drugs into the USA began in 1914 with the Harrison Narcotics Act, and since then, the US government has attempted to refine their methods for blocking the import of these illegal narcotics to no avail. Using the same 8 primary transit points (the largest of which are San Diego, CA; Nogales, AZ; Douglas, AZ; El Paso, TX; and Laredo, TX) for nearly a century, shipments across the border between Mexico and the USA have increased consistently, with estimates as high as $20 billion per year in shipments of marijuana alone. With the knowledge of the inability of a nation to stop shipments of a single type of goods from crossing their border with nearly a century of trying, the idea that a nation could stop all goods from crossing the borders of another nation becomes completely unfeasible, unless one

intends to supplement the blockade with another economic strategy (discussed in a later chapter).

Between the years of 1653 and 1814, Britain was quite fond of implementing blockades against any nation they happened to be at war with at a given time and failed to accomplish the intended goals of the blockade nearly every time. The first of these attempts by the British in the modern era was during the First Anglo-Dutch War, during which the overwhelmingly powerful British navy pushed the older and under-armed Dutch fleet (primarily composed of merchant ships at the time) back into port at which point the British formed a blockade along the Dutch coast. Despite being overpowered by a blockade that cut off the only route to the Baltic Sea, upon which the Dutch relied nearly exclusively for their shipments of grain thereby starving much of the nation, the British were still forced to abandon the blockade in their pursuit of a retreating adversary that opened the route to the Baltic Sea once more. This first attempt, although not successful, devastated the general Dutch populace enough to bolster the British military's belief in the strategy that led to a series of future failed attempts.

During the time period of the French and Indian War, and the Seven Years War (which were, for all intents and purposes, the same war with different names depending on where you were located) between the years of 1754 and 1763, the British tried multiple times to form blockades around French naval and merchant fleets bringing supplies to the Americas. While some shipments were delayed, during the majority of these attempts the French fleets had either already left port before the British arrived or would simply escape by avoiding the blockade altogether. It wasn't until 1809 during the Napoleonic Wars that the British were finally able to blockade French ships, which they quickly attempted to take advantage of by destroying as many as they could as quickly as they could in a "hit-and-run" style of targeted warfare. The only problem with this approach was that the French did not rely greatly on their naval forces as the British, being very much reliant on their overwhelmingly large army's ground troops to overpower their opponents, leaving the blockade relatively ineffective at harming France's core military strength. During the War of 1812 came the first British blockade of the Americas to successfully push a significant number of ships, this time US ships, back into port and keep them there in a manner that would actually harm trade. While US exports dropped greatly during this time, the actual military significance of this was low and a majority of the naval

fighting was left successfully to privateers, mercenary ships that fought for the awards won in taking a defeated ship and its cargo.

Later on, during World War I, finding themselves this time in a position of having to circumvent a blockade enforced by German U-boats (i.e., submarines), Britain began using civilian transit vessels to ship arms, in addition to the intended civilians. This brazen action allowed them to move through the blockade without even hiding the fact that arms were being included (shells and ammunition were listed on the shipping manifests) as a great amount of political pressure was placed on the German military, forcing them to keep from firing openly on shiploads of civilians. Despite Britain being a rather easy region to manage in a blockade, given the relatively small size of usable coastline of this island, the British were able to discover a way to defeat what was otherwise a very well-developed blockade, reducing the significance of the strategy as a whole even in optimal conditions. Eventually, this did lead to the sinking of the RMS Lusitania, killing a number of neutral civilians, but the strategy was successful for a majority of its duration, and the global public backlash against Germany led to the eventual withdrawal of all U-boats from the region creating an extremely important opening in the blockade.

Blockades, while more harmful than embargoes given that they attempt to stop a nation from trading with any other nation rather than ending trade with only the issuing nation, still do little in the way of properly targeting a nation's military which means they have little strategic value on their own. If not at least supplemented by fortuitous circumstances in which a target nation will rely on a single route for supplies such as food (as seen with the First Anglo-Dutch War), one must at least properly anticipate and manage the targeted nation's reaction to the blockade, which will be discussed in later chapters.

1.3 Tariffs and Quotas

The single most commonly studied form of economic warfare, as well as the most commonly studied form of trade restriction, is the tariff. Perhaps because its use is so common or perhaps because its effect is the easiest to mathematically measure, the tariff has become a staple of introductory economics courses worldwide. As a result of this knowledge being so commonplace, tariffs have appeared extremely frequently throughout history (or perhaps they are studied so often because they appear so frequently throughout history, but the direction of causation

is not important for our purposes). A tariff is a tax that is placed on a specific type of import. Typically tariffs will be very focused, as they are placed not just on all goods from a particular nation, but on specific goods from a specific nation. A nation might, for instance, place a tariff on milled corn being imported from one of the neighboring countries but not on other types of processed corn, or on milled corn from nations other than the one that the tariff targets. The goal of issuing tariffs is typically twofold: generate government revenues, and increase the market price of goods from foreign nations. During the pursuit of economic warfare, tariffs are issued only for the latter of these purposes.

An increase in the price of imports has a dual effect. First, the increased tax decreases the number of people purchasing that import by keeping prices higher than the value that some consumers place on the product, either making them incapable of purchasing it or simply unwilling to pay the higher price. Second, for those that are still willing to pay the price, the domestically produced equivalents are now priced competitively compared to the imports at their higher, post-tariff pricing. So, the government that issues the tariff benefits in the amount of the tax revenues generated, the domestic companies benefit in that they can maintain their high profits, but the nation as a whole loses because they now pay higher prices for their products. Those who are still purchasing the product pay a higher price for them, while a number of people no longer purchase the products. The increased cost associated with the product wherein the consumer does not get additional benefit is called a "Deadweight Loss," which occurs when a nation experiences economic inefficiencies resulting from non-competitive pricing such as that found with tariffs.

Tariffs are typically used in political attempts to increase sales for domestic companies but they are also applied as a form of economic warfare. Quite frequently the nation that is targeted in a tariff will respond by issuing a retaliatory tariff, called a countervailing duty, which targets the exports of the first nation. Countervailing duties are frequently employed as a way of retaliating for the use of any of the economic warfare tools that are looked at in this book (throughout the Critique) because they are very simple to create and start having their effects very quickly. While the term "countervailing duty" is often used in the context of attempting to offset a subsidy or dumping (both of which are discussed later in the Critique), the same process is applied when determining the potential to retaliate for tariffs or other forms of economic

warfare. It is this continual issuing of tariffs between two nations for politically strategic reasons of aggression, protection, and retaliation from which the term "economic warfare" is born. This is the source of the modern view of economic warfare but, as with those tools already discussed in this book, tariffs and countervailing duties are not only just as ineffective as other forms of economic warfare, but they can also be just as self-destructive.

In September 2009, the USA placed a 35% tariff on tires coming from China, accusing Chinese manufacturers of selling tires under fair market value (an action called "dumping," which is discussed in the next chapter). This tariff, issued under pressure from internal sources to take a hard-line stance against China's currency policy (a topic discussed in a much later chapter), was developed under a special safeguard provision allowed by the World Trade Organization that only requires a nation to prove that their industry has suffered from "market disruption" as a result of a surge in imports, rather than actually proving that the exporting nation is selling under fair market value. As the Tire Industry Association (TIA) had predicted, this tariff did nothing to improve economic conditions for the American tire industry. The TIA opposed the tariff, claiming that it would simply encourage manufacturers to move to another country where tires can be produced cheaply. The additional cost associated with higher-priced tires (resulting from both an increased cost as businesses make the transition to a new geographic location, as well as the increased prices paid for tires compared to the cheaper Chinese imports) was paid in the form of national economic inefficiencies through deadweight loss. Since China, as well, did experience some economic costs associated with this self-destructive policy, they unwisely pursued a similar countervailing duty in retaliation. In 2010, China issued a countervailing duty against imports of poultry coming from the USA, some tariffs reaching as high as 105.4%. This has left both nations in a position of a zero-sum, self-destructive political cycle of bad domestic economic policy being used for foreign relations purposes.

Another tool, very similar in nature to the tariff, is the quota. Quotas put a limit on the number of imports allowed to enter a nation. Like tariffs, these are usually targeted for specific items from specific nations. Also like a tariff, whose result is to decrease the number of imports entering a nation through increased price, a quota accomplishes this same result but, unlike a tariff, the government generates no revenues from quotas. This is, arguably, why quotas are far less common than

tariffs. Although taken in a slightly different approach, since tariffs and quotas generate the same impact both on the target nation as well as the issuing nation, the potential benefits and potential risks are also the same.

In China, the Hangzhou-based Alibaba Group is a conglomerate investing company that holds ownership in a wide variety of operations. Their online import-export business, Alibaba.com, openly advertises that they hold multiple import quota licenses for rice from several different nations. This is just a single example of how limitations placed on trade typically fail which, as described, is for the best since successes in these trade restrictions tend to be self-destructive.

1.4 Subsidies and Dumping

Whereas the goal of tariffs is to make imports coming into one's nation more expensive for domestic consumers, the goal of a subsidy is to make exports coming from one's nation cheaper for foreign consumers. Subsidies are payments made to businesses or economic sectors with the intention of reducing prices or increasing profitability. They are not necessarily used for exports, as farmland is often subsidized with the intention of making food cheaper for domestic consumption, and businesses are often subsidized for the costs of hiring new employees when a government is trying to increase employment levels. During the course of economic warfare, one reason subsidies are used is to increase the volume of a specific product, or potentially all products (though no nation has attempted to apply it to all products), that the consumers of the targeted nation are purchasing from the businesses of the issuing nation. The other purpose is to make the good produced within one's own nation cheaper to decrease the volume of exports purchased by people domestically. The intended goal of both these methods is to redirect profits and production away from the businesses of the target nation and turn them to benefit one's own businesses.

In March 2012, Israel became a harsh critic of Egypt's subsidies on medium-grain rice distributed to domestic consumers. The subsidies, the Egyptian government claims, are an attempt to battle the rising prices of food within the nation during a time that wages have remained stagnant. The side effect, whether intended or not, has been to dramatically increase the price of medium-grain rice throughout the Middle East, including to Israel, which receives a majority of their supply from Egypt. The subsidies, which bring the price of this rice down to $250 per ton,

has caused a dramatic increase in demand for rice rather than other staple foods that are relatively more expensive given the lack of government subsidization. In order for foreign nations to obtain the rice, then, some must pay prices as high as $900 per ton. This is because foreign consumers must combat not only higher prices from the increased demand of the rice, but they must also make up for the government subsidies on every ton that the exporting producer does not receive. The increase though, and the resulting increased price, of medium-grain rice has left Egypt in a position of low competitiveness globally, leaving their medium-grain rice industry dependent on these subsidies.

The benefit to this approach, however, is that it is difficult to negate the effects of such a subsidy. While a foreign nation could issue a subsidy on their own exports being shipped to a nation that has created a tariff in order to counteract the price differential, in order to do the same in the pursuit of making one's own goods cheaper to a nation subsidizing their own consumption would result in greater profitability for the aggressor nation rather than one's own. A subsidy that is issued on exports, on the other hand, can easily be counteracted through the use of countervailing duties, negating that approach anyway. Still, despite the resilience of a subsidies approach to economic warfare against a nation's attempts to defend against it, the costs of subsidies can be extremely high, and result in domestic dependence on the subsidy.

The use of subsidies to export goods is one form of dumping. Dumping, in international trade, refers to the act of exporting something "below fair market value" to other nations. Sometimes this is possible through the use of government subsidies and other times dumping is attempted by individual companies attempting to use predatory pricing practices (pricing one's goods in a manner intended to harm other businesses, a subject discussed in later chapters). The goals of dumping are generally the same as with subsidies, as are the effects and side-effects.

For example, in 2000 China accused Japan and South Korea of dumping certain types of processed steel (specifically, cold rolled and hot rolled steel) on Chinese consumers. China claimed that the Japanese and South Korean governments were using subsidies to assist in the extremely cheap sale of steel overseas in order to help stimulate their faltering economy. China, in response, issued a countervailing duty on this steel in order to counteract the effects of the alleged subsidies. Similar actions were taken by the USA several years earlier, at which time Japan filed a formal complaint with the World Trade Organization (WTO). The WTO

investigated and concluded that Japan was not guilty of dumping on US consumers and that the USA must bring an end to their tariffs, which had at that point become illegal by WTO laws. China, who was formally accepted into the WTO in 2001 and highly prize their membership, ended their nearly identical claim against Japan and South Korea in 2011 prior to any formal investigation by the WTO.

The very existence of dumping comes under debate, however. Claims of dumping are made, not by any government or trade administration, but by individual companies competing in the same market as the target of a dumping violation complaint. Note that a claim of dumping, even if deemed false during an investigation, can freeze imports for months thereby costing foreign companies millions of dollars, giving the claim alone significant value. There are currently no penalties for making false claims of dumping. The vast majority of dumping claims are made by US companies, wherein the US tends to have something of a competitive disadvantage in extracting and processing natural resources like steel. That being said, a successful dumping strategy could allow the companies of a single nation, or even a single company, to develop a global monopoly in their market, giving a tremendous amount of potential for future profits and control. Such anti-competitive behavior happens quite often within a single market, where a company might attempt to use other forms of predatory pricing to put less competitive companies out of business to drive up their own market share. As with subsidies, however, dumping can be an extremely expensive strategy with inconsistent results in a competitive business environment, much less in a military environment.

1.5 Trade Sanctions

In addition to those trade sanctions already listed, there are a number of sanctions that can be placed on a nation for the purpose of economic warfare. Those remaining sanctions related to trade are considered secondary in the sense that they are less aggressive and less damaging on their own, even by the standards of modern economic combat, much less for direct military purposes. They are often used as a preliminary move or as a threat before more serious actions are taken. All of these have been used, by one or more nations, first in response to the 1979 Iranian Islamic Revolution then to pressure Iran into ending their nuclear enrichment program. Although a vast majority of the economic

hardships set on Iran as a result of economic sanctions have come as a result of embargoes (which, as this Critique predicts, have been completely ineffective in achieving their goal) rather than these secondary sanctions, this example gives a useful medium for which to look at how each is applied.

Asset freezes and bank freezes are methods of eliminating access to the resources that organizations or individuals have available to them. While this can be an important step to supporting a blockade or other methods of removing capital resources when used in bulk (which is discussed later, in Part I), such freezes are often used in isolation with no results. These freezes are performed through a simple administrative process that stops any withdrawals on an account. Many people who have made large purchases or traveled overseas without informing their bank first have experienced a similar type of freeze. Perhaps their credit or debit card will be rejected during a purchase or they won't be able to make a withdrawal as a result of an automated freeze meant to protect them from account fraud (people taking money by stealing their accounting information). The process of creating a bank freeze as a form of economic sanction is not so very different, except it is applied to all bank accounts in a nation held by a person or people belonging to a specific group. Asset freezes go one step further to block any accounts including investment accounts, ownership of money market products (e.g., certificates of deposit), and transactions resulting from ownership in other items such as businesses. The final goal of these freezes is to remove access to funding that a person or organization might use for undesired activities. In 1979, a freeze of US accounts held by Iranian citizens worth approximately $12 billion was frozen in response to an overthrow of the current Iranian government by the Islamic Revolution, which included the violent occupation of the US Embassy to Iran. This freeze by the USA was the first of a long series of sanctions to be placed on Iran by a large number of nations to include the United Nations, many of which being much more aggressive, and is still in place today which shows just how ineffective it has been in influencing Iranian politics. This method lacks efficacy because, as will be shown in Chapter 3, there are many methods to source capital funding, and such an approach only begins to work after an organization has already exhausted inventories (something that is not likely to happen unless a full blockade is in place or the organization is participating in physical warfare).

Another ban that frequently takes place during times of political friction, typically being implemented near the start of the conflict, is the use of travel bans. A travel ban may place restriction either on people traveling between countries; either leaving from the nation issuing the ban to enter the targeted nation, or leaving the targeted nation to enter the issuing nation, or both. These bans can also target specific people rather than general populations. In the case of Iran, a travel ban was established in June 2010 by the United Nations that restricted travel to member nations of the UN by anyone associated with Iran's ballistic missile activities. Such travel bans were already in place before this, including a narrower one developed as a part of a 2006 UN resolution, each with the same ultimate goals of restricting the ability of those with ties to Iran's weapons program from obtaining or selling weapons technology that could become a threat to nations worldwide. Travel bans are easily circumvented, however, by going to a neutral nation first, then going to the nation in question, possibly using a counterfeit passport in the process. People not subject to the travel ban, often citizens of nations under less scrutiny, can also be utilized as intermediaries. The process itself is very similar to that of smuggling, meaning that travel bans are about as effective as embargoes such as those used in the war on drugs (meaning that they are not at all effective at producing the intended results).

Moving away from bans, another form of economic restriction that has been used as a form of economic warfare is the use of licenses. Export licenses are required for businesses who want to sell their goods to the people of a particular nation. Like tariffs and quotas, this provides a way for a nation to put restrictions on trade but licenses differ in that each company must apply rather than being subject to broadly applied policies. This gives the nation the ability to assess each company's application individually in their search for potential risks and opportunities. Import licenses are required for businesses that want to purchase goods from the people of a particular nation for similar reasons as export licenses. All companies in the USA, for instance, must apply for a license with the Department of Treasury before doing any business with Iranian companies or citizens. Most companies will be rejected unless it is deemed that the business to be conducted, as described on the application (and potentially during an inspection), poses no risk to national security and the business to be conducted will significantly benefit the company in question. Even then, since an embargo is in place, unless

there is some strategic benefit for the USA, the application is likely to be rejected.

Since the first economic sanction against Iran was put in place in 1979 they have slowly taken hold. Now, about 33 years later during the writing of this book, the Iranian government is just now starting to reach a point of insolvency (not enough capital to continue their programs or pay their expenses). The only debate is whether a physical attack will bring an end to the regime or whether it will unite the nation under their regime leaving continued economic sanctions the better option. Over 190 nations adhered to sanctions against Iran in varying degrees of severity, some lasting over 30 years, and still, the standard methods of modern economic warfare have yet to fully achieve its goal. For all the tools that are currently used, the desired effects are still not being accomplished. Additional tools for economic warfare such as legal restrictions (efficiency or quality laws making imports from other nations that do not meet requirements inaccessible to consumers) also hold possibility for economic warfare but have yet to be used consistently in a manner that shows strategic intentions since such policies would have significant domestic resistance, and they show little potential to create benefits that exceed the costs of enforcement. This is the nature of trade sanctions.

1.6 Exchange Rate Manipulation

Probably the most sophisticated tool of economic warfare available to governments and federal politicians is also among the most difficult to effectively manage. This particular method of economic warfare has gone by a number of different names including currency war, quantitative easing, and expansionary policy, but all these names are just ways of repackaging the same basic mechanisms and all with the same final goal of changing exchange rates. This is done primarily by attempting to decrease the value of one's own currency using a number of available methods so that it is cheaper for foreign nations, or a single specific foreign nation, to purchase your products. There are a number of external factors that influence exchange rates, however, and attempts to use many of these methods of managing exchange rates quite frequently resulted in severe damage to one's own nation. New statistical methods have more clearly revealed the role of some of the variables that determine the exchange rate, but have also brought into question many long-held models once broadly accepted.

The subject of exchange rates is a deceptively complex one, and its one that will be discussed at two points in this book: in this chapter, and in a later chapter in Part II. Exchange rate, broadly speaking, refers to the amount of a currency it takes to equal 1 unit of another currency. For example, it currently takes 79.5192 Indian Rupees (INR) to purchase just 1 British Pound (GBP), both of which are the primary currencies of their respective nations, so the exchange rate would be 1GBP = 79.5192INR (although this is likely to have changed by the time this book is read). Assuming prices stay the same, if Britain were to push down the value of their currency's exchange rate compared to the Indian Rupee, it would take fewer Rupees to purchase 1 British Pound. As a result, the Indian people would have to spend less money to purchase British exports. This is the ultimate goal of altering exchange rates: make your goods cheaper for other nations to purchase by decreasing the value of your currency compared to the currencies of other nations. By doing this, one is accomplishing basically the same thing as using subsidies but without the detriment of incurring the high costs associated with subsidies.

There are three primary methods by which one's relative exchange rate can be decreased, each highly volatile and prone to damaging the nations attempting to utilize them. The first, and most common of these, is the devaluation of a currency. Devaluation is a term that will be explored more in a later chapter, but for the purposes of this chapter, it means that a country with a fixed currency creates policy that sets the value of its currency lower than its current value. When a nation has a fixed currency, as many small and medium-sized nations around the world often have, it means that the value of their currency is set to the same value of the currency of a larger nation. For example, the Lithuanian lita was pegged to the US dollar at a rate of 4 litas to 1 dollar between the years of 1994–2002. So if the value of the dollar went up in value compared to the British Pound, the lita went up as well. A devaluation of currency occurs when a nation intentionally changes the value that the fixed currency is set at. If the Lithuanians had devalued their currency (which did not occur, but we're going to continue using this example in a theoretical manner to illustrate the point), they could have re-set the value at 5 litas for every 1 dollar. So, every US dollar would buy more litas, meaning that if prices in Lithuania did not change, the USA could purchase additional Lithuanian goods more cheaply than before.

In 1997, a severe regional recession called the Asian Financial Crisis greatly harmed nations including Thailand, Malaysia, Singapore, Philippines, South Korea, Japan, and, to a lesser extent, many other nations throughout Asia. Taiwan, which has its own currency recognized by all nations despite ongoing debate about whether Taiwan is a sovereign nation or a part of China, was left relatively untouched by the recession. In order to keep their exports competitive with other nations in the region, who would be exporting very cheaply, Taiwan decided to devalue their currency. The degree of increase in their exports was small, if at all existent, which means the primary impact of the devaluation was to increase the price of imports for the Taiwanese people. During the 1980s, China once again allowed Taiwanese to invest in Mainland China and, although Taiwan had developed its economy far before China, Taiwan's potential to become involved in China's immense economic success since the 1980s has been limited by the high cost relative to their potential prior to the 1997 devaluation. Still, the negative effects experienced by Taiwan have been minor compared to those experienced by some other nations, wherein the increased export demand without relative changes in exchange rates caused extremely high inflation (a term that refers to a decrease in the ability of a currency to purchase goods, discussed in another chapter). The reason for this is simply that if people want to purchase more inventory than is available, then businesses will sell to the people willing to pay the most so prices increase. Since the exchange rate has gone down, the result is often for inflation to go up unless there is some mediating variable. Taiwan did not experience a large change in their exports after devaluating their currency but many nations have not been so lucky.

For floating currencies (currencies whose value is determined by supply and demand, another subject that will be explored in greater depth in a later chapter), the other two forms of the strategic changing of exchange rates can be applied. Of the two, the easiest to control is something called monetary growth, otherwise known as expansionary policy, or quantitative easing. This refers to the process by which nation's increase the total volume of a currency available to people and businesses. This can be done by decreasing bank reserve requirements (meaning that the legal amount of money banks have to keep available without investing or lending it out is lower), or a nation can simply print more money and distribute it in the form of low interest or no interest loans (such as bonds and bills). What all this is doing is either making

available a greater amount of existing money, in the case of bank reserve requirements, or creating new money. Both of these methods are capable of decreasing the value of a currency in foreign exchanges as greater quantities of the currency reach foreign nations (greater supply means lower price), and investors further drive down value compared to other nations as the lower interest rates drive away traditional investors and speculators borrow money on the low-interest terms to invest in foreign currencies. Simply put, a higher volume of money means lower value in foreign exchange.

The exact impact of expansionary monetary policy on the domestic economy is a matter of some debate among economists but there is no debate regarding the impact on trade. Although the methods of altering the exchange rate for a floating currency differ from those of fixed currencies, the end results are the same. During the early 1930s, after the suspension of the Gold Standard (an international policy in which many developed Western nations pegged their currencies to a fixed weight of gold), competitive exchange rate manipulation occurred between the USA, Britain, and France. All three nations were harmed in the process until the signing of the Tripartite Agreement of 1936, in which they agreed to refrain from these practices.

The most complex way to decrease the value of a currency on the foreign exchange market is to alter interest rates. While the actual change is relatively simple, just altering the amount of interest that is charged or paid on specific financial transactions, the actual mechanism by which this works requires a close analysis. Even after understanding how this is thought to occur, new statistical methods have challenged our understanding of this method by revealing that there is a greater number of considerations that must be accounted for to avoid creating the complete opposite of the desired effect. To understand the manner in which interest rates influence exchange rates, one must understand something called the International Fisher Effect. The International Fisher Effect (IFE) is a theory that states that the relationship between the percentage changes in the exchange rate over time is inversely related to the differential between comparable interest rates. In a theoretical example, if the USA and Canada each have an interest rate of 100% and Canada increases its interest rate to 101%, then the exchange rate between Canada and USA will eventually follow suit so that the Canadian dollar devalues by roughly 1% compared to the US dollar. The estimated calculation is as follows:

$$E = (i_1 - i_2)/(1 - i_2)$$

where

E Relative impact on exchange rate
i_1 Interest rate in nation 1
i_2 Interest rate in nation 2

This equation is a very simple model meant only to give an overview of the impact. Multiple models more precise in their measurements (used for specific purposes such as inflation targeting and interest rate parity modeling quickly increase in complexity) are built upon this foundation, but they are not necessary for the purposes of this book.

As a result of this effect, nations have attempted (albeit rarely) to utilize this method of reducing their exchange rate with another nation by increasing their interest rate. The problem is that the exact effects that an alteration of interest rates has on exchange rates remain unclear. Not only does the 1-to-1 ratio estimated by the International Fisher Effect not hold, giving high potential for unexpected results (either a change in exchange rate that is far too great, or far too little, depending on the circumstances). Going a step further, when applying a statistical measurement sensitive to time series (called a vector auto-regression, or VAR, and will not be discussed further in this book), show that although the primary influence of a change in interest rate might hold true to the International Fisher Effect, over time they may result in a complete reversal of the effect. In other words, the International Fisher Effect is insufficient in that it illustrates a single point of time when the reality is that a perpetual differential in interest rates will continue to increase variation in exchange rates over time due to continuing difference in inflation devaluation. This results in a long-term reversal of exchange rates due to decreases in purchasing power of the currency. This happened multiple times in Eastern Europe between 1998 and 2004, such as in the Czech Republic, Slovakia, Slovenia, Hungary, and Poland.

The use of exchange rate alterations in economic warfare seems simple on its surface which makes them an attractive option for nations, but the underlying complexity of the economic mechanisms and relationships by which they work makes them unreliable and even dangerous to attempt. Regardless of the method chosen in the pursuit of strategically devaluating one's exchange rate, a highly advanced knowledge of economics and generalized analytics must be utilized if one is to predict the final outcome of such an approach.

1.7 Humanitarian Aid

From the very inception of the Democratic People's Republic of Korea (colloquially known as North Korea) in 1945, their economy relied heavily on assistance from other nations in the form of grants and then, over time, transitioned to loans. Between the years of 1946 and 1991, this support came from other Communist Party nations in the region, primarily the Soviet Union (and, for a time, ex-Soviet Russia) with a large minority coming from China, and the remainder coming from a variety of other nations in very small percentages. Since North Korea was incapable of paying back the loans they had incurred, other arrangements were made. By the time that Russia withdrew their assistance in 1991, the majority of their aid had evolved into a deal wherein North Korea would receive a proportion of their aid in the form of raw materials such as oil and food, and in return they would pay it back in the form of processed manufacturing supplies such as steel. Mismanagement left North Korea's economy nearly entirely reliant on their manufacturing sectors with agriculture and other goods being supplied through a combination of direct aid and imports purchased with aid money. Once Russia withdrew their support, North Korea was left in turmoil. China began providing a great amount of aid and still does to some extent, but despite public perception in the West, these two nations are not always the most cooperative and China reduced the amount of aid offered soon after. Since that time, Western nations have attempted to use economic aid as a negotiating tool that would allow North Korea to receive desperately needed assistance in return for political and economic reforms within their nation.

Russia's withdrawal of economic aid to North Korea in 1991 was followed closely by a severe famine. What little agriculture North Korea had left, surviving poor domestic governance that drove the economy into complete collapse after Russian demand for the North Korean industrial production that composed an extremely high percentage of total production ended, was decimated by natural disasters. At the time, well over half the population was in some stage of terminal starvation and the World Food Program estimated that approximately 3 million tons of grain was required to alleviate the minimum of starvation. North Korea is not alone is this problem, however. A number of nations around the world, particularly in Africa and Southeast Asia, have severe shortages of not only food, but also medicine, and other critical supplies. Assistance

to the people affected by these shortages is provided by a number of nations worldwide who, quite often, require that the recipient nation make some sort of reforms or concessions as a requirement of receiving the aid. In many circumstances, these requirements are merely a part of ensuring the aid is distributed to the proper people, or that the government takes steps toward growth so that they will not need more aid in the future. Other times a nation will offer such aid with stipulations that the recipient group take some political actions. This is the scenario in which economic aid, or a lack thereof, can be applied as a form of economic warfare.

One method of using aid as a form of economic warfare common throughout history is to provide supplies, typically food and weapons, to anti-government organizations that have a common interest as the nation providing the aid. Other times, economic aid can be offered (if it is not already being given) or one can threaten to stop giving aid (if it is already being given) directly to the government or group that one is attempting to influence. In the USA, there is a legal distinction wherein "humanitarian" assistance is exempt from such restrictions while non-emergency "development" assistance can be used as a negotiating tool, but the distinction is more one of semantics than actual function. The need to distribute aid to a nation's people often comes from a sincere desire to help a suffering populace, a desire to keep a nation from organizing a revolution, or, in the case of North Korea, a desire for them to become stronger and more productive so that the nation can become more powerful. Even the most depraved leaders throughout history have shown a keen concern about the economic prowess of their own nation, which is what gives the use of aid as an economic warfare strategy potential, but this has left North Korea in a position of contradicting motivations. Nations such as the USA, South Korea, and Japan have all offered varying amounts of aid and other economic concessions in return for an agreement to completely end the North Korean atomic weapons program.

The USA began providing aid to North Korea in 1995 in the form of energy funding, specifically electricity through the Korean Peninsula Energy Development Organization (KEDO). In 1996, assistance in the form of food began being distributed via the United Nations World Food Program (WFP), and both forms of aid were consistently available until 2006 when North Korea rejected all form of aid. Medical supplies in very small quantities were provided only in 1995, 1997, and 2004.

Since North Korea relied heavily on Russia to provide this aid prior to the 1990s, this aid from the USA was critical to the continued survival of the North Korean people. For a number of years during the mid to late-1990s North Korea attempted to develop close bilateral ties to the USA through the proposal of a non-aggression pact as well as downplaying the role of their nuclear program (which had begun in 1956). Instead, the USA suggested that North Korea become involved in a global conference of six nations, called Six-Party Talks, which included North Korea, South Korea, the USA, Russia, China, and Japan. The purpose of the Six-Party Talks was to promote peaceful ties and economic cooperation between North Korea and all other parties attending, including the elimination of North Korea's nuclear weapons program. After North Korea rejected this idea, the USA stipulated that any additional aid offered would be tied to their involvement in such talks. Between 1999 and 2003 aid decreased gradually by over 90%. In 2003 North Korea agreed to attend talks and aid increased in 2004 before North Korea began rejecting aid heavily in 2005, becoming very suspicious and resentful of foreign inspectors reviewing the distribution of foreign aid. In early 2006, any aid from the USA or other nations that required inspectors present to ensure proper distribution was rejected, leaving the only aid received coming from China and South Korea. Later that same year North Korea tested its first nuclear weapon which was the very act that the Six-Party Talks were being held about in global attempts to avoid it.

Although North Korea was nearly entirely reliant on economic assistance to provide food and electricity to the people of the nation, attempts by the USA, United Nations, and others to threaten an end to that aid were completely unsuccessful. North Korea continued to pursue policies and activities in stark contrast to the stipulations set by the aid and eventually rejected the aid themselves rather than waiting for other nations to stop providing the aid. The reason for this is that those with authority in North Korea were not at all impacted by the economic hardships created by the elimination of aid. The elimination of this aid made the North Korean population ever more dependent on controlled government distribution channels and gave them even fewer resources with which to react to the harmful policies of the totalitarian government. Given that economic power and domestic control were the primary goals of the North Korean government, and not the well being of the population, requirements of distribution oversight and the elimination of their

nuclear program were contrary to their goals. The actual consequences of this decrease in aid were not experienced by anyone with status within the Communist Party because the remaining aid and all internal production first met their wants before being used for other purposes. Some of these other purposes included setting up facades of false production and agricultural abundance to show to foreigners as well as to show to the North Korean people on the government-controlled media (a propaganda tactic that was popular among communist nations in the region including many prior-Soviet nations such as Romania under Nicolai Ceausescu).

This misallocation of aid is precisely the reason that oversight is necessary, but it can be extremely difficult to provide. Such distribution problems have plagued attempts to assist African nations for decades. Far too often aid meant to assist the people of a nation end up being stolen by the very government or paramilitary organizations that are the source of the problems experienced by the population. This adds an additional element of impotence to any attempts to use aid either as a way of influencing government officials as described in the example of North Korea, or in attempts to support a populace in breaking free of controlled distribution channels and fight for independence from the violent organizations of a region. During the 1980s a famine devastated the nation of Ethiopia, motivating a number of nations, non-governmental organizations (NGOs), commercial organizations, and even individuals to raise money to provide food to the people starving there. Ethiopia was under the control of a military junta called the Derg, who violently controlled all Ethiopia, violently attacking and killing anyone who opposed them. As a part of their methods, they gained control over much of the resource distribution in the nation, going as far as to relocate millions of people to encampments at the various corners of the nation in order alleviate the famine in the developed highland region. The assistance provided was given to NGOs within Ethiopia for the purpose of providing food to the population by using methods outside the established Junta distribution channels that, traditionally, resulted in the military taking food away from the populace. Among the contributors, two of the most publicized were Oxfam (an Oxford-based nonprofit organization) and Live-Aid (a multi-venue charity concert with a series of very famous musical performances featured). Those recipient NGOs intended to provide food to the people in a manner that kept the military from taking it, as it turns out, were already either owned by the Derg or otherwise

under their influence, and the funds were used to expedite the relocation programs rather than providing food to a starving population.

Economic aid, both the promise of providing it as well as the threat of removing it, has been used to influence governments and to assist people in their struggles against a common threat unsuccessfully. During those few times where some degree of success has been accomplished, it has backfired spectacularly in the long run, such as the case with the USA funding Taliban precursor organizations to fight the invading Soviets (discussed in a later chapter). Even these instances are rare, however, compared to the proportion of attempts that have ended in failure as a result of not only an inability to ensure that the resources reach the recipients but also in the fact that those with decision-making authority aren't effected, positively or negatively, in any direct manner by the offering or removal of aid. Its use in economic warfare is completely futile and should be constrained to selfless motivations to help people during times of crisis in nations that cooperate with distribution oversight committees.

1.8 Summary

An extended history of trial and error has provided an outline for both what works as well as what doesn't work in regard to those economic strategies designed to submit opposition forces. Despite being an underdeveloped study, given little attention until recently, there is a great amount of information available in the form of historic successes and failures from which a basic understanding can be derived to not only guide future research but also give some immediate effective applications.

As discussed, the current approaches to economic warfare are nearly completely ineffective in that they do not properly alter the operating environment of the intended target. This results in as much damage for collateral targets and the economic aggressor, as it does for the intended target. The commonalities among these failed approaches help to define the exact parameters of what economic combat should be composed of, however. These unsuccessful strategies come from policies originally meant to be domestic economic protectionism and lack the focused influence required to accomplish their goals in combat. In addition to failing their purpose, these strategies very often are self-destructive.

There are a number of strategies throughout history that have been greatly successful, though. These effective tactics include a more refined

approach that targets specific groups by manipulating the economic environment in a manner that will alter their operations and take advantage of natural organizational and human behaviors. The historical examples in this book of the successful use of economics to submit enemy combatants, when used in conjunction with analyses of why modern economic warfare has been unsuccessful, provide a broad, generalized outline for a fundamental study in economic combat. While this is far from comprehensive, there is enough information available to begin accurately and effectively using these economic strategies in an applied manner, while continuing to pursue a more refined understanding through additional research and experimentation.

It is fair to note, however, that since the publication of the 1st edition of Economics and Modern Warfare that there has been a dramatic increase in the amount of attention given to more practical and useful tools of economics to combat situations. I cannot say for certain whether the book had a role in that (although I like to think it had some small part to play), but throughout the 2nd edition you will most definitively notice that there many more examples of economic methods being applied have been included which took place after the original 2011 book was published, many of them mirroring the recommendations being made nearly word for word. In any case, while the bulk of economic methods being applied to international conflict still fall well within the realm of those listed in the Critique on Current Methods, there has been a dramatic shift in trajectory toward methods which are more functional, and that is definitely a positive sign.

PART I

Supply Manipulation

The most basic form of economic combat used throughout history both modern and ancient is Supply Manipulation. Supply manipulation refers to simply the alteration of the quantity of resources, both specific and general, that are available to enemy forces as well as to friendly ones. That is to say, supply manipulation can include any tactics that change the amounts or types of resources people other than your own soldiers are able to access. Any resources used by combatants (e.g.: guns, ammunition, armor, surveillance equipment, etc.) are of particular strategic interest though a creative individual may find use to alter the supply of any resources.

Not only are consumable resources such as bullets and food viable targets for strategies that alter availability but so are human resources (i.e.: workers), and even the capital resources used to purchase consumable and human resources. The alteration in availability of these supplies can refer to either of two things: (1) Creating shortages wherein a group does not have enough resources or, (2) Create surpluses where a group has more supplies than it needs. Any mission to alter the quantity of resources must address the issues of which resources will be affected by the mission as well as which people use those resources. This is done in order to determine whether or not the mission will create the desired effect and whether or not that effect will have consequences beyond the targeted group.

By studying distribution channels for supplies, capital, and people often common junctions can be identifies that are integral to multiple

functions allowing a single operation to debilitate the enemy's ability to fight. Like all forms of economic combat, this will not likely fully replace physical confrontation but by altering the availability of resources the enemy's reactions can be anticipated relatively easily with strategies in place to exploit their movements. The actions that will take place after the use of such tactics are highly predictable and allow one to prepare either to further exploit their resources or confront the enemy directly, based on their analysis of what is prudent strategically.

Supply Manipulation, as we currently know it, works well when used in conjunction with traditional military operations but does have its limitations all of which can be negated using more advanced techniques discussed in the chapters to follow. There may be additional methods available with further research as well, and recommendations are made in the last chapter of Part I.

Check for updates

CHAPTER 2

Altering Distribution of Supplies

The simplest strategy in supply manipulation is to cut off supplies to a geographic location. This is a very broad strategy that will allow a force to manage which supplies, if any, will go into or out of a cordoned area and is typically done through the use of military blockades along roads, trade routes, ports, channels, and airfields. By stopping the source of supplies to a region, one is effectively stopping the ability of people within the region to continue performing normal daily operations. For a combative force, this means diminishing or even completely eliminating the ability of enemy militants and those associated with them to perform combat-related missions.

2.1 Blockades and the Ostrogoths Sack Rome

Since 753 BC, Rome was one of the most powerful and advanced civilizations on earth. At its height, the empire encompassed most of Europe, much of the Middle East, and parts of Northern Africa. It goes without saying, then, that Rome's military was one of the most formidable in the world, with a presence spanning across the entirety of the Roman state whose operations focused heavily on supporting the military's efforts. Even after the division of the Roman Empire 286 AD, with political infighting having left much of the nation vulnerable to attack, the new capital of Constantinople was deemed impenetrable due to the large, trained military presence as well as the highly fortified walls surrounding the entirety of the city. Any direct attack on the city would certainly

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be doomed to failure yet in AD 546, well into the recovery of Rome's full former glory, under the rule of King Totila the Ostrogoths were able to conquer the capital city and devastate its people. The Ostrogoths, a Germanic tribe of Scandinavians, were in direct competition with Rome as well as the Huns, Saxons, and others for control over parts of Europe.

As it happens, the Romans were correct, their walls were impenetrable and the Ostrogoths were aware that attempting to breach these fortifications when confronting the better trained, better equipped, and more numerous Roman military would result in a less than ideal outcome. Rather than attacking the city directly Totila resorted to cutting off the cities supplies. The same fortified walls that had kept the citizens of the Roman capital safe for so long would now be turned against them. Constantinople was built within a series of seven hills, more than 1500 yards diameter in any direction. The hills that composed the city were surrounded entirely by high walls considered to be impenetrable with a total of 20 gates where major roads enter it. The Tiber River was the one waterway into the city, flowing in and out of its border walls along the west side, with added protection from the close proximity of the Mons Janiculum mountain range just outside the walls on the west of the river. Since travel in and out was so strictly controlled by these invincible defenses, the Ostrogoth army set up 6 camps, each at or between different gates to the city ensuring that the encampments were arranged in such a manner as to quickly and easily reach any of the gates, in preparation for Roman soldiers to file out of the narrow openings, making any attempt to attack outward just as foolhardy as an attempt to attack inward. Opening the gates would surely invite a full invasion and so maintaining a presence at each gave King Totila complete control of any supplies entering the city.

The suppliers and merchants used to selling their goods in the bustling metropolis were easy targets for the armed encampments awaiting them which ensured that the soldiers maintained ample food and clothing for an extended attrition of their target. By cutting off all supplies, the Ostrogoth army had starved the people of Rome to defeat resulting in a 100% casualty rate without putting a single one of their own soldiers in harm's way. When the gates finally opened after surrendering to reveal the full extent of the horror that the people had faced, citizen and soldier alike, the few left surviving had done so only by resorting to cannibalism. To further highlight the impact of this economic attack on one of the world's true ancient superpowers, it took only a brief delay during which time the primary invading force left for the Romans to re-supply and push

the small Ostrogoth occupation out again. This didn't last, however, as Totila's economic conquest took a more sophisticated approach upon his return to Rome that will be discussed in the next chapter.

2.2 Supply Channel and the USA Civil War

The previous example illustrates how powerful having control of supplies during a conflict is. Managing resources to ensure the availability of a sufficient supply is not only a necessary part of maintaining combat readiness but with a proper strategy it can also be an integral part of military success. While the Ostrogoths had the opportunity to directly cut off supplies thanks to a flaw in the design of Rome, this isn't always possible. In many of these cases, however, managing supply routes instead of just supplies can be just as effective. Taking control of the major supply routes will not necessarily completely cut off supplies, nor should it since the impact on non-combatant civilians can be devastating, but has the potential to reduce the availability of supplies to a degree that will decrease or eliminate the enemy's ability to defend themselves against a well-supplied regiment. At the same time, using a wide variety of transportation methods and routes will both help circulation of resources in a timely manner to the locations and peoples that require them in an environment as dynamic as a combat theater but will also minimize the potential negative impact created should the enemy be able to cut off one of your own supply routes. This has been used quite often throughout history but played a particularly important role during the USA Civil War during which such tactics proved to be more effective than any traditional strategies attempted by either side of the conflict until that point.

The Civil War for many years and particularly in its beginning was left in a military deadlock with the Federation forces in the North and the Confederate forces in the South being nearly evenly matched when measured purely militaristically. The variable that finally allowed the North to win the war was simply their understanding of the importance of supply routes and their ability to leverage them. Specifically, three major tactics were taken; each important in their own right but together left the South completely incapable of defending themselves. First, all Southern ports were cut off using steam ships eliminating the South's ability to access resources. Next, the railroads were utilized to transport supplies to the Federation soldiers. Finally, the resources already in the South's possession were destroyed giving the South no other option than to surrender to the North.

Very early in the war, the Federation Army's commanding General Winfield Scott put into place a plan to cut off all the ports in the South to eliminate their ability to acquire supplies. Rather than attacking directly, the Federation warships, which at the time were steamships, functioned as a blockade. The operation was given the name the Anaconda Plan as a result of its goal of choking off supply lines both in and out of the region, while the blockade itself was dubbed "Scott's Great Snake," a continuation of the metaphor as General Winnfield Scott choked off all supply routes in and out of the Southern USA. It is important to note that not only did the blockade stop the South from importing supplies as ships attempted to enter the ports having left from both other regions of the USA as well as from other nation but that they also stopped ships carrying cotton and tobacco from leaving port headed for other nations as an export used to fund the purchase of combat supplies. A number of nations in Europe, including Great Britain, supported the South by providing equipment including warships and cannons because they stood to benefit from the cheap supply of cotton that had become a staple of Western trade at the time due to its low price and high quality. Once the export shipments of cotton stopped only a few of these nations continued to support the South, still providing weaponry on terms of credit for future shipments of cotton when the blockade was disbanded but even these deals soon ended as the most ardent of Confederate supporters could not bare the risk of openly aiding the South in a war they appeared to be losing.

As the Anaconda Plan was being executed the next phase of the Federation's plan to wipe out the Confederacy's economy by exploiting supply lines had begun. They were convinced that they would make the greatest inroads into enemy territory now only by using the most advanced transportation technology available to the war machine: the railroad.

Starting in 1830, the network of railroads in the USA entered the realm of those primary transportation options available to the general populace for passenger and cargo movement. Prior to that point less than 100 miles of rail track had been laid, most of which was owned by and dedicated to the coal and granite operations. Thirty years later, by the time the USA Civil War had begun in 1861, nearly 29,000 miles had been laid making rail the dominant form of transporting supplies thereby replacing the horse-drawn supply wagons as the Transcontinental Railroad currently in progress was stretching the width of the nation from coast to coast finally being completed in 1869. The Northern

half of the nation held approximately 66% of all railways due primarily to the densely industrialized nature of the North which required more integrated transportation networks compared to the still agriculturally based (and therefore less densely populated) South, as is the nature of requiring large plots of land dedicated to cultivation rather than manufacturing. Though all railroads were privately owned, their potential for military use had not been overlooked by President Abraham Lincoln during the Civil War. He had struck a deal with the railroad companies to gain full, unrestricted access to their intricate and extensive rail systems as well as the trains themselves in order to transport supplies to the soldiers. They then quickly expanded upon the existing rails as was necessary for combat purposes using the North's incredible manufacturing potential at the time which was an important benefit not only to the Federation but also an additional bonus for the railroad companies in their dealing with the North. Figure 2.1 is an illustration of the rail system in the USA directly after the Civil War.

While Southern troops on the front lines often suffered from the shortages of ammunition, food and boots that were normal for militaries up until this point resulting from slow and unreliable forms of

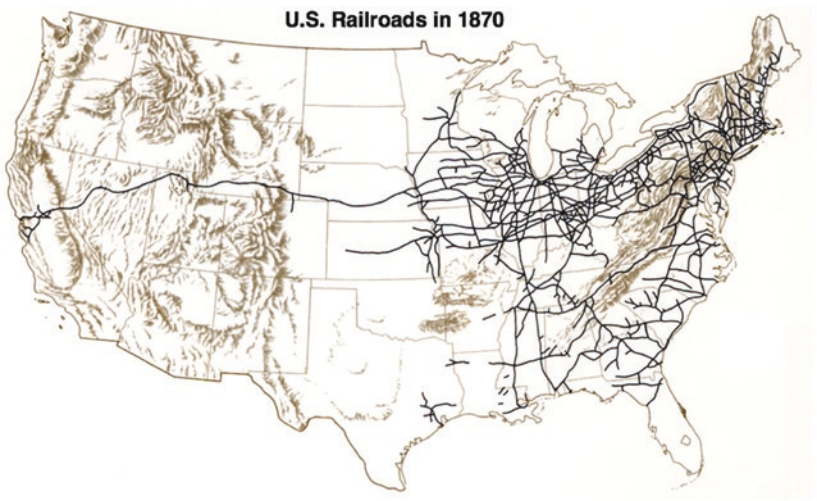


Fig. 2.1 Map of US post-Civil War railroads (*Source* US Army Transportation Museum)

transportation, the Northern troops were among the first to really benefit from a constant supply of necessary resources. In particular, the difference in the quality and quantity of food rations were a dramatic improvement. Until this point, perishables that arrived were often mostly inedible as a result of the extended transport to the front lines. Since commercial shippers were paid upon the arrival of the shipment to its destination, thrifty shippers sold their cargo to commercial buyers before reaching the destination knowing full well that they wouldn't get paid for delivering food that had gone bad or otherwise become inedible.

Note the contrast in both the quantity of rail transport routes in between the North and South but also in the number of junctions. While the North has a vast quantity of alternative routes should a single rail become unusable by means of attack or accident so that supplies will still reach their intended destination without much delay, the rails available in the South often stretch the entire length or width of a state with no alternate routes. The potential for absolutely disastrous breaks in the South's supply routes was extremely high and those spots at which stopped operations would have the greatest effect on the South's ability to continue fighting correlate strongly with the locations targeted by the Savannah Campaign (commonly known as Sherman's March), shown in Fig. 2.2.

Sherman's March, led by Major General William Tecumseh Sherman in December 1864 and ending in February 1865, took what was, at the time, seen as an extreme approach called "Total Warfare." Sherman's soldiers didn't target just troops but also building, supplies, and everything that wasn't an unarmed civilian (e.g., women and children), which was seen as quite a dramatic approach. The reality, seen in hindsight, was that this razed earth approach to their campaign did not specifically target even military at all. Though it was often the case that armed conflict did break out along the route of the march, the real target was only supplies rather than humans. They took those supplies they need to replenish along the way in their mission to destroy railroads and caches, and then burned the rest as they left for the next location. Their orders were not to target people at all, rather, to kill livestock and burn crops on their way to major destinations strategically important to the continued distribution of resources to Confederate soldiers. This was the largest, but not only, campaign of its sort, following the Atlanta Campaign.

This final blow to the South proved to be its undoing. Without a way to replenish the supplies that had either been taken, used, or burned, they were forced to surrender two months after the march's end. Although

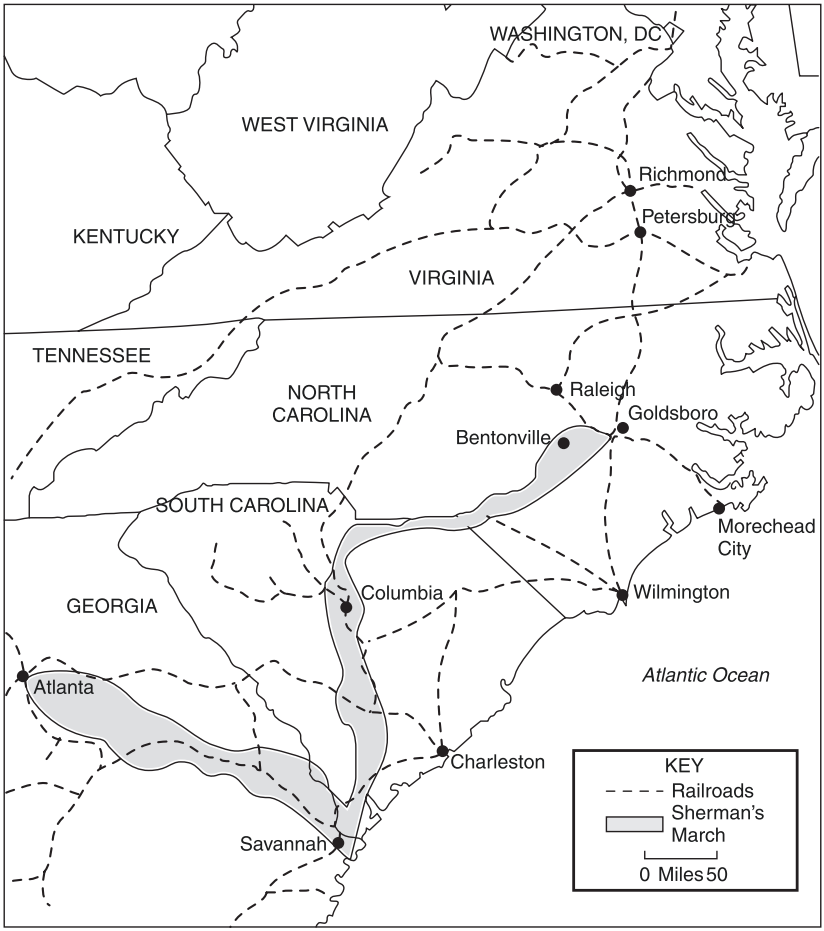


Fig. 2.2 Route of the Savannah Campaign (*Source* National Parks Service)

the Civil War remains the most deadly war in American history, leaving nearly 1.04 million Americans either dead or injured it was not physical combat that finally ended the fighting, it was supply manipulation. The ability of the North to manipulate supply channels, benefiting both from their own stock of supplies as well as their enemy's while creating supply shortages for the Confederate soldiers, was the deciding factor in a war that otherwise would have ended very differently.

2.3 The Impact of Specific Supplies

The allegorical evidence available for analysis associated with Rome and the American Civil War provide a wealth of information about the importance of supplies and supply channels. The impact of supply shortages on a military force, as well as the implications of simply maintaining ample supplies for one's own soldiers, is proven to be of the greatest concern with the potential to be, in itself, an advantage that could mean the difference between being the conqueror and being the conquered. The results of creating resource shortages for an enemy force will have a different outcome depending on the specific supplies that are kept in short supply. A lack of plasma-screen televisions during Operation Iraqi Freedom certain would have had a much different influence on the combat readiness of American soldiers than a lack of bullets. While cutting off supplies is an important and effective strategy, understanding the influence of specific types of supplies will allow one to anticipate the enemy's response to the shortages and exploit the actions they take, as well as to more effectively target specific military forces rather than civilians or other friendly forces within the geographic region of the shortage.

The first thing that must be considered when evaluating the supplies one has control over and the impact on the battle field is how shortages in a specific supply will influence the enemy's ability to fight. One must determine exactly which operations the shortage will influence and how quickly the effects will become critical. Water, for example, is probably the most critical supply to all operations. A human can only survive for a few days without access to water so cutting off the water supply will force the enemy to either surrender or attack with the goal of obtaining access to water very quickly. It is important to note that it is already known that their goal would be to access water, so anticipating this gives an additional advantage in predicting enemy movements. In contrast to the urgency of water, which will result in a shorter wait but highly elevated risk of attack, creating a shortage in ammo is equally important but with the opposite effect. Assuming the enemy is adequately able to maintain their defensive stance by reinforcing their fortifications or by hiding, a shortage in ammunition will dramatically decrease the likelihood of an enemy attacking. As they attempt to ration their existing ammo in order to fend off offensive tactics they are given no additional incentive to act as the aggressor since they can wait indefinitely for the opportunity to gain access to ammunition while consuming adequate levels of food and

water. As a result, an ammo shortage will yield fewer casualties than a water shortage for both sides of the conflict, but will also likely extend the duration of the conflict.

2.4 Strategic Targeting

The second issue to be considered is the distribution of supplies to people within the controlled region. If there are only enemy combatants to whom these resources are being distributed then there is not much to evaluate. This is typically not the case, however, as in the majority of circumstances there will also be non-combatant civilians in the area and potentially even groups and individuals mutually working against the targeted enemy group. As a result, Article 54 of the Geneva Convention concerning war crimes forbids tampering with resources necessary for civilian survival such as water, food, livestock, and irrigation. Any of these items that can be verified as used exclusively by the enemy is still open for targeting, however. For example, if enemy forces have their own supply of cattle that is not distributed for usage outside of their own organization then those cattle are open for targeting. Opportunities for exploiting resource availability and supply chains will present themselves to those who watch carefully the distribution channels within an area. A produce farm may grow enough food for an entire region but one of the distribution plants that the farm supplies may deal exclusively with the enemy. As a result, the farm is protected since civilians in the region rely on it for their survival but the distribution plant that supplies to the enemy is open to attack in order to gain control of its inventory. Any resources not necessary for civilian survival are also legal to create shortages in, such as weapons and ammunition.

Simply creating shortages by cutting off access to supplies is a highly effective strategy in combat but, as already hinted at, does not fulfill the entire potential of a well-developed economic strategy. There are some shortcomings of this approach that requires one, once control of these resources has been obtained, to anticipate enemy reactions and manage the use of these supplies in order to maximize strategic impact. There are a number of additional strategies that both assist friendly influences in the region as well as target enemy forces, all of which will be explored later in the book.

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CHAPTER 3

Altering Distribution of Capital Assets

Capital assets are those used to purchase supplies. Money is included among these, as are investments, property and equipment, and trade goods such as agricultural and manufactured products. Anything of value that a force can use to obtain supplies necessary for combat operations is considered to be a capital asset. By altering the availability of these often the same effect is had as if one had altered the availability of supplies directly, though the typically indirect nature of cutting off capital assets is less visible to frontline troops and creates less incentive for an immediate physical confrontation making such a strategy less risky in many cases. In addition, cutting off capital assets often does not even require direct involvement by soldiers which has the added benefit of consuming fewer resources, reducing direct risk, and decreasing the amount of visible operations observable by the enemy leaving them ignorant of what is occurring. There are three primary sources of capital that help fund combat operations: financial instruments, trade goods, and commercial funding.

3.1 Funding Sources

Financial instruments are the most easily accessible to any armed force. This includes bank accounts, financial investments such as bonds and marketable equity holdings, and available credit in the forms of loans. They are not considered cash directly but each can be turned into cash very quickly. Bank accounts need only to be withdrawn upon, many

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investments in this category are easily sold, and if the group is credit worthy they will not have trouble finding fast access to loans. Since these forms of capital are typically not held by the owner in any physical form they are the easiest to remove from their pool of available resources; there is little risk of physical harm and it is much cheaper to execute than deploying individuals directly to the location.

For instance, freezing accounts will not actually change the ownership claim to the money held in those accounts but will keep any transactions from being executed for the duration of the freeze. As a result, the money in these accounts cannot be accessed for the purchase of combat supplies (those familiar with accounting might recognize that money in a bank account is considered cash but the reason this distinction is made during combat is that such accounts can be frozen which allows for a clear line of liquidity on these assets).

Not only can cash savings and investment accounts be frozen but so can credit accounts, keeping any traditional commercial loans from being issued to the organization in question. Not all financial institutions are cooperative with such efforts, however. It should be noted that electronic exploitation of accounts (i.e., hacking) has in recent years been an increasingly prevalent consideration in business and military, used internationally by criminals and governments alike (of which many may argue a lack of distinction). In any case, by removing access to financial capital reserves it becomes possible to force a group to resort exclusively to barter transactions. Since there are alternatives available, though, freezing financial instruments alone will only hinder enemy operations without stopping them completely.

United Nations Security Council Resolution 1452, passed in 2002, allowed for the international freezing of accounts used by the Taliban and Al-Qaeda terrorist organizations with exemptions only for food and medical care. While the subsequent decade of combat against these organizations is proof that these actions did not stop their operations, these groups continued to gain access to financial instruments and banks through the use of identity theft, highlighting the importance of financial instruments as a form of capital funding even if entirely effective only when combined with other measures that impact additional forms of funding.

The second form of capital used to fund combat operations that a group will resort to is that of trade goods. These are less liquid than financial instruments (meaning that they are not turned into cash as

easily) but such transactions are also far more difficult to interfere with. In North America, the criminal cartels of Northern Mexico (most renowned for their violence near Tijuana and the surrounding area) are funded nearly exclusively through the sale of illegal drugs. Without their ability to have access to these trade goods with their black-market profit premiums and monopoly margins associated with the cartel structure of the industry they would not have access to the near bottomless well of weapons, mercenaries, and other combat resources that currently make such organizations a serious military threat. Using the proper approach any trade-funded combative operations can be disrupted, however.

Physically stopping the transactions from occurring, from a logistical standpoint, is similar to cutting off supplies but requires far fewer resources since the focus is narrowed specifically to outbound shipments from a fixed point rather than inbound shipments from practically anywhere. Like cutting off supplies, the most focused method is to stop the distribution of exports at its source by targeting the trade goods to be delivered before being shipped. Unlike cutting off supplies, there is less concern about the distribution channels. The goal in this strategy is to stop any exports, so assuming these exports are not food products the amount of intelligence required to successfully execute a proper blockade is much less. Despite this seeming benefit, stopping the sale of trade goods is still much more complicated than stopping access to financial instruments because it requires physical intervention at some point in the supply chain by either a military force or commercial organization cooperating with the military force to stop or redirect the trade goods from reaching their destination. Without delivery, the delivery of payments or export of supplies for military operations will soon cease.

3.2 Civil Forfeiture in the USA

In the USA, Immigration and Customs Enforcement (the division of the Department of Homeland Security that handles people and things that are in the country which are not legally supposed to be) has become extremely keenly aware the benefits associated with manipulating the distribution of capital assets by using something called "civil forfeiture." Civil forfeiture, in contrast to criminal forfeiture, allows law enforcement agents to seize assets from people without even charging them with a crime, much less attaining a successful conviction. No warrants are necessary, no due process is pursued; quite simply any law enforcement agent

can rob you without repercussions, and then the seized assets are shared between local and state law enforcement agencies, the Department of Homeland Security, and the US Treasury. This includes everything from petty cash, to vehicles, to real estate, and even entire businesses; with most everything except the cash being auctioned to raise funds.

In 2017, Immigration and Customs Enforcement (ICE) had their handbook on civil asset forfeiture leaked to the public. It notes that "civil proceeding essential to forfeiture" for ICE agents because "under criminal forfeiture, that property owner would be entitled to the return of the property. Under civil forfeiture, however, the owner would lose his or her interest to the Government." What is most damning about the release of this handbook is that it specifically and explicitly states that the person whose assets are being seized may not be guilty of any crime, and that the entire goal of civil asset forfeiture is to raise funds by taking things which will produce a net financial gain. In the handbook, it is stated that the "general rule" is that "if total liabilities and costs incurred in seizing a real property or business exceed the value of the property, the property should not be seized." For example, when it comes to real estate, there are six key factors that should be considered, four of which are related to appraising the value of the property: "(1) the assessed value, (2) known liens, (3) the probable equity, (4) possible environmental problems, (5) the existence of sufficient probable cause for seizure, and (6) the ability to overcome possible defenses to the forfeiture." In order to accomplish this assessment of the property's value, law enforcement agents cooperate with real estate appraisers to perform what is called a "post-and-walk" viewing. Calling this process "potentially one of the most important steps in the seizure/forfeiture process," it involves simply the documentation of "all items that may be of concern or may deter the Government from pursuing forfeiture of the property." In all cases, law enforcement agents are notified that assets may be seized even if "there is not enough net equity to justify seizure and forfeiture […] if there is an overriding law enforcement reason." Clearly, money is the biggest concern when enforcing the law, rather than any concerns for law enforcement, itself.

The implications of this approach to asset forfeiture in the USA are greater than anyone could have expected. Between 2003 and 2013, ICE contributed more than $1.8 billion to seized assets according to the Government Accountability Office, with over $1.1 billion being distributed to fund law enforcement agencies at the state and local

levels—money which is in excess of their actual budgets. That is a consistent flow of capital assets being distributed to agencies so that they can continue their efforts in civil forfeiture, while greatly reducing the available financing from those who would attempt to fight forfeitures in court, attempt to hire defense lawyers in criminal cases, or attempt to pressure politicians to change civil forfeiture laws. The entire process is an amazing example of capital asset manipulation that strengthens one side by providing them with revenues over their budgeted equilibrium, while simultaneously weakening any opposition to their operations by eliminating their ability to fund an opposition. This has been going on for decades and shows few signs of weakening as laws previously passed which attempt to limit these actions have been recalled under the Trump administration.

3.3 Commercial Funding and Al-Qaeda

With few trade prospects and little financial capital to speak of, many terrorist organizations in the modern War on Terror, particularly in the Middle East, have bucked the status quo in more ways than one. In regard to their source of capital funding, these organizations are often relying on commercial funding from wealthy individuals or the companies in which they have large ownership shares. Among the sources of capital funding, this is easily the most difficult to halt. Discovering the sources of the funding alone is a daunting task that usually traces multiple points of laundering and transfers between organizations. Once the supply chain has been traced back to its source, or at least near enough, it often becomes apparent that the source crosses national boundaries; coming from individuals, companies, or small groups within a nation essentially protected by norms and policies in international relations under the circumstances. To interfere directly with those funding combat operations violates, in many cases, national sovereignty and could, in itself, become an international conflict involving yet another country. The productions from which these investors profit also tend to be off limits to sanctioned military interference for political reasons. The only proper method of supply manipulation is to attempt to trade the supply chain of funds and intercept them at a point within the nation in question. This is often impossible as wealthy individuals from Saudi Arabia may provide funding to an individual in Iran to purchase firearms which are then shipped into Iraq or Afghanistan. This supply chain is

completely untouchable by the USA or any other nation until it's too late and the weapons are crossing into combat borders. This is not to say other methods aren't available, just that they will be addressed in later chapters.

The lack of capital will leave the organization as either thieves or beggars among those sympathetic to their cause and alienating them from any remaining support in the region in addition to removing their access to resources. Without the ability to properly purchase or trade for the supplies required to continue combat operations, and without the means to produce supplies themselves as military forces rarely do, they must rely on free contributions. Some may speculate that the force they are funding will be successful in their campaign and pay them afterward, as was the case of the American South during the Civil War described previously, or the force may simply take what they are looking for. In either case, those remaining few upon whom the combatants can rely for resources will not continue to support them for long. Either payments will not be made as hoped and the willingness to continue supplying the war effort will end, or the combatants will be chastised and shunned locally by those who were wronged by the combatants' theft of resources. This scenario will certainly create internal pressures and tensions for the fighting force and may even instigate internal armed resistance against them, as is the case in much of the Middle East. A common tactic to gain funds is to kidnap people for purposes of extorting money or to blackmail family members into acting as mercenaries or suicide bombers. Upon the assassination of Osama bin Laden, intelligence gathered showed that kidnapping to raise capital was in the plans to become a primary fund-raising tactic due to the increasingly dire financial circumstances they were experiencing from depleted financial reserves, destroyed drugs for trade, and financially exhausted investors. It was to their benefit this tactic did not come to fruition as it causes huge internal backlash against the perpetrating organization and increases armed resistance against them.

3.4 Reactions to Capital Shortages

Since groups or nations that are in a conflict must continue to allocate resources to the conflict or else submit to defeat, stopping the transfer of trade goods coming from the economy supporting it will create a severe misallocation of production resources. Without the ability to access

financial instruments or trade goods, the economy ceases to remain self-sustaining and will collapse in a period of time directly related to the size of the economy. This can be measured using the gross national income, which measures the cash flows between the different sectors of a nation.

Gross National Income (GNI) consists of a series of different sectors which accumulate and expend capital resources which are then redirect to each of the other sectors:

Households: The households consist of individuals and families who earn their income from the government through social programs, from companies by providing labor, and from the financial sector through loans and interest earned. They then spend their capital to companies through consumption, to the government through taxes, to the financial sector in interest accrued.

Companies: The companies consist of all companies in a nation who earn their income from households through sales, from the government through economic policies, and from the financial markets through interest earned. They spend their capital to households through wages, to the government through taxes, and to the financial sector through interest accrued.

Government: The government consists of all governmental bodies within a nation and may include federal, state, and municipal levels of government. They earn their income from households and companies through taxes, and from the financial sector by issuing loans. The spend their income by providing economic stimulus to companies, hiring companies to do work, social programs to households, and spending money on wages to households.

Financial: The financial sector consists of banks, lending institutions, brokers, and other financial companies. They earn their income from households and businesses by accepting deposits and charging interest on loans. They then spend that income on households and businesses in the form of loans issues.

Foreign: The foreign sector is a bit different in that it utilizes all the other sectors to some degree. Foreign income input consists of imports, while income output consists of exports.

Military operations require capital from households and corporations, as well as the government, the primary source of support. Already production normally available for the proper sustainability of a nation's economy is being allocated toward combat operations but this can

be sustained for extended periods of time without serious problems. Interfering with the financial markets available to the combat operations will require further internal assets to be allocated to the combat effort, while interfering with imports will stop any external support in the acquisition of assets requiring domestic production to focus on military affairs.

At this point, the war effort must choose from two options. They can either refuse to stop allocating resources to the military, allowing them to stagnate and be defeated thereby ceding to the conquest of the enemy nation or they can allocate nearly all the economy's domestic potential to the war effort. As already noted, the latter option will result in total economic collapse and the eventual devastation of the military. As outputs continue to be diverted to military operations without an adequate supply of inputs to maintain consumer supply enough to meet demand, extreme shortages will occur keeping the majority of the people without enough to survive. The only variable is the total size of the nation's economy as measured by GDP since draining the capital from each sector will take increased time if the value is greater.

3.5 Trade During the Cold War

The Soviet Union, during the Cold War, held extreme isolationist policies. These policies acted in a way identical to that of cutting off trade goods as described previously. As a result, the Soviet Union saw extreme economic shortages during the war as they continued to allocate resources critical to national sustainability to projects such as the nuclear and space programs in attempting to keep up with the USA. This critical flaw in macroeconomic circulation was eventually the downfall of the Soviet Union as their people starved to death in many cases and their war machine faltered from shortages. If they had allowed for proper trade and financial transactions to take place the dominance of the Soviet Union in the Eastern Hemisphere may have continued much longer.

As shown, exploiting exposed points in the supply chain of capital resources has generally the same effect as that of the supplies themselves though in a less direct manner that utilizes the organic economic circulation of capital. While this typically takes longer to submit an enemy by itself, it requires fewer resources to execute allowing for additional physical confrontations to take place to supplement the shortages being experienced.



CHAPTER 4

Altering Distribution of Human Assets

The most valuable resources of any organization are, without a doubt, its human resources. Even the most well-designed and well-funded organization cannot properly function without the proper types of people in proper quantities. Put simply, unless a militant group can, for the purposes of fighting or operating equipment, either recruit people themselves or outsource people from private companies, all combat operations will stop. The organization must have not only the proper number of people but they must have the proper skill sets to perform necessary functions with enough quality to ensure their efforts are useful to the mission. In contrast, a force that has skilled individuals dedicated to a cause, in having few supplies will find resourceful methods to continue to defend their cause. Mercenaries fighting for the Taliban and Al-Qaeda, though with little capital with which to acquire combat supplies, have proven to be very resourceful in their strategies by using cheap, common supplies. Their ability to turn even broken objects and refuse into devastating weaponry such as IEDs (Improvised Explosive Devices) and EFPs (Explosively Formed Penetrators) is evidence of a great level of skill and resourcefulness among combatants that have little besides skill and resourcefulness with which to fight. Like other forms of resources, the availability of human resources can be manipulated by altering the conditions of the labor market. The exact impact that this will have and the approach that must be taken to accomplish this depends greatly which sector of the labor market one targets.

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4.1 Skilled and Unskilled Labor

The labor market is broken up into divisions of skill level. Skilled labor includes jobs that take highly specialized knowledge or ability. This can include computer programmers, medical professionals, engineers, and other positions that require extended training. It also includes some very experienced masons, welders, farmers, and similar trade skills after reaching the level of a master craftsman in their trade. Unskilled workers may have a great amount of ability and experience but the job they perform does not necessarily require specialized knowledge. These jobs may include cashiers, janitorial, basic assembly line manufacturing, farm labor, and other such positions that can be learned in a matter of days or weeks. Semi-skilled workers are somewhere in the middle and include many jobs in construction, laboratories, office jobs, and a variety of assistance positions. The primary variation between these categories of positions is the amount of critical thinking and adaptive application of knowledge and skill that is used on a daily basis.

According to the United Nations Development Programme (UNDP), in a traditional job market people are typically categorized into the various levels of skill requirements in their job based primarily on their level of formal education. Unskilled and semi-skilled positions are composed primarily of people who have either no formal education, have completed primary school (including everything before a high school education), or have an incomplete secondary education. Skilled positions are filled primarily by those who have completed a post-secondary education at some college or university. Skilled rural and skilled public sector jobs attract a vast minority of people at all skill levels by nature of there being a smaller supply of these positions compared to the other labor sectors, giving way to the potential to alter the proportions. To interpret the data another way, this means that as individuals gradually achieve higher levels of education that they will also have gradually higher probability of obtaining a skilled position rather than an unskilled or semi-skilled position. This is important in knowing exactly how to target different skill sectors of the labor economy as well as the impact that alterations in each skill sector will have.

For example, one who paves cement to make a road is considered an unskilled worker. Though their job may take a considerable amount of ability to be done correctly and in a timely manner, the processes by which the job is completed are very basic and one's lifetime is spent not

in learning a great number of complexities but, rather, achieving a high level of accuracy and speed in only a few basic operations. In contrast, the individual who formulates and prepares the concrete is considered semi-skilled. Though the actual act of mixing the ingredients of the concrete does not take a great amount of skill, this individual must continue to stay informed about the possible formulations and compositions of an aggregate, perhaps working to develop their own using research into the properties of various minerals. Finally, the individual that engineers and designs the road by surveying and calculating the proper angle and possible routes of the road is considered to be a skilled individual. The nature of their job requires the daily creative application of advanced mathematical and construction knowledge to adapt the design of the road to the lay of the land and goals of those who commissioned the road to be built.

4.2 Nazi Labor and the Atomic Bomb

All these examples of human migration have the same primary motivators, which are discussed more in Part II. In understanding these motivators, the skills of subgroups of people, and providing incentive to influence their movement, the principles behind these mass migrations of people across the globe can be harnessed and targeted to influence smaller groups of individuals in order to manipulate the labor market in one's own favor. Under proper circumstances, one might even find they can alter or disrupt these migrations in significant ways, discussed more in Part III.

This ability to attract skilled workers was a critical turning point for the US military during World War II and the Cold War. Albert Einstein, famous for his work in subatomic research, was a German-born Jewish physicist who, for reasons of political disapproval and fear for personal safety, left Germany during the beginnings of the rise of the Nazi party.

Einstein had knowledge of Germany's atomic research since he had contributed a large portion of it until that point and offered to join the Manhattan Project in order to give the USA the ability to build nuclear weapons before the Germans in order to combat the Nazis should they also complete their production. There is some speculation that Germany was able to complete a nuclear bomb or at least the mechanism for nuclear detonation near the end of the war but, even if they did, they never had the opportunity to use it. Thanks to the involvement of highly

skilled physicists, the USA was able to obtain the technology that would define warfare for much of the twentieth century giving them a military advantage over all other nations until the USSR gained access to the technology. This marked a military transition to measuring strength in the ability to stay the most technologically and strategically advanced nation, which became the trademark of the Cold War between the USA and the USSR which continued for 44 years until 1991.

There is a certain degree of risk in manipulating human assets, however. When one is incorporating foreign nationals and defects into friendly forces, there is always an increased potential for spies and saboteurs than during normal recruiting measures. For skilled labor, this can be a particularly complex problem since attracting these individuals will often require one to provide a position that utilizes and recognizes their talents which are typically positions utilizing sensitive information or equipment. While unskilled labor can often be quickly assimilated with proper precautions in place, such as low concentrations of these individuals (i.e., one per platoon or battalion), skilled individuals may be required to go through a series of promotions or a process that resembles an internship in order to reduce risk.

4.3 Hiring Local Nationals

In regard to human resource manipulation, Sun Tzu says, “Change their colors; use them mixed in with your own. Treat the soldiers well, take care of them. This is called overcoming the opponent and increasing your strength as well.” This refers to not only hiring local nationals but also providing incentive and opportunity for enemy combatants to defect. It is possible to decrease the pool of available workers for enemy combatants as well as the quality of those workers remaining through higher wages and better working conditions, as long as these terms can be communicated properly in a manner that is attractive both personally and culturally. Figure 4.1 shows the most basic model for how increasing equilibrium wages can cause labor shortages in the market. The model illustrates that a 10.5% wage increase over typical local wages will decrease labor potential for the enemy, either in quality or quantity, to 75% of its previous potential.

Of course, there are more things involved in choice of employer, particularly during a conflict, but this model is purely an example to illustrate how the mechanism works. First, higher wages will attract more

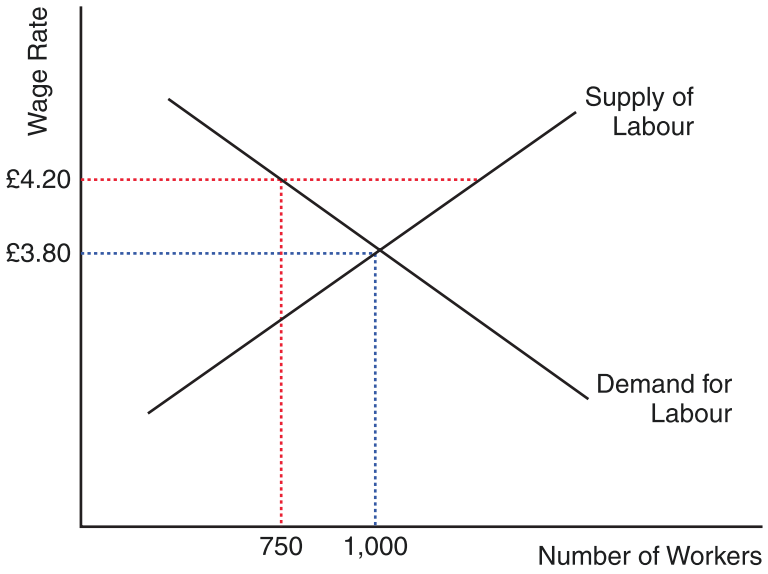


Fig. 4.1 Labor shortage

workers which one will then have the option to hire or not. Hiring all people is not always feasible but even hiring the best among them will reduce the quality of those workers remaining leaving an ineffective labor force prone to being slow and making mistakes. This number is even more significant when attracting defecting soldiers from the opposing side since this is a direct influence on their operations, as compared to civilian foreign nationals who may have otherwise stayed neutral, not being involved in the conflict directly or indirectly at all.

There are a great number of things that make working with one organization over another attractive, and the efficacy of these things varies depending on which theory of motivation you adhere to. Generally speaking, all theories say that people are attracted to safe working conditions where life or limb is not at risk during normal daily operations, where they will be respected by supervisors and coworkers, and where there is ample opportunity to not only fulfill base needs (e.g., food, water, and shelter) but to pursue personal enrichment. In times of conflict, they must be made to feel that they will be welcomed as friends but remaining an enemy combatant makes them a target. The potential

for overlap with PsyOps (Psychological Operations) here is high. For unskilled workers, including infantry, improved quality of life will be a strong motivator. In most of the world, low-skilled labor is difficult work with little reward. Particularly during a recession, military enlistments swell with unskilled or semi-skilled people seeking better working conditions or better pay than what is otherwise possible at the time.

By offering this improved quality of living, there is often a decrease in the levels of loyalty among enemy forces. During the Cold War, the poor quality of life experienced in the USSR led many soldiers to defect. Along the DMZ (demilitarized zone) between North and South Korea, North Korean soldiers stand in pairs or in threes, facing each other to ensure others do not run for the border. When actions like these are taken, it is a strong indication that cutting off human assets will be a successful strategy. These are the best available times to exploit labor markets with the highest potential to recruit or influence into spying and sabotage those foreign nationals and enemy combatants predisposed to do so. What will be left will be a weakened and less effective combat front that will be more easily defeated.

4.4 Human Resource Management

Although all skill sets are critical to combat operations, unskilled workers are much greater in number and, therefore, have greater availability to both sides of a conflict. As a result, influencing the involvement of those high-skill workers willing or forced to be involved in a conflict will yield greater results than influencing the involvement of the relatively larger pool of low-skilled workers. The loss of these skilled workers will not decrease existing combat potential but improvements upon existing capability and tactics will cease entirely, putting them at a disadvantage in nearly every aspect of operations save for sheer numbers. These differences can be best exemplified by comparing the armies of the USA and China. As for sheer numbers, China's army is the largest employer of people in the world and has more workers than all the branches of the US military combined. In contrast to the US military, however, China's army is nearly exclusively unskilled which gives the USA a dramatic advantage technologically and tactically. Both armies are forces of great strength but each achieves its potential from contrasting sources; the USA improving their capabilities per capita well beyond that of China due to their ability to attract highly skilled workers.

While unskilled workers tend to be motivated more greatly by improvements in working conditions and income, skilled workers tend to require the opportunity to challenge themselves and earn prestige and respect through the use of their skills and knowledge. They are also more likely than unskilled workers to consider the ethical implications of their involvement in any particular project. Providing meaning or a driving purpose for the work itself, accompanied by equitable levels of renown and reputation for their work will a more effective motivator in influencing skilled workers than pay and personal quality of life. Motivators for both skilled and unskilled labor are discussed more in Part II.

The role of variable motivations for both skilled and unskilled workers during the process of human migration for economic purposes is well documented. Generally speaking, mass migrations from rural to urban areas in order to obtain work are called Urbanization. Urbanization occurs almost exclusively as a result of people attempting to increase their own quality of life; seeking work in a metropolitan area that will allow them to earn income, benefits, cultural prestige, or other motivators that they feel will improve life for themselves or their families. Movement of people isn't necessarily from rural to urban regions, however, and not necessarily to seek improvements. Counter-urbanization is an escape response to people attempting to leave the overcrowding, crime, and other issues often associated with inner cities that gotten very large. Since these individuals typically still have ties with the city, however, they do not go far beyond the city limits creating urban sprawl; the process by which a city grows into a very large geographic region including wide and multiple suburbs taking over farmland and rural regions. Since only those that cannot afford this outward migration are left in the inner cities, urban decay occurs wherein parts of a city fall into disrepair as neither its citizens nor the city generates enough income to maintain what was once a bustling area. Crime per capita increases dramatically at this point, as does homelessness and unemployment, causing generalized social conflict. Brain Drain, the process by which skilled workers move from one area to another regardless of whether either is rural or urban, is created by the same motivation as urbanization: seeking a better quality of life.

By keeping human assets from being available to enemy forces one is not just stopping the enemy from fighting, one is convincing people to not be the enemy at all. A lack of people working with the opposing force in a conflict directly restricts their size and capacity for physical confrontation.

Check for updates

CHAPTER 5

Physical Confrontation

No matter how effectively one is able to manipulate supplies, this will rarely, if ever, be a substitute for physical confrontation. In fact, many of the supply manipulation tactics described until this point are capable of triggering the enemy into an attempt at a direct attack sometimes out of retaliation, often out of desperation. The actions that will be taken in response to these tactics, however, are predictable and can often be measured in terms of the amount of resources allocated to retaliation or recovery operations as well as the amount of time it will take for them to execute such a strategy. Anticipating the actions that the enemy will take through analysis of their behaviors and incentives will allow for preemptive preparations to either continue manipulating their supplies through additional layers of economic tactics or engage the enemy in combat when it is deemed they are at a juncture critical to their defeat.

5.1 Measuring Their Incentive to Attack

Forcing an enemy to attack can, in itself, be used as a strategy to draw them out, thereby revealing where they were hiding, revealing who they are working with, or even exposing a weakness in their forces. Before a decision on which economic strategy is to be undertaken, however, one must first predict what action the enemy will take in response. Of course, it is always prudent to have contingency plans in place in case the opposition's actions are not as predicted, but one must still have some idea of what each potential action will be before either primary or

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secondary plans can be developed. As already noted, a highly possible reaction the enemy might have is to simply attack either in retaliation for your exploitation of their supplies or to remove the force intervening with their supplies. A particularly effective economic mission may corner the enemy through devastating shortages, giving them no other option but to attack in order to regain control over their resources. Any mission based on this need is an act of desperation and will not be strategically sound.

Figure 5.1 shows a model for the incentive to attack based on information about the enemy's available resources. Having an incentive to attack means that the group targeted will have a strong desire to initiate a physical confrontation. This differs from having a high frequency of attacks in that this would refer to how often attacks are made rather than the degree of incentive to undertake each individual attack. The two are related, however, in that giving a group incentive to attack will alter the occurrences of attack, which can also be predicted using a model discussed later. When a force has 0 resources, they will have no incentive to

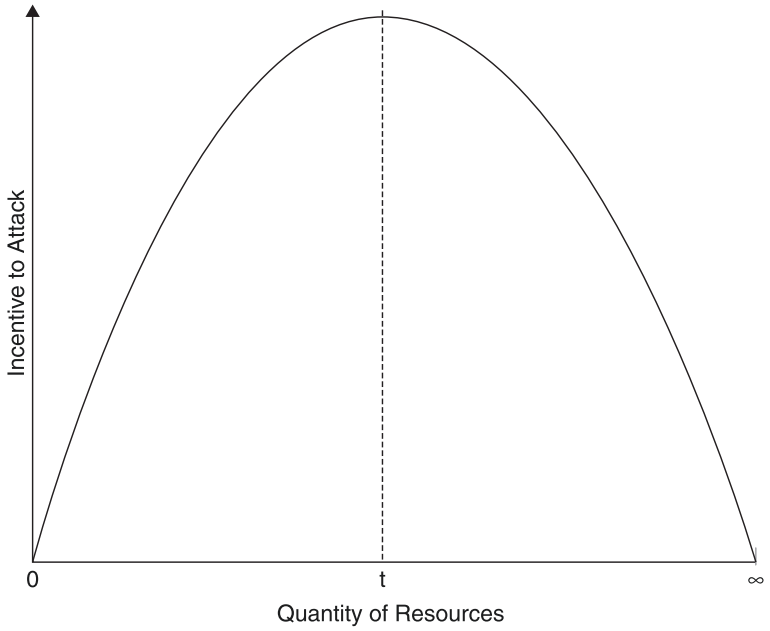


Fig. 5.1 Model of resource incentive to attack

attack because they will not have the physical capability to do so. When a force has infinite resources, or at least more than they could possibly use, they have little incentive to attack because they are able to simply wait until they have a highly strategic opening to attack and will not need to put themselves at risk unnecessarily. It is somewhere between these two extremes, when supplies are decreasing or at risk that incentive to attack is highest, denoted by value *t*. Note that the actual shape of the curve will likely vary from the example above and that *t* may not be directly in the center in an applied scenario, depending on exactly which supplies are being depleted and how quickly.

A curve with a positive skew (one in which the peak is shifted off to the left resulting from a minority of values that are significantly higher than the average) would mean that their supply of resources must reach nearly 0 before they have strong incentive to attack. These would be supplies that are either used very slowly or that the enemy can continue operations without for an extended period. Footwear, for example, is critical to combat operations but lasts for long periods of time so there is little incentive to attack over a shortage until there are nearly none left. A negative skew (one in which the peak is shifted off to the right resulting from a minority of values that are significantly lower than the average), in contrast, would be resources that are used quickly and need to be kept in ample supply. Water is among these resources since it is used very quickly and is required for all operations with critical failures resulting from going without after only 2–3 days. Water would also be a supply which would measure as Leptokurtic. The very high and narrow peak on a leptokurtic curve (resulting from a very narrow distribution of values that do not deviate far from the middle or average, in this case referring to an instant demand from nearly all personnel targeted) illustrates that once the enemy is aware that a shortage is beginning they have extremely high incentive to attack. Platykurtic curves (ones that are short and have a gentle slope resulting from a wide distribution of values that do not frequently occur near the middle or average, in this case referring to a demand that changes slowly over time as the supplies are exhausted gradually and the immediate consequences are limited) would apply to supplies giving the enemy little incentive to attack, such as luxury or convenience goods. A shortage of pens, for example, will give a force little reason to put themselves at risk by retaliating or by moving out of the safety of their current location in seeking an additional supply.

Any point to the left of t is considered the ration region, wherein the enemy is rationing supplies and must carefully choose their confrontations for fear of depleting them too greatly, so the likelihood of attack decreases. Any point to the right of t is considered the relaxing region because they are able to wait while they create and implement tactical strategies in the dynamic combat environment, so they have no reason to risk themselves obtaining additional supplies and the likelihood of attack goes down. When in the rationing region, the attacks by the enemy will be focused on obtaining additional supplies and pushing any distribution chain irregularities away. These strategies are a necessity; they will not be strategically sound and they will not have the necessary supplies to support the mission. This is the best time to confront them in a direct physical confrontation.

When in the relaxing region, to the right of t, any attacks by the enemy are going to be the most devastating because they have no incentive to attack beyond tactical advantage, and they have the supplies to support the strategy. This is the time that one must layer additional supply manipulation tactics into the plan in order to further exploit their abilities. As Sun Tzu says in The Art of War, "Those who are first on the battlefield and await the opponents are at ease, those who are last on the battlefield and head into battle are worn out. Therefore good warriors cause others to come to them, and do not go to others." This refers to not only the physical exhaustion of the soldiers but also the exhaustion of supplies. It is possible, with the proper approach, to force enemies to consume a great deal more of their already limited resources in their attempts to instigate fighting. By luring them as far away as possible with the illusion of achieving combat victories or resource acquisitions as frequently as possible, they will continue to consume resources at an unsustainable rate and decimate morale during a shortage.

5.2 Resource Consumption and the 23rd Headquarters Special Troops

During World War II, a battalion that officially did not exist called the 23rd Headquarters Special troops was given the mission specifically to misinform the enemy in order to draw them out into ambushes and "wild goose chases." The 23rd HQ was composed primarily of sculptors and artists who would create fake US army assets out of junk, including jeeps and tanks made entirely out of painted wood and rubber.

By then continuously playing an audio recording of tank movements and other normal military activities, these stages gave the illusion of an actual operation underway. Placed near a waterway critical to the enemy, these tactics quickly forced the Nazis to send troops to attack, even many miles upstream, to find only cheap props. The wasted gas, ammo, and other supplies became a serious problem, particularly when they returned to find their own operations under attack and without the ability to defend against it.

This is an example of something known as a Fabian Strategy, which is named after Quintus Fabius Maximus, who formalized a strategy of perpetual retreat while taking and/or destroying any available resources so that your opposition is eventually forced into a position of not having the resources to attack. Famously, Napoleon was defeated by this strategy as he attempted to invade Russia. His plan was typical of very basic military strategy at the time: take resources from the enemy as you win battles and use that to sustain your campaign. By the time Napoleon caught up with the Russians, however, they had been led 500 miles into the heart of Russia, by which time roughly half of his troops were dead, dying, or diseased. By the time the French finally decided to retreat, the seasons had changed from summer to autumn, during which time Russia experiences Rasputitsa—an extremely muddy season that made it impossible for the French to escape because they would simply get stuck. Since the Russians had gone as far as to burn the building down along as they baited Napoleon ever-onward, by the time the ground finally hardened, it was winter and the few remaining survivors were left to march back through the harsh Russian cold without any shelter.

5.3 Cost of the War on Terror

A 2017 "Cost of War" report issued by the Department of Defense concludes that since 2001 the USA has spent $1.46 trillion on overseas conflict. This cost is composed of operations related to the war in Iraq, the war in Afghanistan, and the continuing Middle East occupation in the pseudo-war on terror. This estimate might appear quite low, or surprisingly insignificant, given that it represents less than half a percent of the US GDP over the same period of time. There are a few things to keep in mind, however.

First of all is the timing—the spending was not evenly distributed over time. The vast majority of that spending occurred between 2001 and 2008, while the greatest contributions to the value of our GDP occurred

between 2011 and 2017, which means that the bulk of the spending was allocated during the period of that time frame in which GDP was smallest. When weighted like this, the cost of war actually accounts for roughly 1.5% of US GDP early on, resulting in economic struggles with fiscal policy sustaining through to at least 2017.

The second thing to note is that the total expenditures associated with the wars are quite dramatically understated, as they include only those operations by the Department of Defense and only those costs specifically associated with the war. Total spending by the Department of Defense during that time is quite a bit higher once accounting for necessary sustainment operations not specifically associated with the wars. The estimated amount also does not include spending by other departments which are necessary for both the war effort and its aftermath. Many intelligence, diplomatic, and other agencies were excluded completely from the estimate, including the Veteran's Administration, whose annual costs associated with sustaining military personnel after their time in combat was roughly $16.8 billion, according to their 2016 annual report. The VA, alone, then represents roughly an 18% increase in the estimate generated by the Department of Defense, with total war expenditures across all departments being at least 33% more than the cost of wars estimated by the Department of Defense, alone (though the exact amount allocated to the war efforts by some departments is difficult to estimate, given the clandestine nature of their operations).

Waging war on two fronts is well known for being a terrible idea. It is the simple fact that attempting to do so requires resources and financing that are simply not feasible to sustain, resulting in one or both of the warfronts to collapse due to a lack of resources they require. It is also well known that nobody wins a war of attrition—slowly weakening the opposition over extended periods of time is extremely resource-intensive, extremely expensive, and will always take a severe toll on the ability of a nation to continue fighting while properly sustaining the well-being of their own nation. Extending a war indefinitely into the future, as the USA has done in the Middle East, resulted in a total inability for it to respond to the 2008 recession which occurred, causing that recession to become one of the most devastating in US history. The financing and resources to recover from 2008 simply were not available since such a tremendous amount had been spent waging wars in two nations for over 7 years, at that point, yet even by 2018 they maintain an active presence overseas continuing to fight the same battle for 17 years.

Whether or not the strategy is to deplete the resources of a platoon by tricking them into taking actions with the intent to take action before reinforcements can arrive, or whether you intend to force a nation to continue a war that makes little or no progress over decades in an attempt to strike at the heart of the entire nation's economy, when engaging the opposition it is greatly beneficial to maximize the volume of resources they are consuming while minimizing use of your own. If you can accomplish more than your enemy using fewer resources, then your own strategic position can be greatly enhanced. This is demonstrated perfectly by the US war in the Middle East. Despite the fact that the USA spends more money on its military than any other nation in the world (though it is typically about average as a percentage of GDP), they also consume their resources at a much faster rate while accomplishing little. It is said that the USA has the strongest military in the world, but when you break that down per dollar spent then that is no longer true. As a result, while fighting small insurgent and mercenary groups who make weapons out of broken and recycled appliances, vehicles, and other parts, the smaller groups are able to hold their own using methods that maximize the impact of their own frugal operations, while baiting the USA into consuming huge volumes of their own resources, turning the very nature of the war into a weapon of economic harm.

5.4 Resource Infiltration and Merchant Raiders

In addition to using false distractions, hiding the actual threat is also an effective strategy. While providing the impression that the majority of forces are in one region, hiding the actual threat in an area tempting for the enemy during a time of shortages is critical. This provides ample opportunity for devastating ambushes. Commercial raiders are of potential use in these situations. Used primarily during the Civil War, commerce raiders were military ships disguised as commercial ships in order to surprise the enemy. In a modern scenario, ships can be replaced with trucks, manufacturing plants, or even cargo planes. In any case, giving the belief that one's own forces are nowhere near the source to replenish their supplies-in-shortage while hiding their own forces near the object of desire will give great incentive for the enemy to, instead of attacking directly, work to obtain the resources they need.

Since the purchase of supplies is typically done via telephone or Internet, rather than simply going out to acquire it, another tactic becomes possible.

Given their great need for supplies, the possibility to intercept shipments coming into the region allows for more than simply stopping the shipment from entering. Replacing the shipment with disguised explosives, soldiers, surveillance equipment, or other such things provides a unique opportunity to penetrate their defenses to stage an attack or collect information. This was done, according to a poem by Virgil entitled the Aeneid, during the Trojan War wherein the Trojans pretended to sail away from the battle after 10 years of stagnant combat, leaving at the Roman gates only a large horse. The horse was accepted into the gates, well behind the walls and into Rome, where the Trojan soldiers who were hiding inside the horse burst out and attacked the city from within. Although this was only a poem, it does present interesting potential to take advantage of an enemy's own desires wherein anxiously accepted shipments of food, ammo, water, or anything the enemy might need might allow for peculiarities to be overlooked as their defenses are penetrated from within.

During World War II under the name Operations Cornflakes (so called because the German mail was delivered at breakfast), US Psychological Operations units attacked several German postal trains, derailing them with aerial attacks. The attacks successfully accomplished the derailment during the first wave of attacks but, being a psychological operation, the goal was not simply to stop communications. A second wave of aerial attacks dropped, instead of bombs, bags of properly addressed letters, usually addressed to the families of Nazi soldiers abroad, containing anti-Nazi propaganda to be distributed throughout Germany. As the German post collected the postal bags that had been scattered during the attacks, they also unknowingly collected the bags of Psyops propaganda with counterfeit postage. In a manner similar to that of the Trojan Horse, Operation Cornflakes deceived the enemy into welcoming a harmful element into their territory under the guise of some desperately desired supply, in this case letters home from soldiers abroad.

Such a strategy is also regularly applied in information warfare wherein one might download a computer program that contains a hidden virus called a "Trojan Horse Virus." Regardless of the application, however, one's purpose is in anticipating enemy movements through analysis of their incentive to attack and their resource requirements it is possible to, if proper, submit them in a single physical confrontation, or else to continue to manipulate their resources through false hope of victory and availability of self-destructive supplies. The ability to anticipate movements is elaborated on in another chapter, improving this model.

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CHAPTER 6

Systempunkt Targets

The value of the defeat of any target can potentially be greater than merely the assets destroyed or seized during the attack itself if one's target is chosen carefully. As noted in the discussion on supply channels and distribution points, stopping or even just diverting supplies from a single point can create shortages on several different operations in several different locations. The popular game Jenga is based on this concept, wherein removing one piece of a tower of identical wooden pieces has the potential to collapse the entire tower (the goal is to remove and restack pieces, one by one, without collapsing the tower in the process). Any point in a system of interacting or related processes wherein the destruction or removal of the point in question will stop all the processes from functioning properly is called a systempunkt target. The term systempunkt is derived from the German word schwerpunkt, meaning "heavy point," which was used by the Nazi soldiers during World War II to refer to any point on the enemy's line of defense that, when destroyed, would destabilize the entire defensive line. These points were typically the focus on heavy attack for the Nazis because they were ideal targets for their blitzkrieg style of warfare (blitzkrieg, meaning lightening war, was meant to be a very fast use of mechanical warfare to overwhelm a target all at once). Systempunkt targets work in a similar manner by achieving a maximum of results using a minimum of effort through a cascading or avalanche effect created by targeting the proper points in a series of systems.

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6.1 Resource Mapping and Systempunkt Identification

By mapping out the relationships and distribution of capital among enemy operations, often times naturally occurring points of distribution that will stop the availability of resources (e.g., supplies, capital, or people) to many different operations will become apparent. Rather than fighting group after group of armed soldiers, it might be possible to simply attack the ammunition manufacturing plant to ensure many of the soldiers are not armed when you arrive. This method not only impacts a greater range of enemy troops but also involves less risk through direct armed combat.

Figure 6.1, which is of course very much a simplified map, illustrates the supply of weapons in a theoretical combat theater. Weapons manufacturer A and B are both foreign owned, as are all 3 distribution centers. For the sake of expediency, the allied regiment relies on local distribution to supplement their import of weapons, while enemy regiments must rely on local distributors and manufacturers since other manufacturers will not sell to enemy forces. Note how weapons manufacturing plant A impacts 3 separate regiments for a total value of 20,000 units. This cuts their supply of weapons in half, leaving enemy regiment A with no weapons at all. While there is one other weapons manufacturer currently available to the enemy, this plant also serves friendly forces. The severe shortage of weapons created for the enemy will still greatly limit their combat potential without hindering the strength of those fighting them. Since the manufacturers are privately owned and not created strictly to supply enemy combatants, such a beneficial mission as to take over weapons manufacturer A would likely be left completely unnoticed if not for the careful analysis of capital flows and supply channels.

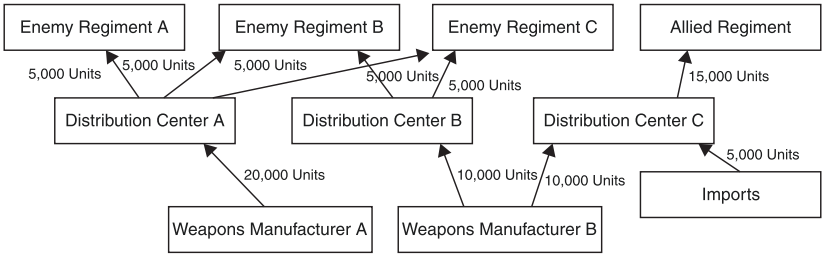


Fig. 6.1 Systempunkt supply chain map

The additional benefit to systempunkt targets is that by using the concept of this cascading destruction of enemy systems, it will often allow for an attack on seemingly unrelated and undefended targets that would largely destabilize supply and whole economic systems. For example, the Panama Canal is defended by the US military but hardly to the degree that their own ports are defended. During a conflict, it would be prudent for an enemy to send a cargo shipment of explosives through the Panama Canal, thereby destroying it completely, effectively ending shipping between the Atlantic and Pacific Oceans which in 2009 reached 299.1 million tons. For all the Americas, movements of cargo and military ships from one coast to another in a timely manner would become virtually impossible. Cross-country sea transportation would no longer be an option at all for the USA, limiting supply transportation as well as military movements. A number of other nations would also be affected, primarily for commercial shipping purposes.

The value of an individual attack on a munitions factory might be whatever value is placed on seizing the munitions but then the weakness created as enemy forces do not receive those munitions is added to the value of the initial attack in something called the multiplier effect. An attack worth $100,000 in munitions and a multiplier of 0.5 means that one would now have to expend $50,000 less in assets to achieve the same result from attacking the enemy who would have received those munitions. The $50,000 is derived from the 0.5 multiplier because 0.5 is equal to one half, while a multiplier of 1 would be equal to the original amount (in this case, the full $100,000) and a multiplier of 0 would result in so secondary value to the attack.

6.2 Systempunkt Targets and Operation Pastorius

During World War II, the Nazis attempted such a tactic called Operation Pastorius. In June of 1942, several Nazi soldiers arrived on the Eastern coast of the USA, coming within range undetected using submarines, and then coming ashore near New York disguised in civilian clothing. Their mission was to sabotage specific vulnerable systempunkt targets in the northeastern region including power generators, aluminum processing plants, and bridges. The impact this attack would have had, should it have been successful, would be to severely limit the production potential of the USA during their involvement in the war. As shown in 2003

during the Northeast power outage, a single power plant failing can cause a chain reaction of multiple power generator outages. As the result of a single generator in Ohio failing, a circuit of power plants was overwhelmed, causing massive power outages through large portions of the USA and Canada. In combination with decreased aluminum, a critical material for military manufacturing, the saboteurs truly had an opportunity to strike the USA hard. This operation failed only when 2 of the saboteurs decided to turn themselves into the FBI and provided information about the remaining operatives, leading to their arrest before any attack could be carried out.

The best method to prevent systempunkt attacks from occurring to one's own forces is to maintain ample distribution of sources of supplies and supply channels. Having a multitude of options available and working with a wide variety of smaller systems rather than one large system will ensure that the negative impact of any single system being destroyed will remain minimal. This process of minimizing risk by maintaining several options is called diversification, wherein one diversifies the risk associated with any single choice by ensuring many choices remain viable for use at any given point. Reconsider the situation of scenario of the USA Civil war. Whereas the Confederacy relied heavily on the few rail lines they had available, making each rail line a strategically important target, capable of keeping any supplies from reach a huge proportion of the frontline soldiers, the North diversified their supply routes. The ability to quickly alter routes to a comparable location without great delay contributed greatly to the North's victory by way of a superior availability of supplies in the battlefield. In a similar manner, relying too heavily on any single bridge, plant, or command center adds additional risk to the conflict, making that point an important target for attack. Dividing an equal amount of value across several point, or at least having the potential to quickly and efficiently change from one system to another, is critical in protecting one's own forces from being exploited in this manner.

Systempunkt targets can be difficult to identify and require the close examination of an individual skilled in both military tactics and organizational analysis. It is in the nature of this strategy that opportunities are few but highly important since in an ideal scenario only one opportunity is required to obtain a very significant combat advantage.

6.3 Cybersecurity According to Robert M. Lee

According to cybersecurity expert Robert Lee, CEO of Dragos, Inc., the power infrastructure in the USA has a set of strengths and weaknesses, but that it is moving more in the direction of becoming incapable of defending against cyberattacks. Shutting down the power grid would have devastating consequences, including an inability to communicate, do business, access finances, sustain hospitals, and so forth. So reliant are we on electricity that removing it suddenly from modern society would turn society back 100 years or more.

There are two types of cyberattacks: Stage I attacks are those which are intended to collect or destroy information. Stage II attacks are those which are intended to disrupt the power infrastructure, itself, causing electrical shutdowns. In an August 2017 interview with Scientific American, Lee states:

> "Cyberattacks deal with […] technology and interconnected […] infrastructure." "Adversaries are […] learning […] about our industrial systems […] from computer [and] industrial engineering standpoints [and] how to […] destroy equipment. […] [We also have an inability] to return to manual operation. […] we're starting to see more […] computer-based systems [and] common operating platforms [which] facilitates a [larger] scale for adversaries."

Note the emphasis on the interconnectedness of the grid. This interconnectedness becomes blatantly clear when considering the causes and effects of the 2003 blackout of Northeast USA and SE Canada. What started as a single overlooked failure at an individual power facility overwhelmed the grid and had a cascading effect that totally shut down the power grid in 7 US states and 1 Canadian province. As Lee notes, attackers are getting better at understanding the engineering behind our power infrastructure, so attacks that historically targeted purely computer systems and were easily overcome by switching to manual operations are now starting to target methods of physical destruction such as that experienced in 2003. This is the epitome of a systempunkt target.

It should come as no surprise that Lee's solutions involve services and products that his firm offers for a fee—Things like better cybersecurity, etc. What Lee fails to note is that the primary weakness, and the main attraction for the power grid as a point of attack, is that by shutting it

down, you disrupt nearly the entirely of all operations in the affected area, and have the potential to cascade the effect across multiple regions. The perfect solution is already available to us on the retail market, though: solar energy. By emphasizing solar energy as the primary source of electrical power, each building has its own electrical infrastructure—its own source of energy. That is the ultimate in diversification for our electrical needs. Solar power is not perfectly safe from hackers, which is true, but at worst they could attack only individual buildings one at a time, rather than shutting down entire regions. The increased challenge of attacking individual solar systems, along with the lack of harm an attack would cause completely, eliminates the power infrastructure as a viable point of systempunkt attack. Renewable energy is not just a matter of environmental concern; it is a vital part of a comprehensive national defense strategy.



CHAPTER 7

Limitations and Failures of Supply Manipulation

Supply manipulation is not without its failures and shortcomings. There are specific issues in which supply manipulation, by itself, will simply not be effective. At times, when used carelessly, it also has the potential to actually backfire, thereby creating more harm than good. Generally speaking, any attempt with a targeted strategy will create less collateral damage than one with broad influence yet will also be less effective in time.

7.1 Black Market Trade

First is the issue of time elasticity. The passage of time has a strong influence on supply and demand and, therefore, will also change the perception of a shortage or surplus. As a result, many of the strategies listed thus far have a temporary effect if not managed properly. Probably the most common method by which enemies will adapt to supply manipulation is through methods that mirror the black market trade. Any artificial shortage of goods and services will be supplemented by the black market. During World War II, parts of France were restricted to specific rations using coupons, but these quickly became worthless as the black market trade became the mechanism by which most goods in these regions were purchased. In the USA, the drug trade functions through the use of the black market. These things reduce the effectiveness of supply manipulation but do not eliminate it completely. The black market is easily leveraged and used to the benefit of the force that created the shortage to begin with.

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Besides through the use of black market channels, there are a number of alternatives available and ways that groups will adapt to a lack of certain supplies. That being the case, supply manipulation is most effective in the short run and must be taken advantage of relatively quickly for the strategy to be useful. Of course, this is true of most military strategies—moving too slowly eliminates the usefulness of a tactic. Not that one must resort to using attack strategies immediately but, rather, that one must make use of the supply exploitations that have been created. There are a number of ways to do this other than waiting for the enemy to react, having preemptively developed reactionary tactics and put them in place. It is possible to maintain and even augment the effectiveness of supply manipulation using methods discussed in future chapters.

7.2 Market Destruction

Any time the destruction of a market has occurred, whether through the physical attack of assets and people, or through the manipulation of economic processes, that destruction can cause problems in the area. Not only are these assets no longer usable for allied forces during the conflict but also they are not likely to be useful to the foreign nationals in the near future during the reconstruction effort. By causing these hardships, resentment is formed by locals for what they perceive as the invading nation. It pushes people out of their jobs, impoverishing them and forcing them to join the military forces or protected military manufacturing for steady employment. Given that they are, at that moment, not quite fond of the nation that destroyed their livelihood, it's probable they will join the opposing force. This makes enemies out of the otherwise neutral workforce.

This has occurred in Afghanistan during the war on terror. US military forces burned the poppy fields of Afghan farmers, producing a variety of opium-based products from morphine to heroin. These poppy fields composed 53% of Afghanistan's GDP in 2003 (which has since dropped to 16% in 2017, an issue that is discussed in more detail in Parts II and III of this book), and burning them destroyed the livelihoods for a huge percentage of the population relying on the profits to survive. During this process, the USA was unwittingly recruiting the Afghani people for the opposing side as the USA was now seen as the evil invader, destroying their farms. However, like all other issues with supply manipulation, this one is controllable as well. More than just

controllable, with planning and a careful approach, this scenario can quickly turn into a benefit.

Expanding any strategy of stopping, the flow of resources into and out of a region beyond that which is necessary, either geographically or chronologically, will not only harm the country cordoned off in the blockade but will also harm other nations potentially including one's own. It is unlikely that the two nations of a conflict will be trading with each other but should a strategy of supply manipulation become so large or last so long that it influences national trade this can cause economic problems for everyone including the potential for increased prices, decreased employment, and general economic hardships for many sectors that could, in extreme circumstances, trigger a recessionary cycle.

This occurs because of a reversal in the gains from trade resulting from the comparative advantage of trade partners. Gains from trade are illustrated in the comparison.

One of Chile's primary industries is in the export of copper while Bolivia's primary industry, despite recent environmental laws in the nation, is in the extraction of natural gas. Despite the fact that each is better at different things, Chile still needs natural gas and Bolivia still needs copper. As shown in the theoretical example in Table 7.1, before trade in order to extract the natural gas they need, Chile must allocate a greater amount of resources per unit of natural gas than they would normally need per equivalent unit of copper. In other words, they can extract 5 units of copper using the same resources at 1 unit of natural gas. Bolivia, on the other hand, can extract 2.67 units of natural gas using the same resources at 1 unit of copper.

Should these two nations agree to trade resources, each is able to focus exclusively on the production of a good they are proficient at

Table 7.1 Production before and after trade

	Copper (units)	*Natural gas (units)*
Before trade		
Chile	10,000	2000
Bolivia	3000	8000
Total	13,000	10,000
After trade		
Chile	20,000	0
Bolivia	0	16,000
Total	20,000	16,000

processing. As a result, as shown in Table 7.1, after trade by working together they have increased total copper production between them by 7000 units and natural gas production by 6000 units and they can simply trade for the amount of each other's resources they each require at terms agreed upon during the trade. The additional surplus can either be used domestically or traded outside these two nations for yet even more resources.

A blockade extensive enough can work to reverse these gains. Not only will the industries exporting their goods see decreased demand thereby creating unemployment in specific sectors but the demand for those goods previously imported will force either domestic production or alternate import sources at terms higher than previously paid, thus creating domestic economic inefficiencies resulting in inflation and higher prices. In extreme circumstances, these higher domestic prices can cause generalized trade weakness since the domestically made goods will be relatively more expensive than other nations producing similar goods so exports will decrease yet stimulating even greater stagflation (inflation and unemployment).

This cycle was seen in the Russian automotive industry during the Cold War. The USSR had seized Ford production plants and allowed for only the production of the Volga automobile. It is for this reason that the first model, the GAZ-21, incorporated many of the same features as its Ford counterparts, including the same automatic transmission (called the Ford-O-Matic in Western nations). Over time, though, the lack of trade and competition in the Soviet automotive industry forced the nation to rely exclusively on internal production by companies that could not compete either in quality or in price with foreign competitors. The inefficiencies that resulted ensured that the Volga was a very expensive and poorly built car that could not be exported to any nation who wasn't forced to use it. Since a greater number of resources than necessary were being allocated to producing these vehicles rather than producing things that the Soviets could make cheaply and trading for automotive supplies with other nations, the amount of resources required to continue maintaining the Soviet automotive industry in their requirements for cars created widespread inefficiencies in other manufacturing sectors raising prices further and contributing to the overall economic hardships that the Soviet Communist Party created through poor economic policy.

The only way to avoid such an incident is to remain prudent and frugal with the use of supply manipulation. Ensure that the geographic area

impacted by these strategies is limited to that which is tactically necessary and that it does not go on longer than necessary. There are ways to ensure that the effects of the strategies last without continuing to use blockades, and these will be discussed in future chapters, but the actual cutting off of supplies needs to remain a carefully applied tool.

Supply manipulation has many shortcomings and limitations, but, as already noted, they are all manageable. There are additional tools available to supplement and strengthen these tactics.



CHAPTER 8

Suggestions for Future Research

In no way is this book meant to be an exhaustive account of the potential use of economics in combat. On the contrary, this is merely an introductory text designed to illustrate the potential for economic combat by applying historical examples of its use and deriving a foundation from which to expand on for future study. As a result, there are a number of areas where additional research may be either necessary or yield important breakthroughs in the study. There may actually be limitless areas for future research but in regard to those issues addressed thus far a few naturally present themselves.

First, and foremost, refining the use of supply manipulation strategies in order to limit or even eliminate the collateral damage, it is desired that civilians should not be involved if they do not wish to be, especially when attempting to hire or recruit them to assist in submitting opposition soldiers. This may end up requiring a high level of situation-specific considerations, but if a general model can be developed and applied, or at least customized, then this would be a great benefit. That is to say, each scenario will likely have a number of considerations that play an important role in how a strategy may or may not work, but if broad models can be developed that are then tailored to fit each unique set of circumstances, then that would be greatly helpful.

Expanding on the idea of human resource manipulation, cooperation with PsyOps should prove to be helpful. Designing strategies for developing the image of the military as an organization with both a greater mission for the betterment of mankind, as well as a great environment

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in which to be involved, would give much greater potential to efforts in recruiting foreign nationals and enemy defects. Google, for example, has far more applicants each year than they have positions for and are given their choice of the best in the industry for many of the roles in their company simply because they are believed to be a desirable company to work for. By utilizing this same type of human resource branding, a public image can be established that attracts people and maximizes human resource strategies.

Yet another area with potential is in improving on resource distribution maps by identifying indications that can be consistently used to find specific types of resources and quantities. This intelligence will be a critical factor in the strategic targeting of any supply manipulation strategy and with adequately detailed information will identify systempunkt targets. The challenge lies is recognizing the exchange of goods, services, and capital accurately enough. The identification of secondary or otherwise indirect indicators of such relationships would assist in this process.

With the prevalence and ubiquitous reliance on computer-controlled infrastructure, identifying methods to optimize the use of systempunkt targets will be critical in the future. Maximizing total benefit of a systempunkt strategy while limiting the negative side effects that will result from extraneous distribution is vital. This will almost entirely be performed through cyberattacks.

Finally, although the attack incentive model is expanded upon in later chapters by applying a model for predicting the frequency of attacks, improving on the incentive model should prove an important breakthrough in predicting specific enemy attacks. Specific variables such as supply usage, remaining supplies, and types of supplies may give hints as to the amount of pressure currently applied on the enemy to attack. Statistical patterns may emerge regarding resource usage and resource availability per person that allows for improved predictions within parameters set forth in future chapters.

PART II

Trade Manipulation

Overview

The second primary approach to economic combat is called Trade Manipulation and it is significantly more involved than supply manipulation and allows for strategies of much greater complexity. Trade manipulation refers to the intentional altering of the price, source, and dispersion of both the sales and purchases made between enemy forces and external organizations to create tactically unfavorable circumstances for them. Simply put, the strategies of trade manipulation focus on altering when, where, between whom, and on what terms transactions take place. In deciding to use this approach one is not intending to fully stop these transactions from taking place, as would be the case in supply manipulation, rather one is intending to take control of these transactions in order to alter the distribution and ownership of assets in a way that favors one's own forces.

Many of the fundamentals in this Part lie in the concept of altering the terms of trade of an organization. Studying the terms of trade of various organizations provides the principles and measures necessary to develop highly effective tactics including creating openings for forces to take complete control of the trade by controlling not only the quantity available and, by extension, the pricing of trade, but also with whom trade will occur.

As a defensive opportunity, supply manipulation allows for the acquisition of necessary resources to be transacted either well below market

equilibrium pricing or even nearly free. The decision of how to use these surplus resources, in itself, allows for many choices each with great potential to benefit people and organizations both internally and externally as deemed prudent. For labor markets this has the added benefit of fundamentally altering the culture of the labor market. If managed properly, doing so will decrease generalized conflict and instability upon which many organizations rely to gain popularity and momentum with the populace.

As an offensive opportunity, one can not just force the enemy to expend greater assets to acquire combat-critical supplies thereby forgoing other important supplies resulting in a harming of their combat readiness via their supporting operations. However, by taking these tactics to extreme levels it becomes possible to completely eliminate those companies and organizations that supply the enemy with resources. Then, if prudent, one can simply replace them with friendly forces that stand to benefit from exploiting the new hardships facing the enemy and exploit the position integrated in the enemy's supply chain. Cash in particular can be very easily redirected in ways that will influence enemy movements, with local and foreign currencies each having unique effects.

Much of that which is involved in trade manipulation relates to understanding motivational theory in order to gain the cooperative support of individuals and organizations, or to alter spending behaviors within a localized region. By doing so, these partnerships can not only provide direct strategic benefit but also offer beneficial information on the operations of the enemy soldiers. As with supply manipulation, however, trade manipulation is limited in potential and some strategies must be supplemented with additional economic manipulations that will either be discussed in Part III, or should be pursued in additional research.

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CHAPTER 9

Preliminary Concept: Terms of Trade

In order to discuss those strategies made available through trade manipulation, it is necessary to first have an understanding of some terms and concepts associated with trade theory, as they will be used throughout this chapter with the assumption that the reader already understands how they function and can be applied. They are not difficult to understand, by any means, but they are necessary to fully grasp this chapter.

9.1 Definition and Application

Specifically, a basic grasp of the terms of trade and how the terms of trade can be altered is required. The terms of trade are a ratio of the cost of imports relative to the cost of exports for a group. That is to say, terms of trade measures whether the value of a nation's exports is greater or lesser than the value of its imports (or to put it another way, how much a nation much change the price or quantity of their exports to be equal to or greater than the value of its imports). This is almost exclusively used in the analysis of trade between nations but can very simply be applied to smaller groups, such as between two organizations or even between the departments of a single organization, if accounted for properly. Mathematically simplified, the calculation for terms of trade can be written as:

$$\frac{X_p * X_q}{M_p * M_q}$$

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where

X Exports
M Imports
p Price
q Quantity

To summarize, any group must produce and sell something of value in order to afford those things they purchase. Just as every individual person must sell their work skills in order to afford food and shelter, so too must combat forces and those that support them provide something of value to obtain those resources necessary to continue combat operations.

9.2 Implications of Altering Terms of Trade

The equation merely says that by multiplying the price of goods sold by the quantity of goods sold and then dividing the answer by the same for goods purchased that one will get a number that describes the total value of the enemy's transactions. A large number will mean that an organization sells much more value than they purchase. Anything less than 1 (e.g., 0.99) means that they purchase more value than they sell. This can also be narrowed from general to specific by accounting for only those sales and purchases made between two organizations. When measuring only those sales and purchases made between two such organizations and ignoring all other transactions, the resulting ratio will measure the relative transaction value between the enemy and only one external group.

In altering the terms of trade for an organization, one is creating a scenario in which that organization must sell either more or less in order to trade for an equivalent amount of purchases. For enemies, this means making supplies more expensive which creates internal asset misallocations and under-supplied operations necessary to sustain combat, as well as making combat-critical supplies themselves less available or entirely unavailable as a result of a greater proportion of assets being consumed in their non-combat sustainment operations. This is done in one or both of two ways. First, one can increase the availability of supplies that the enemy produces. This increased competition will create a market surplus thereby decreasing the price of that particular product or service and decimating the value of the enemy's terms of trade. The other way is to decrease the availability of those things the enemy purchases which will create shortages thereby increasing the price, also hurting the enemy's

terms of trade by devaluing and even possibly discrediting the enemy's exports. There are a number of ways to accomplish both of these goals, but the general premise is that one must compete directly or influence others to compete directly with the enemy for the same markets. They must produce, sell, import, or otherwise bring to the region goods and services that will take value away from the enemy and those that support them. They must also reduce products that unfriendly forces purchase, either through purchase or leverage, in order to drive up the prices of those things they require.

The effect this has is to not only stop resources from entering enemy control but actually have them drive resources away from their control of their own free will. As they use an increasingly greater volume of resources and capital to purchase an equal amount of combat-necessary goods, they will be eventually forced by budget constraints to decrease funding to other operations, leaving them in disrepair. This will rot the enemy's entire infrastructure from the inside out by leaving combat teams without the support necessary to remain effective. The benefits from this are twofold in that not only will this hurt enemy operations but will also give opportunity to redirect those extra resources expended by the enemy into friendly organizations operating in the same market.

In dealing with friendly organizations and combat forces, as already noted, they stand to benefit from an offensive strategy, described above, if placed properly in the market. For those organizations that do not compete with enemy forces or those that support the enemy, it is possible to increase profitability for the goods that these organizations produce by decreased market supply, eliminating competitors or using predatory pricing practices. At the same time, it is possible to create surpluses for those resources purchased by these particular organizations. Both methods would improve terms of trade for friendly and neutral organizations. Should these friendly companies in question already compete directly with the enemy or the organizations that deal directly with the enemy, then organizational support for them in the form of investment, loan, and purchase contracts can help them obtain economies of scale (a scenario in which companies reduce costs through bulk production, discussed in more detail in a later chapter in Part II) and further exacerbate the enemy's market weakness by decreasing the price competitiveness of the companies the enemy deals with. This will strengthen the influence that friendly forces have on market and increase their dominance in the region, although this is discussed in greater detail in a later chapter.

9.3 Industries to Target

Since these tactics do not necessarily decrease the availability of critical supplies such as foods, water, and livestock to the general populace, they are not prohibited by the Geneva Convention or any other treaties. No alterations need to actually reduce the total amount of supplies available on a macro-level, they simply change who is selling these resources and to whom. As noted, many of these tactics actually increase supply, which makes prices more affordable, but even those tactics whose purpose is in reducing availability may focus specifically on reducing availability through carefully planned channels. This helps by distributing exclusively to civilian markets which will still create shortages for targeted organizations while minimizing collateral damage. This, in itself, gives trade manipulation a strong advantage over supply manipulation in that no specific supplies are off-limits due to the legal constraints of the Geneva Convention or other laws of warfare.

Although all resources can be targeted for trade manipulation tactics, which is an advantage over supply manipulation thanks to a lack of regulation by the United Nations, trade manipulation and supply manipulation are alike in that certain industries will hold greater tactical importance than others. Altering the markets for goods that neither the enemy nor those that supply it buy or sell will not have a great influence on their operations. Increasing price for those goods that are required for primary combat operations will have a much greater influence as the enemy will give up much to maintain an ample stock.

Despite all this seeming potential described above for the use of terms of trades alterations in combat, it is important to note that this can be a rather slow process with little, if any, significant influence on the battle field within a timely manner if exclusively employed. Even when considered ceteris paribus ("all other things remaining equal"), the influence of a strategy that relies purely on terms of trade manipulation will be extremely slow. The importance of the terms of trades comes not from direct manipulation that the theory above insinuates if everything were to be measured in a vacuum absent of all other influence, but from the conceptual variations that exist in a practical scenario wherein secondary and tertiary effects of both supply and trade manipulation might be harnessed.

The remainder of the chapters in Part II: Trade Manipulation will focus on different methods of altering the terms of trade for different organizations (both friendly and otherwise) in a particular region, as well

as how best to take advantage of the alterations once they've occurred. The terms of trade does not include simply altering the value of goods, but also altering the value of the work people put forth, as well as the value of money itself. Through the manipulation of these things, it is possible to control the transactions that take place forcing the enemy into a tactically disadvantageous position.

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CHAPTER 10

Preclusive Purchasing

The most basic form of trade manipulation is one that has been used for centuries with varying degrees of success. Preclusive Purchasing is a term that refers to the purchasing of resources with the intent to affect the enemy's ability to purchase the same resources. By purchasing these resources before the enemy, the price of a particular supply will have been increased due to increased demand and the supply of a particular good may not even be adequate to meet their needs.

10.1 Altering Price and Supply

Refer to Fig. 10.1, which shows an illustration of a supply and demand curve for any particular good or service. D_1 is the amount of demand for a good under normal circumstances. Along that curve, the price for that good where supply and demand meets is P_1. Under circumstances of preclusive purchasing, demand increases to curve D_2, which increases price to P_2. In other words, the price of goods will increase for the enemy if one is able to purchase a significantly large enough quantity before the enemy has the opportunity to purchase their own supply. The amount that price will increase for the enemy as a result of the decreased supply is calculated using a formula called Price Elasticity of Supply (PES), as follows:

$$\frac{\Delta(S_2/S_1)}{\Delta(P_2/P_1)}$$

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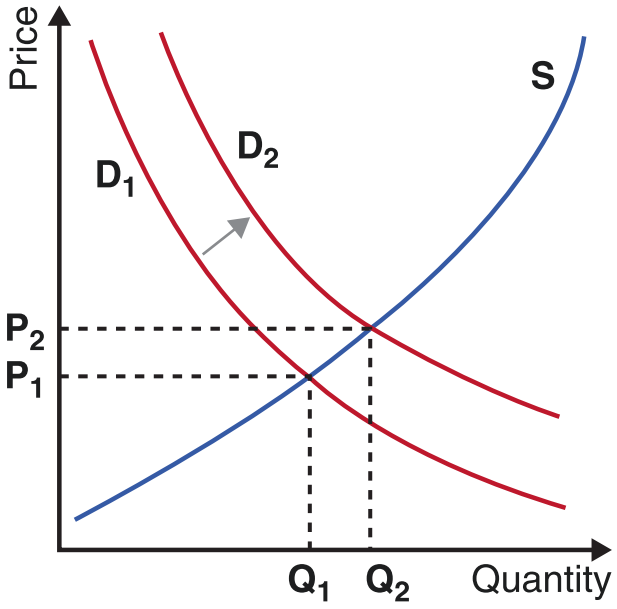


Fig. 10.1 Increased demand

where

Δ Change
(S_2/S_1) % change in supply from its original quantity S_1 to its new quantity S_2
(P_2/P_1) % change in price from its original price P_1 to its new price P_2

The equation says that a percentage change in supply will require a percentage change of price to occur as well. This is caused primarily by an increase in the required total production capabilities that will increase operating costs when demand increases significantly. If, for example, a 1% increase in supply requires a 1% increase in price, then our PES would equal 1 since both are changing at an equivalent rate. If supply changes at a faster rate than price (e.g., a 1% increase in supply requires less than a 1% increase in price), then PES is said to be elastic and has a value of PES > 1. If price changes at a faster rate than supply (e.g., a 1% increase in supply requires more than a 1% increase in price), then PES is said to be inelastic and has a value of PES < 1.

Referring back to Fig. 2.2.1, an increase in price along the supply curve will result in less total quantity demanded. Since the enemy will not be able to afford an equivalent amount of supplies at the higher price level, the amount of influence on the enemy will be:

$$\frac{\Delta(D_2/D_1)}{\Delta(P_2/P_1)}$$

where

Δ Change

(D_2/D_1) % change in demand from its original quantity D_1 to its new quantity D_2

(P_2/P_1) % change in price from its original price P_1 to its new price P_2

This formula calculates the percentage change in the quantity demanded resulting from a percentage change in price P, where demand D, at equilibrium (the point where the supply curve, S, meets curves D_1 and D_2). This is a basic formula for Price Elasticity of Demand (PED) that yields a ratio measuring how much less of a product the enemy can purchase as a result of the price increase resulting from preclusive purchasing. Like PES, PED can be considered elastic (PED > 1), inelastic (PED < 1), or unit elastic (PED = 1). If, for instance, an enemy force cannot increase the amount they will spend, then they will purchase the quantity where P_2 crosses the curve D_1, giving them a shortage of the difference between Q_1 and the quantity they can afford after a preclusive purchasing strategy. If this supply is so critical that they purchase the originally intended quantity Q_1, then the price will be the amount at which Q_1 meets demand curve D_2. Since this price is much higher than anticipated, they will have to reduce the amount of assets allocated to other resources. In either case, the results will be beneficial to those initiating the preclusive purchasing strategy since the purchase was made before the price increase giving them a resource efficiency advantage.

10.2 Tungsten in Nazi Germany

Preclusive purchasing strategies played a vital role during World War II by contributing to the degradation of what was previously the unstoppable production powerhouse that was Germany's industrial sector. Tungsten is an incredibly strong metal that is currently used to break

up the toughest stone such as marble and bedrock during mining operations. At the time, however, it was an ingredient in both armor-piercing bullets as well as the tools used to make tanks, both of which were highly critical supplies among the height of warfare technology that forever changed combat.

Knowing the importance of tungsten to Germany's military strength, the Allied powers used a preclusive purchasing strategy to buy bulk quantities of the metal in order to dry up the supply and drive up price as much as possible. Since Germany's military relied heavily on industrial production, being the first to utilize tanks to transcend the problems associated with trench warfare, as well as capital resources instead of human resources, being that even the majority of German's had been either targeted or alienated by the Nazi party, the shortage of tungsten was a devastating blow to the last source of true strength available to them. They continued to produce tungsten-based products as best as they could, often relying on inferior compounds yielding lower quality results, but at the cost of many of their other production capabilities. This eventually brought their manufacturing capabilities to a halt leaving them open to the already impending defeat at the hands of the allied nations.

10.3 Optimizing Strategy

This strategy works only for those supplies that cannot be easily produced or replaced by the enemy on their own. For instance, attempting to use a preclusive purchasing strategy on rice is an effort in futility. Rice is simply too plentiful and easy to produce for a preclusive purchasing strategy to have an impact large enough that combat operations will be influenced. Rice, in other words, has a very low price elasticity of supply (supply can change quite a lot before price will be influenced). The amount that would have to be purchased to have the desired impact would surely be in such great quantities that the cost would harm one's own forces through gross mismanagement of resources. More complex products that require specialized knowledge, machinery, or capabilities are better targets since they cannot as easily be replaced. As in the example above, tungsten requires specialized mining equipment to extract it, assuming one even has access to the tungsten at all, given that it is not widely available. As a result, once the tungsten was taken using a preclusive purchasing strategy, the price of purchasing more would have

included additional machinery and possibly even additional mines to extract the material faster. Tungsten was also a material critical to continuing primary combat operations, which was an important variable. Those supplies that must be had for purposes of defense will take precedence otherwise one must soon concede defeat without the means to fight back. While aluminum is a readily available material regularly used in jets, the titanium used to make parts of these same jets is not as easily acquired. Thus, when targeting the ability of a nation to produce jets, titanium would be a more effective target for preclusive purchasing. Once the trade manipulation strategy is in place, the enemy's jets would be the ideal target for a physical strike.

As described, this strategy does not necessarily need to create shortages but must create increases in price to the point where shortages result from the enemy's inability to afford the increased price. Since they must expend the additional resources to obtain an equal quantity of product it contributes greatly to the misallocation of resources to the war effort. As noted in the example of the USSR (Part I, Chapter 2), this harms the nation's economy as a whole since economies based on military consumption, whether they are nationwide or among subcultures, cannot be sustained on their own forcing them to trade. Since these groups must trade in order to get the resources they need to sustain their operations, preclusive purchasing can be used as an effective addition to supply manipulation strategies to augment the effects of each and expedite the economic implosion of the organization being targeted.

Tungsten is not a material that has many, if any, comparable substitutes. Of course, preclusive purchasing is best used for such resources that have no substitutes or for which a substitute cannot be readily acquired (perhaps as a result of supply manipulation strategies). This will not always be the case, however. For those times that an alternative is available, we must resort to a calculation of Cross Elasticity of Demand (CED). This is measured as such:

$$\frac{\Delta(D_{B2}/D_{B1})}{\Delta(P_{A2}/P_{A1})}$$

where

Δ Change
(D_{B2}/D_{B1}) % change in demand of a competing product
(P_{A2}/P_{A1}) % change in price from an original product

The calculation says simply that if the price for some product increases that people will seek a substitution. In this case, the impact on the enemy will still be an equivalent of the total quantity of a resource demanded but that one will not be able to harm them as much since there is an alternative available to mitigate the amount of potential damage. In this calculation, if demand for the substitute changes slower than price of the original product ($CED < 1$), then the substitute is deemed to be an inferior good; one in which the enemy would prefer to not have to use, which is important since the quality of their assets will likely result in operating problems. If $CED = 1$ or $CED > 1$, then it can be deduced that the alternative is of equivalent or better quality but had previously priced too high relative to the product used.

In the modern era, with the technological advances in communication, information, and transportation that the ages have brought, improvements in these very fields allow undesirable groups to trade unrestricted and unhindered even in the radioactive materials used to make nuclear weapons. Preemptively purchasing such materials may be one of the best strategies we have to keep such materials out of the hands of terrorist organizations with the ability and intention of attacking civilians. By driving down supply and driving up prices, these materials will become scarcer and less affordable. The continued over-purchasing of such excessive inventory may not be sustainable for long, however, particularly with more widely available resources, so making use of the time available by using some other strategy during the temporary shortage would likely be necessary. While preclusive purchasing has been effective in the past, it can be an expensive strategy to employ and should be used in the context of a broader military strategy that, perhaps, utilizes other forms of trade manipulation that require less direct expenditures.

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CHAPTER 11

Resource Appropriation

Sun Tzu, often toted as one of the greatest military minds in history, is among the first, if not the very first, to record in writing topics on the economics of warfare. He has written on subjects ranging from motivating soldiers using monetary incentives for each of a type of enemy killed (a chariot was worth more than a foot soldier) to gathering intelligence on the enemy's supply usage in order to predict their actions. In particular, he was very concerned about replenishing those supplies consumed by soldiers during extended travel where shipping additional supplies would be difficult. In his book *The Art of War*, Sun Tzu says that, "Each pound of food taken from the enemy is worth 20 pounds you provide yourself." Now, of course pounds weren't the unit of measure during Sun Tzu's time but the meaning of the translation remains valid, even if the exact measure may vary.

What he is referring to in this passage is that those supplies of the enemy, once conquered, should be expropriated to become the supplies of one's own forces. Each side of a conflict will expend a tremendous amount of money, machinery, and manpower to distribute supplies to troops in a combat theater, typically facing great hardship to ensure that it is received by the people intended with no guarantees that it will. As illustrated in the example in Chapter 2 on the United States Civil War, the issue of supply distribution can be so crucial as to become a deciding factor in a war. Even in the modern era, from the time 1 unit of food has been made until the time it reaches the intended consumer, not only have many days or weeks gone by but it has changed hands many times

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and gone through highly treacherous regions prone to attack by enemy forces. The odds of said 1 unit of food arriving in edible condition and in time to reach the intended consumer may, at times, seem formidable.

11.1 The Value of Supplies

Sun Tzu's calculation of 1 pound of food taken being worth 20 pounds of food shipped comes from accounting for the number of man-hours and resources expended to ship the food from point A to point B, including that which does not make it in edible form. So, for the amount of resources spent to receive 1 unit of food by taking it from defeated enemies, one would have otherwise spent 20 times that amount of resources to receive an equivalent amount through shipping it from home and the further one moves from their homeland the value ratio only increases.

This analysis is elegant in its simplicity and it provides another fundamental basis in trade manipulation that can be expanded upon, yet it is one that is very much ignored by the modern militaries of developed nations. By itself, the expropriating of the spoils of war is simply decreasing the terms of trade for the conquering force. They must expend fewer resources to obtain the necessary supplies because of an increased supply created by gaining access to enemy caches. This creates a market surplus for one's own forces while creating a shortage for the enemy forces returning defeated but alive who would have otherwise utilized the now expropriated goods. This not only keeps one's own forces with ample supplies for continuing combat operations but also allows those supporting operations that would previously have been transporting food, or at least the funds expended to mobilize them, to be allocated in a manner more directly beneficial.

A resource that is destroyed or locked away is one that could more efficiently be utilized by those that won that resource in combat. Still, it is the view of many modern militaries that this practice leads to deviations from their processes and plans, which may lead to errors and fatal malfunctions. Enemy weaponry, although readily available from fallen soldiers, may be prone to misfire or other such malfunctions. Supplies such as food, if defeat is imminent, can be poisoned in a final attempt to harm the conquering force even after they have won. The taking of supplies of the conquered, particularly of the dead, can be seen by many to be taboo or at least distasteful. There are a variety of reasons why policy

officially restricts people from expropriating these potentially highly valuable supplies but they can still be utilized in other ways for those with the aptitude to do so.

For those supplies that cannot be utilized, will not be utilized, or otherwise aren't needed by those in possession of them, they can be used to trade. Tactically, trading, selling, or giving away these supplies will provide the opportunity to obtain resources that can be of use in exchange for those that aren't necessarily needed. An enemy AK-47, though restricted for use in combat by any US soldier (who are authorized to use only of the weapons they are issued), can relatively easily be traded for food, gasoline, or any other number of supplies that might be needed. Not only does this help to more efficiently restock needed supplies but also provides additional resources to those individuals and groups assisting in the fight against the adversary. An important concern to remember for these circumstances is to be certain with whom one is trading. While trading the weapon for some other goods even directly with the enemy still creates a net gain for one's own forces, since the trade was done with an item that otherwise would not have been available to the enemy, providing them with supplies that they desire is hardly strategically sound. Trading with neutral civilians will provide a benefit of near equal value to the item being traded at fair market price, as opposed to trading with the enemy with whom any benefit for them can be considered a detriment for one's self thereby reducing the value of the trade. The most beneficial circumstance is to trade, sell, or give away to organizations, individuals, or groups fighting for the same side. By sharing these resources that otherwise would not have been used, it is possible to strengthen one side of the overall conflict by reinforcing others on the same side of the conflict with surplus supplies. If the trade is not with an organization that will use it, then making it with an organization that can turn around and profit from sale of the item will also help increase capital and influence for those sympathetic to your cause.

The acquisition of surplus supplies through expropriation allows a force to refill their own supplies, refill for the supplies of others, or tactically trade the supplies with those friendly organizations that will benefit from it (a topic looked at in detail later). The cost of doing this by traditional methods is extensive and should be utilized only to supplement in times where it becomes necessary. The alteration in terms of trade will both create surpluses for one's self and their allies while maintaining a shortage for the enemy. This circumstance can further be exploited in important ways discussed further in a later chapter.

11.2 Daesh Oil

The most prominent terrorist organization in the world is Daesh (otherwise known as ISIS even in other parts of this book that date back to the original 1st edition, but I will be using the term "Daesh" here since it was revealed in 2015 that they consider the word unfavorable). Easily the wealthiest of insurgent organizations, their annual revenues peaked at roughly $2 billion in 2015, according to the World Economic Forum. With the bulk of each of their attacks costing them somewhere between $1000 and $10,000, the high volume of their operations across the Middle East certainly requires a consistent source of funding.

Daesh began by funding their operations primarily through extortion, threatening the public of cities and villages that they would be killed or harmed in some other manner if money was not provided. It was not their goal to destroy these places, though they were more than willing to do so given the slightest reason. Knowing that raising capital was key to sustaining their operations, it was their strategy to appropriate the resources in these regions and generate revenues internally. By 2015, they had largely accomplished this goal, with slightly over 74% of their total revenues coming from appropriated assets. The most valuable of these assets was merely territory—they had taken control of regions and were now collecting taxes and fees worth roughly $600 million. What was once included in their extortion revenues was now considered by them to be legitimate taxation of economic activity within their borders. Another $490 million came from the seizure of oil and gas facilities which were then used, as normal, to export both oil and gas. The remainder of their revenues were still generated by extortion, with a very small percentage generated through kidnapping.

What their strategy did not take into consideration was that once these operations were under Daesh control rather than neutral civilians being extorted, that made the facilities fair targets for bombing raids. Since these assets were now owned and operated by the opposition, global joint efforts destroyed the vast majority of everything they had attained. Just one year later in 2016, their revenues had dropped by 53%, as the total of their internal operations generated just $525 million.

The example of Daesh demonstrates two things. First, that appropriating resources from territories won in battle can be tremendously beneficial. Second, it demonstrates the risk with taking formal control of active facilities. Simply stripping assets eliminates them as potential targets, but

also prevents them from producing ongoing value. Taking control of a region, but allowing that region to maintain autonomy while benefitting from normal operations without declaring ownership of assets or the region itself turns the situation into one of mere occupation in which the opposition has a moral, legal, and economic conundrum regarding whether or not to destroy assets from which an occupying force is benefitting but which still operate under civilian ownership and control. Either way, Daesh stretched itself too far in the pursuit of internally generated revenues and could not defend their own assets and operations.

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CHAPTER 12

Supply Exploitations

One of the primary shortcomings of supply manipulation and many strategies of trade manipulation is that any time an artificial shortage is created either through economic combat strategies, legal prohibitions, price requirements (such as minimum wage laws), and other such concerns, a black market will be created to meet the demand. If a blockade or other limitation is put into place where traditional methods of transacting sales are no longer a viable option there will always certainly be those willing to risk alternate means in order to profit from the circumstances. Having the knowledge that black market trading is the unavoidable result of many forms of economic manipulation allows one to anticipate and appropriately act in a manner that exploits this inevitability to the further detriment of enemy forces. Once one understands that supplies cannot, in most circumstances, simply be stopped, the opportunity to leverage the way in which these supplies enter the region becomes a possibility with very powerful potential.

12.1 Anticipating Black Markets

The first thing to understand is the motivation behind black market trading. Almost counterintuitively, it is the very prohibition of trade that creates the increased profits for those that continue to provide a supply of the goods and services prohibited by the economic mission. The cause of this is twofold: (1) The increased risk associated with moving goods in and out of the cordoned region requires suppliers to charge a risk premium in

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order to yield profits great enough to offset the costs associated with said risk such as defending against attack, legal trouble, and seized shipments and (2) The decreased competition from the elimination of legitimate industry allows suppliers to reap monopoly or oligopoly profits. In other words, with little competition the suppliers of black market goods will not necessarily have to reduce price to meet competition allowing them to make extraordinary profits. The equation reads as follows:

$$P_{\mathrm{BM}} = \beta_{\mathrm{BM}}(R + R_{\mathrm{E}} - \mathrm{TC})$$

where

P_{BM} Black market profits
β_{BM} Black market risk premium
R Revenues
R_{E} Revenues in excess of competitive market equilibrium
TC Total Cost

A supplier operating in a market with no competition will maximize profits by selling at a restrained supply at higher prices as compared to market conditions. As long as the company is able to restrict competition from entering the market, such as might occur when an outside force stops new competition from entering the market by using supply manipulation strategies, they will continue to see above normal profits. R and R_{E} are distinguished as portions of total revenues (TR) in order to show the increased profitability from no competition.

Note that the total revenue that a company earns is maximized where marginal cost equals marginal revenue. Marginal cost is the cost that it takes to produce one additional unit of output. Marginal revenue is the additional revenue that a company earns from selling one additional unit. In order to continue increasing the volume of sales, they must decrease price in order to attract people that either couldn't afford the product or didn't place enough value on the product to pay the higher price, so marginal revenues go down with increased quantity. On the other hand, a company must continuously increase their potential production volume, which costs money, to continuously producing marginally more output, so marginal costs go up with increased quantity. It is at the point where marginal costs begin to surpass marginal costs that a company's profitability begins to decrease. For competitive companies, ones where an increase in price would mean a loss of customers to competitors, marginal revenues equal average revenues (because the price doesn't change,

so both are equal to price) and the difference between average revenues and average costs is the level of average profitability for the maximized revenues. Monopolists are bit different in that they can charge at a price that generates additional profits, giving them a greater amount of resources with which to control the market.

In the circumstance that there are multiple but very few competitors they will still obtain the R_E extraordinary profits by colluding to form a cartel that generates profits similar or equivalent to monopolist profits, such is the case with the drug cartels of Mexico or the oil-producing members of OPEC. The black market risk premium, $\beta_{BM,}$ comes from the increased returns that operatives in the black market must see to make it worth investing in the venture to begin with. This premium covers the increased costs associated with participating in black market activities such as attacks, theft, and seized shipments, as well as the returns on owner's equity that will exceed those received by the same operations during normal market competition.

With an understanding of how profits are maximized under black market conditions and that the incentive to participate in black market activities grow with increases in the severity of supply shortages, it becomes possible to exploit the black market and use these incentives to one's own benefit. The most important thing to recognize is that, unlike the case of Rome, the vast majority of regions are not walled in and ensuring with 100% accuracy that your attempts to create supply shortages are all but impossible. Accepting that one's attempts are not perfect and that black markets are almost certain to occur is a critical factor in keeping these black markets under one's own control in order to benefit both from their profitability as well as their exact distribution within the region. This is done, simply put, by intentionally creating weaknesses in the shortage strategy and allowing supplies to reenter the region but on terms and in ways that are closely managed.

12.2 Supply Exploitation and the Second Sack of Rome

These strategies of manipulating the reintroduction of supplies into a region allowed the Ostrogoths to defeat Rome a second time, this time quite easily. To review from Chapter 2, the Ostrogoths had thoroughly defeated the Roman capital of Constantinople without a single casualty by cutting off supplies into the city and starving the population into submission. A short leave of absence by the Ostrogoths allowed the Romans

to quickly restock their supplies, push out a small occupying force and take back the city from the conquering invaders. Resources were still at dangerously low levels; however, and a second tragic shortage of food threatened the remaining population if they didn't manage to secure a continuous source. Rather than attempting a second, lengthy campaign blocking the gates into the city, the Ostrogoths recognized conflict within the city that they could exploit. Rather than stopping the flow of resources into the capital, they carefully reintroduced food through their own controlled channels that went to those within the city that had allied against Rome in order to avoid further hardships. By using these individuals to exert influence from within the city, they were able to overthrow Rome a second time, again without any casualties.

Creating shortages one's self does not make all these strategies possible since a number of other factors can weaken this approach on the surface. There are a number of secondary effects that these strategies have on the general population, however, that amplify their results and make them a viable option. These effects are automatic and do not require additional effort, and the source is exclusively the human behavior that is exhibited by those within the affected region which will create additional shortages of supplies and capital. First, all shortages encourage people to hoard and ration for themselves what little goods of any particular type that remain available. During a shortage, it's true that allowing friendly forces to distribute goods to neutral individuals will have a secondary impact of having some of those supplies find their way into enemy hands. This is strictly mitigated during a shortage, however, by the natural filter of the hoarding behaviors exhibited by those experiencing the effects of the shortage. Such behavior discourages trade of even many other goods as people fear the shortage will spread beyond the goods in shortage at the moment. Recall from Part I, Chapter 2 that combatant groups produce little or nothing of their own without the assistance of external individuals and organizations. The hardships from the hoarding behavior will then be exaggerated for these groups since they must find a way to acquire everything they need without actually producing goods of their own for consumption or for barter.

Even without production of their own, as with all combatant groups, they have methods of obtaining capital to purchase goods. The behaviors associated with shortages will extend to limit their access to capital as well, though. The poor terms of trade associated with the black market pricing will redirect capital away from enemy forces and into the

control of friendly forces, as described earlier. The unstable economy in the region and hardships faced by the enemy will also force those who fund or command the distribution of resources to focus their investments in an inefficient manner as a result of this decreasing the availability of investments. This is exacerbated by the fact that the faltering economy in the region will cause decreased production of resources at all levels thereby increasing overall prices and decreasing overall availability of resources to anyone trading outside the channels created by one's own forces. Together this process is known as capital flight which is a term usually reserved for international trade but, as is the case with the regional processes we've described, it can be applied here as well. The important point is that assets and capital are moving away from the control of the enemy both in terms of ownership and in geography. These artificial changes in the distribution of capital, resources, and ownership are easily leveraged, which will be discussed in detail during Part III.

12.3 Secondary Impacts

First, identifying those individuals and groups within the region whose goals are aligned with one's own or are sympathetic to the cause creates important channels through which to reintroduce goods. Recall from Chapter 8 that one of the problems associated with creating full shortages is that the hardships created from a lack of supplies will affect everyone in the region indiscriminately, hindering the operational capabilities of both friend and foe. Using black market exploitation, this issue can be resolved by carefully opening up supply channels either by guarded shipments or direct shipments as a military wholesaler to provide important supplies to those who stand to assist against a common enemy. This allows the enemy to remain in strict shortage, even if a minute percentage of supplies do reach the enemy either by theft internally or externally, while maintaining or expanding on the strengths of cooperative forces. This will contribute to tipping the balance of strength in the region to those assisting in one's own side of the fight in a more effective way than simply providing these groups with supplies without creating shortages for the enemy, as is currently done by many developed nations.

Creating shortages for friend and foe alike creates black market pressures from all sides of the conflict. A neutral force in shortage may just as easily develop black market distribution channels within the region as the enemy themselves. Even friendly forces may open up a black market

channel that then proves to be unmanageable as the supplies eventually make their way to the enemy. The goal is to ensure that distribution is carefully managed allowing these friendly forces to benefit from the black market profitability. During a shortage, any force that is able to distribute the much-needed supplies to the general populace will be creating a favorable image for themselves as the ones to assist people. This will be an important variable while positioning public opinion against any cooperation with enemy combatants as they will want to continue receiving the benefits of the distributions. Especially so during these operations as it is only through the neutral populace that the enemy could receive the supplies they need, so a negative public opinion will help maintain their shortage status. The increased profitability of these goods will also attract individuals looking to benefit from the trade, however. Keeping these individuals who are happy to trade with friendly forces and who desire an improved quality of life associated with having not only an ample supply of resources but also keep them profiting from trade in one's own influence will give incentive to all to either stay in the favor of friendly forces or switch sides. Individuals will view it as in their own best interest to be associated with those in the conflict providing resources to their people and who have the highest quality of life.

Allowing friendly forces to trade in blocked goods in the area will give them multiple important advantages. First, they will improve in combat readiness by ensuring they maintain an ample supply of resources. Second, trading in the surplus goods that they cannot consume by law, or will not consume by nature of there simply being too great a quantity, during the course of the conflict will give them an important logistical advantage. Finally, ensuring that public hardships created for civilians are relieved by friendly forces will help to sway public opinion by creating a favorable public image of providers and saviors, while presenting the opportunity to create the image of the opposition forces as those who are the source of the hardships. By opening up distribution channels managed by their own forces and receiving the excess black market profits during the shortage, these forces could stand to benefit even from trading with the enemy who is spending excess resources to obtain the black market priced goods. This disproportionate shift in assets (e.g., trading $2,000 for a $500 rifle because of black market pricing) increases the ownership stake that friendly forces have over the wealth in the region and, particularly, related to that good. The amount of assets under the control of each side of the conflict will quickly shift to

the favor of the friendly side as they profit from the loss of the enemy. This provides an increased differential in influence in the region as the enemy more quickly exhausts their supply of assets and friendly forces are able to not only further increase the amount of assets they have but also diversify their control over other assets by obtaining control over an increased proportion of total wealth in the region and using these resources to pursue additional economic strategies, many discussed in Part III.

Even providing groups with similar goals supplies can have its risks so one must know a great amount about the recipients or risk long-term problems. Simply because a group has similar goals doesn't mean that the group is necessarily friendly or that they will remain cooperative after the conflict is resolved. During the Cold War, the USA provided funds to the Afghan Mujahedeen, who were a loosely connected group of conservative Muslims with political influence. The funds were to be used to assist in the Afghani fight against Soviet troops during the Western expansion of the USSR. Although the USA and Mujahedeen were both fighting against a common enemy during the same time the USA was providing them funds many were joining Al-Qaeda, bringing with them weaponry and other supplies purchased with US funds. This group, although antagonistic with the Soviets, was not friendly with the USA, either. Years later for at least a decade during the early twenty-first century, Al-Qaeda was a primary threat to US forces during their involvement in the Middle East.

During a point where the enemy has already achieved black market methods of obtaining supplies or will inevitably do so, one should provide them those resources as an anonymous supplier through local channels. The monopolistic profits spent by unfriendly forces to obtain these supplies will be directed to friendly forces, contributing over time to the disparity of asset ownership and local influence that puts friendly forces at an advantage discussed in greater detail in Part III. Doing this will relieve the black market pressures created as enemy combatants search for alternative methods to obtain critical goods which not only provides friendly forces with the assets being drained from the enemy in the long term but also presents the opportunity to put the enemy at an additional disadvantage in the short term. Having differentiated between the supply channels of friends and foes, it is possible to differentiate between those supplies they are receiving. By channeling a continuous supply of poor quality weapons to the enemy, they will decrease their search for black

market channels. This maintains an operational disadvantage that could be critical in combat. Once it has been determined that a supply is defective alternate means will be sought after again. The exact time period that this will remain effective for depends on if one can maintain a supply of defective goods through different channels available to the enemy and exactly which supplies are defective. Defective boots may not be effective for long but defective grains that are poisoned with ergot (a common toxic fungus found in grains stored in a moist place if left unprocessed) will have a much greater impact. Taking control of a grain field would allow troops to ensure that civilians and friendly forces continue to get a fresh supply of food while at least a portion of the scarce supplies the enemy receives will be toxic.

An example with lower risk of reaching civilian populations could include distributing to the enemy weapons that do not work properly or that have some improperly working component will put those individuals at a distinct disadvantage when fighting against forces operating at full potential. Knowing that one of the more devastating methods of warfare employed by terrorists in the Middle East is the use of IEDs, improvised explosive devices made from common materials, it would benefit friendly forces that do not rely on such methods to flood the market with faulty or defective materials commonly used in the making of these devices. This would decrease the probability that any device planted would function properly thereby decreasing the overall effectiveness and either force the enemy to remain at lower levels of combat readiness or use additional resources than normal to remain an equal threat but while pursuing less efficient methods of attack. This does not even require one to provide the enemy with completed weapons with defects which could be difficult to trace but, rather, simply allow a supply of defective components that are more difficult to trace through in order to give the enemy the confidence they require to reveal themselves in combat but having unexpectedly low combat readiness all while alleviating the black market pressures that would have otherwise allowed the enemy to receiving working components.

As the level of shortage increases the amount of pressure for black market transactions to take place will mount since the number of people in need of supplies grows as well as their level of desperation for said supplies. Strategies that target fewer varieties of supplies or that implement less strict measures of control will not only be less effective in their initial impact but will also render additional strategies that exploit black market

pressures less effective. This occurs as fewer people become involved in the black market since either the shortage is not as severe, the supplies that are in shortage are less critical, or as distribution channels other than those under the control of one's own forces move to compete for the same market base. The exact strength of the current supply shortage and one's control over stopping the import supply must be considered when weighing the potential for this approach. Although general blockades tend to have negative consequences that outweigh the potential benefits by themselves, it is when one is already in place that such a black market exploitation strategy is most effective. Full blockades have been attempted time and again for centuries and understanding how to use them to your benefit in a more tactical setting rather than for political purposes will be an important contribution, although a more targeted strategy should always be the primary goal in order to maximize the effect while minimizing collateral damage.

12.4 Peter Singer on North Korea

On April 16, 2017, North Korea performed yet another of a long series of missile tests, which have been improving in range and reliability at a tremendously slow rate. Over the course of 2017, these tests have become more provocative, as two of them were aimed directly at Japanese territory, but without intent to actually harm anyone, as both missiles landed in the ocean. The question that spanned the media immediately after April 16th was whether the USA has used cyberattacks to sabotage the missile test.

According to Peter Warren Singer, a political and military scholar (not to be confused with Peter Singer, the moral philosopher), cyberattacks were never really an option to accomplish that task. Instead, Singer makes the recommendation that the 1st edition of Economics and Modern Warfare made back in 2012: Go after the supply chain. According to Singer, "You could go after the supply chain, embedding flaws in parts and systems that they are using." This is an identical method proposed 5 years prior, and which permeates several chapters of this book, in which utilizing relationships, ownership, or labor within suppliers of components used to produce missiles or other military assets could be used to alter those components in strategically beneficial ways. As noted in this book, however, merely sabotaging things such as missile tests is obvious and of limited value. Yes, the missile test may fail, but

an investigation into the failure will raise suspicions as to its cause, giving North Korea an opportunity to resolve the problem. The benefits of such an approach are simply that the test will fail, as well, which has finite strategic benefit. The example used previously in this book is the exploitation of communications components, so that opposition equipment can be monitored on an ongoing basis, or that covert communications can be sent to disrupt opposition operations and even attempt to coordinate an internal coup. This has much more value than simply taking the opportunity to cut off communications at an opportune time. With a missile test, sabotaging in a manner that causes a simple test failure will have some benefit, but there is so much more that could be accomplished. For example, allowing for successful tests and encouraging their success until a time comes with North Korea actually intends to use the missiles in active combat, at which point a switch could be activated that causes the missiles to explode upon launch, destroying critical strategic assets within the launch vicinity. Incorporating censors to acquire intelligence on their missile and nuclear programs, and monitor the progress of their development would also be useful beyond creating the failure of a single missile test. If you have enough control over a vital part of the supply chain that has few competitors, then allowing North Korea to continue their testing until they feel they are ready to begin stockpiling weapons in preparation for war, at which point stopping all shipments of all possible components would prevent them from being combat-ready, while simultaneously creating intelligence on their resource consumption in order to predict their intentions in the near future. Such a strategic position would allow one to catch a nation completely by surprise.



CHAPTER 13

Tactical Hiring

In Chapter 4, the importance of hiring foreign nationals and, in particular, those individuals either neutral or who have changed sides from working with the enemy, was stressed. Up until now, however, the issues of quality of life have only been hinted at as a method of giving these individuals incentive to associate themselves with an organization whose purpose it is to be involved in combat and, in extreme examples, even encouraging individuals to change their allegiance in the conflict. In supply manipulation, this was done simply to reduce the quantity and quality of skilled workers for the enemy and provide one's own people with an ample supply for high quality individuals ready to be utilized. Since the high pay will attract not only better people but also more people, the amount that people could expect from other employers would increase as well putting the quality workers out of the price range of enemy combatants otherwise using local wage levels without allocating a disproportionate amount of resources to supporting operations rather than combat operations thereby leaving them understaffed and with inferior labor quality.

13.1 Labor Market Equilibrium

People are attracted by more than just money. In fact, income is just a necessity, but it does little to really draw the attention of people. People get excited and are most motivated when their income is a secondary consideration and they can focus on the pursuit of freedom and equality,

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and arguably most important (but least available) is the pursuit of one's passions as they work toward contributing to that which is important to them in meaningful ways. In trade manipulation, we take a closer look at the secondary effects of improving the wages and other matters of quality of life (called "motivators") for those individuals willing and able to associate themselves with friendly forces. Often this wage increase can be accomplished by merely paying wages equivalent to those received if your own citizens were performing the same job rather than the normal local competitive wages. This increased wealth among a proportion of the people in the region will cause increased consumption as they purchase more goods and services to continue providing for the military what they have been hired to provide as well as to improve their own quality of life consistent with their ability to afford it. The increased demand from this will raise overall prices causing inflation in the cost of living in a regionalized area, as it always does, thereby causing additional pricing and supply inconsistencies with what the enemy continues to work on and maintain funding for. This is partly the result of a lack of wealth and inflation in those regions outside the affected area including others in which the enemy operates as well as asymmetrical information which will leave the enemy unprepared for the pricing changes as they continue to work on outdated budgets and asset allocations.

Money alone does not motivate, however. The things that attract and motivate high quality workers can vary widely, and a comprehensive compensation package that includes both financial and non-financial motivators must be used. Herzberg's Two-Factor Theory of motivation (Fig. 13.1) states that some factors associated with any action we take, particularly related to work, and says that money is a "hygiene" factor. Hygiene, in this case, means that it is a thing that must meet minimum expectations for a person to continue participating in it at the most basic level but it will never motivate a person to achieve. In other words, a job must pay a minimum amount for someone to consider taking it but they will only do the minimum amount of work necessary to keep it unless they have some other motivating factor. These motivating factors include such things as personal achievement, quality of life, self-actualization, increased responsibility, and a sense of purpose and ownership in one's own work. Hygiene factors include money, safety, health and cleanliness, and other things that many simply take for granted but must still be fulfilled for people to even consider continuing to offer their services.

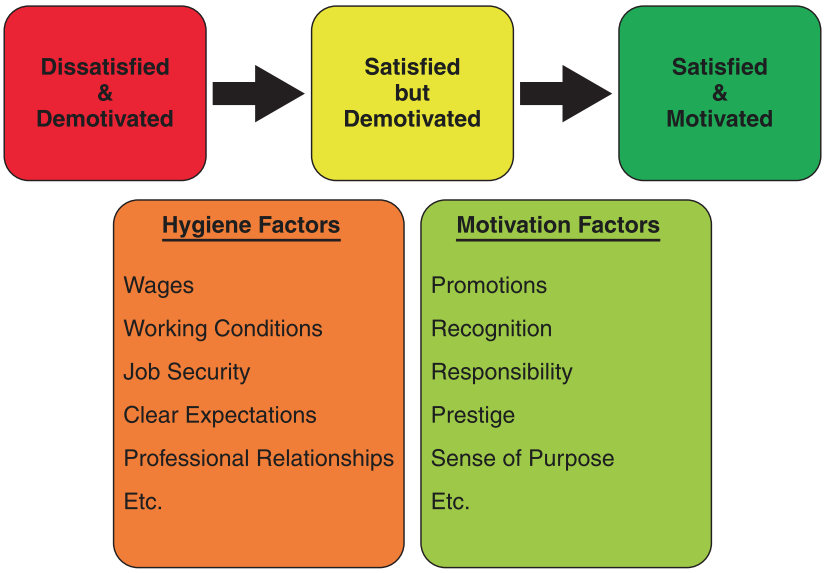


Fig. 13.1 Herzberg's two-factor theory

Maslow's Hierarchy of Needs gives a similar representation wherein one must have a minimum of at least those things required for survival to participate in something but will find real motivation in pursuing self-actualization. Each tier of the hierarchy builds upon the previous, wherein one must meet the minimum of requirements for the lowest tier before pursuing the next will matter, and the greatest motivation is derived from the top tiers. Maslow explained the tiers as follows:

Physiological Needs: The bottom tier requires one to have the basics of survival such as food, water, shelter, sleep, and air. Without these things, no amount of additional motivating factors will yield results.

Safety Needs: Directly above the physiological tier, one requires a certain degree of safety to their self, their family, and their career. If one does not feel secure in the sense that every possible precaution is being taken or that their career is not at risk, then it is impossible for them to feel motivated.

Belonging Needs: Directly above the safety tier, a sense of belonging will help to motivate an individual. Whether that is through the desire to work with a team that they appreciate, or to be held accountable to

people whose opinions they value, a sense of belonging will utilize social dynamics to motivate an individual.

Esteem Needs: Directly above the belonging tier, esteem includes one's desire to obtain such things as personal achievement, the respect of others, and general recognition. To feel accomplished in one's tasks will greatly motivate one to pursue their tasks.

Self-actualization Needs: The top tier, self-actualization includes those things that allow a person to utilize their expertise in a manner that allows for self-expression and development by pursuing things in a way that interests them. If a person can be creative and spontaneous in their work through problem solving and the development of their own study, they take a great amount of ownership in their tasks making the work their own and creating motivation by keeping one accountable only to their own sense of love for their work.

These studies in motivation are important to trade manipulation because unlike food and weapons, people are not so readily manipulated in this respect but if they can be reached then the impact extends far beyond that of the mere value of that person as capital asset as described above. Unlike other assets, labor and human resources are paid for in a variety of means and one must take into account the motivations of the people they are attempting to attract in order to properly pay them for their services. Improving the quality of life for soldiers deployed has always been an issue related to military morale but when hiring foreign nations in a combat region it is important for them to not only see but also to participate in and, more importantly, believe they can also have a quality of life that is better than what they are currently accustomed to if the conflict is won by their employer. By not just hiring foreign nationals, but also implementing methods to motivate them as well as motivate the people in the region to believe in the cause of why the soldiers are there by showing them what is possible and how the enemy is harming their own well-being, it gives strong incentive to those neutrals and enemy forces to do the same. There is a very careful note here, however. Do not confuse quality of life with quality of culture. This does not talk about bringing McDonalds and X-Box to a foreign people, as many of these cultural differences actually contribute to the friction between people. Focus merely on improving the quality of life in the way they want it to be improved while preserving the local culture at all costs. Exactly which things will motivate people, then, will vary greatly depending on the culture. Using the models of motivation listed, however, and a

familiarity with any group of people, it is entirely possible to determine what those things will be.

13.2 Altering Capital Ownership and Social Dynamics

The idea and motivation processes put into place will merely impact public opinion, however. While this by itself is important to gaining acceptance in the region since they will believe that by simply being there it will benefit them, but it really does very little on a functional level unless it is acted upon. Once people have incentive to cooperate in a resistance against enemy combatants, they must be given opportunity. Note that these are not necessarily combative people but by giving them a purpose to strive for and then specific goals in which to realize their purpose it is possible to take an entire workforce completely out of the hands of the enemy even if one cannot afford to hire or use everyone who desires work at the equilibrium wages. This is seen time and again in resistance movements, including basic union strikes, where people will sacrifice of themselves in order to pursue something they believe in. For a workforce, they must believe they can achieve the working conditions and wages that the people they know have obtained by working with friendly forces. This will naturally attract people to the movement and away from scenarios that put that which they have worked for their whole lives at risk. At a certain point, this general trend away from violence and discontent will cause a regional decrease in unrest as the general populace has the opportunity to improve their wealth to become "fat and happy."

Poverty and instability breed conflict as generalized feelings of hopelessness, frustration, and friction pervade the public consciousness. Those poorest nations are also those with the highest levels of violence while even the richest nations are subject to outbursts of violence and political instability during times of recession. The other side to this is that during times of economic development and increasing wealth, the violence trends toward decreases to the point of ending completely in some areas. A rather modern example is that of Northern Ireland and the brutally violent conflict between the Irish nationalist groups and British loyalists in the region called the Troubles which began in 1969. Northern Ireland was for a long time, and still is, a territory of Britain, which the Irish nationalists did not condone causing violent political conflict. Northern Ireland was for a great length of time very poor but few attributed this to one of the root causes of the violence at the time. This conflict was at

a complete standstill with no clear end, and it wasn't until Ireland began its economic boom (throughout the 1990s and 2000s during which time North Ireland's economy grew at a pace consistently twice as fast as the rest of the UK) and the wealth in the entire nation, including the impoverished Northern region, had improved that people had become more concerned with going to work in order to benefit from this newly found prosperity than launching rockets at each other. After several cease-fires, a power-sharing peace agreement signed in 1998 brought an end to the official conflict. A large percentage of combatants on both sides were members of secondary militant organizations and many of these organizations did not agree with the resolution nor had the inclination to abide by the cease-fires, as shown by the continued attacks during the peacetime cease-fires as well as the sporadic bombings that still occur on rare occasion. As recently as April 2011, a car bomb was detonated by a member of the Real Irish Republican Party. It wasn't the political maneuvering that brought an end to the violence but, rather, it was the decrease in strife resulting from the economic success in the region that caused people to be less likely to resort to measures of violence since they now had more options to improve their lives as well as more to lose in the violence. As North Ireland's economy continues to grow and the quality of living develops in the region, the level of violence continues to taper, showing an inverse correlation between violence and quality of life so prevalent worldwide.

Having reduced the total amount of conflict in the region and the number of people willing to participate in the conflict, only the most loyal and idealistic of the enemy forces will yet to have become neutral or switched sides to assist the friendly forces. The majority have either become content through the economic prosperity achieved by those that associate themselves with friendly forces at any point in the supply chain since the wealth and quality of life generated is higher than that possible by the enemy forces, or have directly joined the friendly forces themselves as a result of the high level of incentive to do so both financially and for self-actualization and achievement. While the enemy may never disappear entirely their influence in the region will be negligible at that point and intense pressure externally will force them to operate in secrecy. This dramatic expansion from Chapter 4 on hiring foreign nationals at wages above normal levels for the region is achieved merely by including quality of life and motivation to that good paying

job. In Chapter 23, this is expanded on even further using the example of Alexander the Great.

13.3 Chinese Technological Dominance

The Chinese government appears to be fully aware of the huge importance that attracting and motivating highly skilled researchers, engineers, mathematicians, scientists, entrepreneurs, and other innovators has to the strength of a nation. Not only does promoting these fields through attractive incentive packages and a healthy working environment increase the economic and technological advances in the nation, but many of those advances also translate into military strength (or new approaches to winning conflicts, such as described in the Modern Warfare trilogy, of which this book is a part). As of 2016, according to the World Economic Forum, China has become the 2nd largest performer of research and development operations, accounting for 20% of total global research and development expenditures and developments, compared to the USA (which holds the 1st place position) which accounts for 27%. Particularly in high-tech manufacturing and knowledge-intensive services, the USA composes 29% of the total global GDP contributions in these fields, while China contributes 27%.

This trend includes not just active professionals, but in the preparation of the next generation of professional researchers, as China has, in many ways, become the world's top educator in STEM fields. China now surpasses the rest of the world in students attaining undergraduate degrees in science and engineering, which account for 49% of all bachelor's degrees in China, and merely 33% of all bachelor's degrees the USA. Of the roughly 6 million undergraduate degrees in STEM fields issued around the world in 2012, China composed 23% of that total, as compared to 12% across the entire European Union, and a measly 9% in the USA. The USA still surpasses all other nations in the awarding of graduate degrees for now, but recent trend seem to indicate that even this will change quite soon.

According to Dan Arvizu, NSB chair, "Other countries see how U.S. investments in R&D and higher education have paid off for our country and are working intensively to build their own scientific capabilities. They understand that scientific discovery and human capital fuel knowledge- and technology-intensive industries and a nation's economic health." China's economic growth and strength in the global export

markets have allowed it to accomplish exactly that goal, dramatically increase its investments in scientific and educational advances. Federal funding has increased more than 400% to $191 billion between 2005 and 2013, and since 2013 total funding dedicated to research and scientific achievements have increased an average of more than 19% per year. The Thousand Talents Program, alone, has been extremely effective. The nature of this program is simply to give preferential pay and benefits to researchers and professors who are already applying for existing positions. The employer pays the typical wages, while the government offers additional perks in order to attract people into working in fields that advance scientific achievements. It has repatriated Chinese scientists working abroad, as well as foreign nationals (to a limited degree), allowing China to jump quickly on promising new technologies, often first developed elsewhere.

Even just in the field of biomedical research, as published last week in the journal JCI Insight, in 2000 China spent only 12% of what the USA did on biomedical research, while by 2015, it surpassed everyone except for the USA by spending 75% of total USA expenditures. All this is set to change, though, and it is very likely that China will surpass the USA in scientific achievements within the next 10 years.

US federal investment in academic and business sector research and development has already been declined in recent years resulting from the lapse of the investments issued through the American Recovery and Reinvestment Act, passing of the Budget Control Act, and greater emphasis on reductions in fiscal expenditures in scientific fields. As a result, between 2008 and 2013, total US expenditures in science as a ratio of GDP have actually decreased an average of 0.4% per year, after adjusting for inflation. Starting in 2017, things have gotten much worse, with the Trump administration making massive cuts (or attempting to make massive cuts) to leading research programs including the National Institute of Health, Centers for Disease Control, Food, and Drug Administration, National Science Foundation, NASA, NOAA, Department of Energy, and the US Geological Survey, among a variety of others; some of which have proposed budget cuts of nearly 100%. The Chinese not only value research and education more than the USA as demonstrated by recent trends in spending, either. A JCI Insight article found that “Chinese researchers have consistently increased the number of articles they publish in high-ranking biomedical journals. The United States, on the other hand, has seen the number of articles published

solely by American authors decline during the same time. This not only has the potential to affect the prestige of our research institutions; in the long run, it could also even affect their ability to compete as fundraisers."

According to Kelvin Droegemeier, NSB vice chair and vice president for research at the University of Oklahoma, "Decreased federal investment is negatively impacting our nation's research universities. Our universities conduct 51% of the nation's basic research and train the next generation of STEM-capable workers. Federal support is essential to developing the new knowledge and human capital that allows the U.S. to innovate and be at the forefront of science and technology."

Besides differences in expenditures and respect allowed to the pursuit of knowledge, there has also been a dramatic increase in hostilities and restrictions on researchers in the USA. Bizarre rules that censor the use of specific words or phrases have been implemented, censorship that prevents researchers from publishing data on particular topics while systematically destroying old data that contradicts political agendas of the US Republican Party have been passed. Scientists in the USA have been resigning in mass volumes due to the hostile environment that prevents them from doing their jobs, the politically oriented direction of agencies and funding, and a general national hostility resulting from an increase in social trends in anti-intellectualism. Scientists are looking to other nations for work, creating one of the biggest exoduses of brain drain the USA has ever seen. If technological superiority is what gave the USA such prowess, then these changes clearly bode poorly for the nation, as other nations such as China take its place in the global order.



CHAPTER 14

Tactical Pricing

The term "predatory business practices" is an umbrella phrase that encompasses any of a variety of actions and strategies a business might take that are meant to improve sales and profits by harming the competition via the hampering of the free market rather than becoming more competitive themselves. Examples of such actions might include filing frivolous lawsuits to delay a competitor from releasing a product or push smaller companies into bankruptcy, purchasing majority ownership of stock in order to control a competing business, selling products cheaper than it costs to make them to force competitors to stop operating, and a number of other similar strategies. These activities are nearly universally discouraged on an official level, being both publicly condemned by industry leaders and legally outlawed by federal law and international trade organizations such as the World Trade Organization (WTO). It is in the nature of military conflicts that all involved should be predatory, providing ample opportunity to take advantage of these actions for tactical purposes. The use of predatory business practices in combat can greatly alter the amount and types of capital available as well as the source of the supply and the degree to which each side of the conflict has influence over it. While this can give great tactical advantages to the one employing such methods, in many cases they also have the potential to be illegal. Caution must be taken to ensure that no treatise, laws, or regulations are being broken while using these strategies.

Whether or not some action is illegal will depend greatly on the associations that each side has. For instance, if both sides of a conflict

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are part of any country that is a member of the WTO, then this may be illegal. If the conflict is between two groups within a single nation where, say, price discrimination is illegal, then participating in price discrimination would be ill-advised. These legal and political variables will have a great degree of influence over how effective predatory business strategies will be in influencing enemy combatants, if at all. Even so, the potential for their use is high given the proper scenario and may not fall within the parameters of illegal or politically sensitive activities at all if done properly.

14.1 Predatory Pricing

Since militaries produce little of their own resources, there is also high potential for businesses that cooperate to gain an important competitive advantage. If offered the opportunity to be involved in many strategies, these businesses can experience extremely large increases in profitability or sales, or in the very least the increased presence will give them a greater market share in the region and the beginnings of a regional expansion strategy even when the conflict ends. This was the original key to success for Coca-Cola, which is available in even the most remote regions of the world thanks to an agreement with the US military that brought their soda to soldiers deployed all over the world, thereby exposing the locals to the product and giving Coca-Cola the distribution infrastructure they required to become one of the most widely recognized brands in the world. Choosing a company carefully, then, to ensure that the company will continue to remain a proper presence in the region is a vital consideration so as to avoid backlash from the introduction of Westernization or lose contact in the region entirely if the company fails or otherwise withdraws, which would be an expensive loss for all parties involved.

One of the simplest forms is the use of predatory pricing, which is when products or services are sold at prices lower than the cost of providing said products or services with the intent of influencing other companies. This is done in order to also sell at prices below cost in order to compete, but if the company is too small and cannot afford to do this, they may simply stop operating entirely instead of pushing themselves into liquidation. Once the competition has stopped providing goods and services, the company using predatory pricing will increase prices to yield monopolist profits. Some economists believe that as new companies

form from the opportunity to sell at lower prices than the new monopoly that the monopoly will have to bring prices back down in order to compete, thereby averaging the same profitability as a competitive market through the process of cycling between net loss and excess net gain. It may be that by continuing to keep competition low, the monopoly sees greater gains than losses from pursuing this strategy, but in either case, the strategy provides important opportunities to obtain strategic trade advantages within the isolated area that will have a long-term impact on regional influence.

From a tactical perspective, even assuming that a company participating in predatory pricing breaks-even during long-term averages from cycles of high profit and large loss, the goals of the strategy remain the same: to gain control of the market by pushing competitors out of business through sub-cost pricing in order to financially force them to stop operations from decreased demand or economic losses. To accomplish this, a company must be open to selling to all potential candidates in order to properly take market share from their competitors. Depending on the proportion of sales made to enemy combatants, this might be done without selling directly to the enemy, but if the enemy composes a large enough proportion of sales for any individual firm, then selling to the enemy might be a requirement in the short term in order to gain total market control in the long term. The very idea of encouraging cooperative organizations to sell or distribute supplies to enemy forces at low cost would anger or even offend some individuals, but for the sake of strategic dominance, one must often set aside reactionary emotions and focus on growing tactical advantage while showing the enemy only the emotions and actions you want them to see. The reward for such restraint and patience is total market dominance in the region for any product(s) and service(s) that one has participated in during the use of strategic predatory pricing.

Once a sufficient size of the competing market has been run out of business, leaving only cooperative organizations and other minor organizations collectively composing less than 10% or so of the market, it becomes possible to them manipulate pricing and distribution in strategic ways. The use of predatory pricing in this manner creates the same opportunities as opening up distribution channels during a shortage, as was discussed in the section on black markets. Instead of taking control of the market by maintaining a blockade or other means of creating shortages, in this case one is taking control of the market by flooding

it with cheap supply. So, like discussed before, one might stop all distribution to enemy combatants, thereby creating supply shortages for them as discussed previously, or one might provide inferior goods to the unsuspecting enemy, thereby decreasing their combat effectiveness, or else one might simply take their resources at inflated monopolistic pricing, creating a shift in the capital ownership and regional influence.

One key difference in this approach, however, is that if there are no other barriers to market entry, new companies will start when the cooperating organizations start yielding monopolistic profits since there is now the opportunity to provide the same goods or services at a lower price, thereby taking back market share at competitive equilibrium. In order for this strategy to be effective, either the sub-cost pricing must be sustained in some form or there must be additional barriers keeping new organizations from forming. There are a number of options available to accomplish this, each of which is not only capable of supporting predatory pricing but also predatory in their own right.

14.2 Taking Advantage of Tariffs and Subsidies

The easiest way to maintain sub-cost pricing is to simply take advantage of domestic subsidizations (a subject discussed in the Critique). While it is impossible or, at the very least unlikely, to create subsidies simply for the sake of a predatory strategy or to count on them to be coincidentally developed, it is possible to take advantage of existing subsidies already in place. Since subsidies provide government funding for organizations either producing or exporting specific goods and services, such organizations can naturally charge lower prices to the public while maintaining an equivalent profit margin; which is the very purpose of governmental subsidies. As shown in Fig. 14.1, the subsidy allows an organization to charge artificially low prices that competitive markets cannot match without yielding a net loss.

Note that the supply curve shifts downward in a quantity equal to the value of the subsidy, allowing them to produce an equal amount of goods for a lower price. This shift increases the total volume people want to purchase because of the lower price.

According to the Cairns Group, an international coalition of agriculture product exporting nations, the combined annual agricultural subsidies for the EU and USA alone are in excess of USD10 billion per year as recent as 2010. This does not include products outside of the

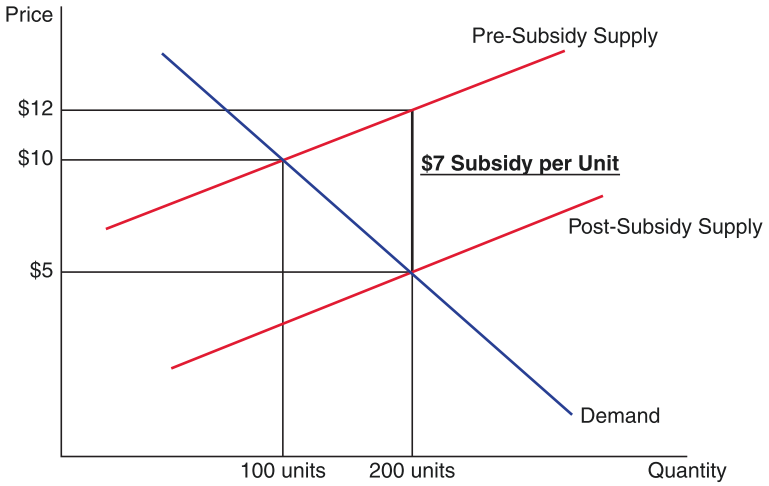


Fig. 14.1 Effects of a subsidy

agricultural sector, illustrating the strong potential for those with the inclination to do so to take control of the food markets in a particular region if approached properly. Should those subsidized agricultural products, through militaristically strategic channels, be distributed into the region in question, it would drop the price of those goods in the region below what it costs to produce it forcing competitors to shut down and allowing the militaristically controlled channels to take complete control of the food source in the region.

The legality of this process is complex but very clear. Since safe food is still available to non-combative civilians in the region, this approach does not violate Article 54 of the Geneva Convention. What may pose a challenge, however, is membership in a trade bloc or other trade organization such as the WTO. If, for example, both groups in the conflict are citizens of nations with membership in the WTO and trade of the good in question is regulated by WTO rules, then participating in such a strategy would be a violation of those rules putting the nation at risk of penalties or expulsion from the WTO. Since both nations must be members, however, and the product in question must be listed in order for it to be a violation, this remains a viable option in the majority of circumstances.

Like subsidies, tariffs are unlikely to be implemented for strategic military purposes but can still be taken advantage of if they are already in place, though they have something of a contradictory effect. Tariffs implemented by one's own nation will reduce demand for foreign exports, making it more difficult to raise financial capital through the sales of goods. While this is unlikely to have a significant impact on the strategic combat environment, it will have a degree of influence that varies depending upon the types of goods being taxed, how severely they're being taxed, and how broadly other nations around the world cooperate with the taxation. Economic sanctions against North Korea have not stopped them from being a threat, but has proven to be beneficial in devastating the normal daily functionality of the nation, and its development as compared to the rest of the world—their only true strategic advantage is their relationship with China, rather than anything inherent within North Korea, itself. By contrast, tariffs in the foreign nation make the acquisition of goods in that nation more expensive, but a military force will have its own distribution channels that are not subject to tariffs, should they find that these methods of acquiring resources are cheaper than acquiring them domestically with the added cost of the tariffs. This, as a result, simply makes the acquisition of goods more expensive for the opposition forces. No matter who is implementing the tariff, the result is simply a change in market costs that can be taken advantage of by ensuring the opposition is paying more for their resources than you are, with the potential to even funnel financial capital from the opposition to your own nation to help fund the war effort.

14.3 Price Discrimination

The use of price discrimination is typically even more strictly controlled than predatory pricing by federal law, international agreements, or general political sensitivity to public backlash. When used during a combat situation and when strictly focusing on enemy combatants as the target for discriminatory pricing not only does this strategy become legal but also much simpler to employ and quite effective at maintaining resource misallocations for the enemy while keeping the risks of new entrants and black market distribution channels low.

Price discrimination is the act of a single organization intentionally charging different prices to different groups with no related cost variations associated with selling to each. The goal of this is to take advantage

of the relative differences in the amount people are willing or able to pay, thereby yielding higher profits than if everyone was given equal pricing. As Fig. 14.2 shows, Market A has high price elasticity of demand which means that an increase in price will cause a very large decrease in the number of units people will buy in that market. Market B, on the other hand, is relatively price inelastic, meaning that the company can increase prices without losing many customers. In using price discrimination, a company will identify the prices that each market is willing to pay and set pricing accordingly, giving some people unusually high or low prices thereby maximizing net income.

In wartime scenarios, price elasticity of demand decreases dramatically which increases the amount organizations are able to charge. This happens as a result of those groups on each side of the conflict being willing to pay much higher prices or else risk human lives and political sovereignty through a combat defeat. Price discrimination in this form is very common but goes by the name war profiteering. This often criticized practice is typically justified by citing the increased risk in the region and the costs associated with both mitigating that risk as well as any losses resulting from that risk. Beginning in 1863, the USA began imposing a tax on earning excess profits, but it has been difficult to enforce since these profits are often identified to be "excessive" through subjective means. Still, while generalized war profiteering is profitable, it is hardly strategically advantageous in the battlefield.

The most effective means of utilizing predatory pricing strategies has the added benefit of eliminating the effects of legal restrictions as well as limiting public backlash for its use. As already noted, belligerent

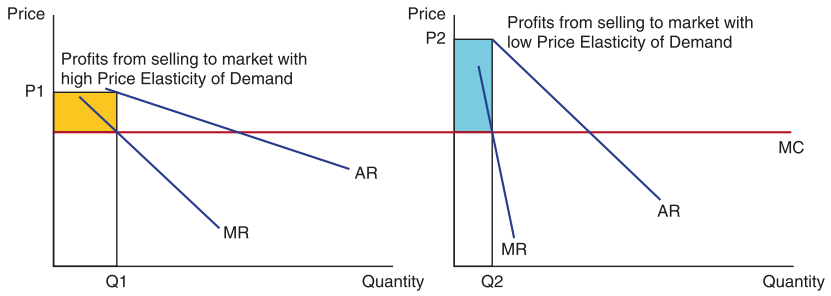


Fig. 14.2 Effect of price discrimination

groups have a very low price elasticity of demand allowing organizations to target enemy groups for predatory price increases while maintaining competitive pricing for neutral and friendly groups. This differential poses the opportunity for organizations to maintain below-cost pricing for the majority of people in a region while creating a drain on enemy resources. Not only does this have the potential to push competitors dealing with the enemy at standard market prices out of business, but it also stems black market pressures by maintaining a regular supply of resources to enemy troops. Charging high prices to enemy combatants and those that deal with enemy combatants while providing sub-cost pricing for the remaining groups has the benefit of creating a shift in resource ownership and control away from the enemy and into the hands of friendly groups as was described earlier in Part II, Chapter 4, during the discussion on black market manipulation. In order to more accurately account for the risk of neutral parties selling goods to enemy combatants at standard market prices after purchasing them at sub-cost pricing, one can take one of two possible actions. First, one can charge standard market price to neutral parties eliminating the profitability that would otherwise exist in competing with the predatory price levels, but this has the negative side effect of giving more opportunity to market competitors to gain market share in the neutral market as well as the enemy market making the strategy as a whole less effective. The second option is to simply do nothing. While neutral parties selling to the enemy will decrease the effectiveness of the strategy, it still keeps resource distribution in the control of friendly forces while keeping market competitors at bay, even if the benefits of the capital flight away from enemy forces that would have otherwise resulted from the pricing differentials become somewhat limited.

14.4 War Profiteering, Waste and Fraud During OIF/OEF

While not an example of positive influence for the USA, the role of corporate war profiteers in the USA has played an integral role in illustrating the potential for such a strategy. During Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF), many large corporate contractors working for the US military participated in waste and fraud that amounted to approximately $60 billion in misallocated funds, according to Dov Zakheim who is ex-Department of Defense Comptroller as well

as a presidentially appointed member of the congressional Commission on Wartime Contracting in Iraq and Afghanistan. Zakheim notes that the need for expediency forced government acquisitions departments to sidestep regulations to quickly fill contracts that included terms that were vastly overpriced. Overcharging alone accounted for $40 billion of the total $60 billion, while the remaining $20 billion was lost in fraud, extortion, and theft. This misallocation consists of 25% of all spending on contractors between the years of 2001–2011. While this alone caused significant inefficiencies and operational obstacles, the results of the inquiry performed by the commission showed that much of the $20 billion lost in fraud and extortion was making its way back to enemy combatants and funding their operations. In the transcript to a 2011 interview on PBS, Zakheim said, "When I was over there, together with one of my fellow commissioners, we were handed a copy of a bill, an invoice that was charged to a contractor and was issued by an outfit that called itself the Islamic Republic of East Afghanistan. We have reprinted it in our report. It has a phone number to call: If you want to be safe, call this number. We're paying people to kill our kids" [sic]. The largest violators of war profiteering during the period have been:

KBR, Inc: Charged with a total of 22 cases of misconduct including incidences of human trafficking and institutionalized rape, the company has systematically bribed officials domestically and abroad since its inception in 1998 as a division of Halliburton in order to receive contracts and push through invoices with up to $1 billion in overcharges.

Halliburton: Participated in at least 10 cases of misconduct for which they paid $791 million in damages, while a subsidiary they had previously sold had been charged with an additional 22 cases of misconduct during their time as a division of Halliburton.

Bechtel Corporation: Consistently over budget in failed, underused, or canceled projects with overpricing that reached as high as $90 million in a single construction project.

Custer Battles: One of the first companies to be convicted of overbilling under the False Statements Act, as of 2011 they appear to be either out of business or out of government contracting as a result of several massive lawsuits filed against them.

As a result of the actions taken by these companies and others, the US military struggled unnecessarily in their core combat activities through improperly working equipment, inefficient use of budgeted assets causing underfunding in other operations, and even the funneling of funds directly to enemy combatants. While these actions are reprehensible, they do provide a prime example of the potential that war profiteering may have on the combat environment. If this strategy can hinder a military and economy as large as the USA has been from 2001 to 2011, then the ability to take advantage of the severely decreased price elasticity of demand that opposition combatants have could yield tremendous results in contributing to their operational failure. As Major General Smedley Butler of the US Marine Corps noted of WW1 era contracting, "It has been estimated by statisticians and economists and researchers that the war cost your Uncle Sam $52,000,000,000. Of this sum, $39,000,000,000 was expended in the actual war period. This expenditure Yielded $16,000,000,000 in profits." By any estimate, such large asset misallocations will certainly limit the combat readiness of any military force, providing cooperative organizations a windfall of additional funding if executed in a manner consistent with that described earlier.

14.5 Insider Trading

Insider trading is another common term that holds unique application for our purposes. Insider trading refers to transactions that take place while one person has information relevant to the exchange that is not yet publicly available, typically in the context of stock trading. Such a disparity of information material to exchanges that take place under normal circumstances is considered predatory in the sense that at least one party to the transaction is not aware of the true value of the exchange taking place. As a result of this disparity, at least one party to the exchange is benefitting disproportionately at the cost of another party to the same exchange. While such activities are seen as unethical and even illegal during the course of normal business, military operations can greatly benefit from such activities during the extreme circumstances of warfare.

An information disparity is created when one side of a conflict has made the decision to mobilize troops or supplies in any manner but has yet to act upon that decision. Before doing so, one consideration to be made is whether one might take advantage of the current market equilibrium. Before moving a large battalion of soldiers into an encampment

near a remote local village, for instance, sending in a small number of people to purchase all available food or ammunition locally at current prices would save money before the full battalion indicates to locals that they can safely increase prices. Of course, taking advantage of friendly or neutral parties in such a manner may be politically sensitive to the degree that it creates within locals a distrust that may harm future interactions. Any goods or services offered by enemy organizations or organizations sympathetic to the enemy may be taken advantage of in such a manner, however. To directly benefit from the efforts of one's adversary without benefiting them in return or risking one's self in the process is a difficult but achievable goal. A contract that allows for the delivery of goods or services with payment to be delivered at a later date, specifically after a time period long enough to allow one to mobilize troops against the organization with which the contract has been made, provides the potential to obtain valuable resources from an organization that was to be the target of an attack regardless of the transaction. This gain from a disparity in material information is particularly useful for specialized, rare, or skilled goods and services that are difficult to reproduce by military combat personnel.

14.6 Preventing and Controlling the Competition

There are a number of predatory business practices meant to limit the ability of potential competitors from operating within a region, thereby limiting the effectiveness of other strategies already in place. Of these, the use of lawsuits is often one of the most effective. Filing legal action against a start-up company or an existing company expanding into a new region or product line is a strategy currently used by some companies to delay that company's ability to bring products to market, thereby giving them a distinct disadvantage by discouraging their efforts to build a loyal customer base for said product as well as developing contracts for supply chains and distribution channels. In addition to this tactical delay, lawsuits can be prohibitively expensive for small and medium-sized companies, forcing them out of business before their operations even begin. Monopolies and oligopolies are fond of filing lawsuits as a method of maintaining monopolistic profits by keeping potential competitors from taking advantage of the market potential for cheap products. Other barriers to entry can include control of resources, distributor agreements, and organizational integration among others, but no matter what

method one uses, the goal is always the same: limit the ability of competitors to offer their product or service within a region. This allows one to maintain control over the quantity and distribution of supplies as well as continue contributing to the shift of capital from enemy to friendly groups.

Still, even such involved strategies in manipulating the competition result in their removal from the market leaving only friendly organizations which are likely to be recognized as working for other cooperative groups. Using less obvious influence it is possible to take over the operations of competing organizations thereby subtly exploiting those relationships that had been developed with enemy combatants and taking advantage of the trust the enemy already places in the said organization. The term "hostile takeover," in investing, refers to the practice wherein an individual or organization takes over a company against the will of those in charge by purchasing a majority ownership of stock on the secondary market. For our purposes, a hostile takeover will refer to the purchase of an organization with the intent of using the resources for purposes hostile to an associated group. By increasing the amount of ownership that friendlies have in a company or organization through any of a variety of means (discussed momentarily), the trust and patronage that the organization had already developed with the target prior to this takeover can be easily exploited thereby creating benefit beyond simply having the resources to supply one's own combat operations.

The most common form of takeover occurs when an individual or organization purchases 51% or more of a company's stock but most publicly traded companies will be too large to make such a tactic financially feasible for strictly military purposes. Certainly, such takeovers have existed in the field of mergers and acquisitions for decades for reasons other than military ones, epitomized by the corporate raiders of the 1980s, but only when such potential for gain beyond military strategy exists does the hostile takeover of publicly traded companies in the traditional sense become a feasible strategy. An alternative method of purchasing private companies that supply hostile troops without alarming them to the threat of involvement would be to purchase a controlling share using a proxy such as what would appear to be a potential parent company or venture capitalist. While the intent in this case is still to take advantage of preexisting supply lines that enemy troops have with this organization it would appear to onlookers that to be nothing more

than normal investment practices. Still, should this fail the possibility of doing the same up or down the supply chain exists. By purchasing a controlling share of an organization that supplies a company that distributes to enemy troops, for instance, one is now in a position to alter how competitive that distributor is in the market thereby pushing enemy troops to either accept resource inefficiencies or go to distributors less sympathetic to their cause.

Check for updates

CHAPTER 15

Trade Agreements

One of the greatest boons to the Coca Cola Company was their 1941 partnership with the USO that brought the cola beverage to US troops across the globe starting in World War II and continuing until at least 2012 during Operation Enduring Freedom. In 2011, Coca Cola celebrated the 70th anniversary of their partnership with the USO by giving to all US military worldwide one free 20 ounce bottle of any Coca Cola soda, redeemable by downloading and printing a gift certificate to be used at any military installation. This contract, by itself, helped to develop the distribution infrastructure and public exposure required for Coca Cola to gain a dominating share of the beverage market worldwide. Today Coca Cola is one of the most recognized brands in the world, available in many of the most rural regions of the world.

Such potential benefits, even on a much smaller scale, would be difficult to refuse for all but the most anti-American organizations which would provide a military with a unique opportunity to leverage the operations of any company that enters into such a lucrative contract. Although the distribution of cola may not exactly be of the greatest strategic value, such a maneuver may be applied to resources deemed to be mission-critical, either to one's self or one's opposition.

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15.1 Finding Potential Partners

As with individuals (discussed in Part I, Chapter 3), companies can be influential during a confrontation if they can be persuaded to cooperate with military objectives. Take, for instance, the purely theoretical World War II scenario wherein British soldiers gain the cooperation of a German automobile manufacturer. As with the Coca Cola example the car manufacturer agrees for purposes of long-term competitive gain through increased market exposure, distribution, and financial gain. Unlike the Coca Cola example, the car manufacturer had the additional incentive of avoiding total destruction at the hands of British bombardiers, particularly after the tides began to turn against Nazi Germany after the Battle of Stalingrad in 1942. An agreement to cooperate with British troops in the production of heavy manufacturing directly in German territory would have posed an important strategic advantage as such manufacturing capabilities played a critical role during the entirety of the war.

Such an agreement would also keep whatever resources and skills a cooperating company might have from benefitting the adversary, unless taken by force. It gives an opportunity for organizations and companies currently under any level of enemy control either by force or by consensual transactions to protect their business from unwanted associations or from the threat of harm posed by an invading force. Like individuals, companies may change alliances to cooperate with those who they believe will best represent the needs of their organization, both from a competitive standpoint and a social or political standpoint. This can be particularly important in that the industrial potential of a nation is frequently tapped to support the war effort and by assimilating companies that had pre-war rapport with the opposing forces one is increasing one's own industrial strength (particularly important given their geographic proximity to the ultimate destination of one's troops) but also weakening the industrial strength of said opposing forces. Such an agreement is not without its risk, however, and proper due diligence must be had to ensure that terms beneficial to one's own troops are made and strictly adhered to as is seen necessary for the context of the tactical environment.

15.2 Iran-Contra

In one of the more bizarre strategic trade relationships to have occurred, several high-ranking US government officials were arrested and convicted, with a previously unknown military agent who was functioning as a liaison for the exchanges taking the blame for the actions of President Reagan. With war waging between Iran and Iraq, the USA had allied with Iraq since there were still political tensions with Iran, and the USA did not want the Soviets to gain access to Iranian oil fields along the Northern border of the country. Naturally, helping Iran in their efforts to win a war against the US ally, Iraq, was deemed illegal. Also deemed illegal was any involvement in Nicaragua, where there was a battle between the Cuban-backed communist Sandinistas, and the far-right extremist Contras (a shortened name for "Counter Revolutionary"). Despite laws explicitly prohibiting these things, Reagan told then-National Security Adviser Robert McFarlane of the anti-Communist Contras that, "I want you to do whatever you have to do to help these people keep body and soul together." The opportunity to covertly support their efforts by circumventing traditional funding channels arose when 7 Americans were taken hostage by then-insurgency Hezbollah in Lebanon, which was an ally of Iran.

It was negotiated by Iran that 3 hostages would be released if the USA agreed to sell them 1500 missiles. This trade agreement was strange enough, for multiple reasons. First, as previously noted, selling weapons to the Iran was illegal since they were actively engaged in a war against a US ally. So, the missiles were actually shipped from Israel and Iran reportedly paid $30 million for them (in 1980s US dollar value). As agreed-upon, the US hostages were released by Hezbollah, who then immediately captured 3 different hostages. Intentions aside, the result of this exchange was merely one of a trade agreement of arms for cash with opposition forces. Any role that the hostages had in negotiations became a zero-sum game, so that they may as well not have been a factor at all (which should have come as no surprise that a militant insurgent group would not give up their hostages for the formal government of another nation while maintaining honoring the intent of the agreement).

For 1500 missiles, the USA gained $30 million. Why would they participate in a trade agreement that benefitted their opposition in the Middle East? The answer comes from Reagan's determination to support the Contras in Nicaragua who, despite being ruthless war criminals

who systematically violated even the most basic of human rights against Sandinistas and civilians, were compared by Reagan to the Founding Fathers of the USA. Of the $30 million generated by the sale of missiles to Iran, only $12 million ever made it back into the USA. The remaining $17 million was redirected to help fund the Contras who used the money to continue their reign of terror.

The money was not the only thing offered to the Contras. As they gained a stronger position in Central America, they began processing narcotics such as cocaine. This is where the second of two trade agreements took place. In order to further assist the Contras in funding their fight against Communist invaders while circumventing laws that prohibited any help at all, the Reagan administration gave them preferential treatment in the black market for drugs. The CIA made assisted in securing trade routes for shipments of cocaine from Central America to the USA so that it could be sold to US citizens and the Contras could use the profits as a source of capital funding. The CIA, of course, earned a percentage, as well. This all squarely put the USA in the middle of two trade agreements, both of which were entirely illegal, and one of which was expected to continue indefinitely, and it all put US citizens and their allies in direct harm. Civilians were devastated in Central America, allies were harmed in the Middle East, and even US citizens were devastated as a pandemic of cocaine use exploded across the nation, along with its derivative, "crack." Reagan, himself, touted the benefits of crack indirectly through an anti-drug announcement that talked about all the reasons people were being attracted to cocaine and crack use, but then simply stating that these were the reasons people should not use it. The obvious result was that everyone began seeking the products.

Once the suspicious activities between the USA, Israel, and Iran began to get reported-upon in the news in the Middle East, investigations ensued which uncovered the entire scheme. Several high-ranking officials were convicted, though one died of brain cancer prior to convictions. Reagan, himself, was left unscathed by the scandal, as Lieutenant Colonel Oliver North took full blame to protect Reagan, claiming that the President had not been informed of the activities with the Contras. The matter of releasing hostages gave reasonable doubt for the involvement with Iran, of which Reagan stated he was aware but came to regret, and this was overlooked as simply attempting to protect US citizens. Reagan denied being told anything about any redirection of funding from the sale of missiles to the Contras, and Oliver North claimed the

same, for which North was convicted on federal felonies (only to later be released and become a semi-successful news pundit for Fox News in the USA). The matter of preferential treatment in the drug trade became so mired in confusion and secrecy and unofficial actions and intrigue that it was not fully revealed that the CIA was involved until many years later when no formal criminal investigations were being pursued and the whole matter had been largely forgotten. The US government has yet to fully acknowledge the extent of their involvement.

15.3 Terms of Partnership

To make such a relationship work, the terms must be set and agreed to in advance. Organizations, as noted, do have incentive to develop business deals with governmental and military organizations, but should they later determine that the partnership will not benefit their organization as stated then they may become disillusioned and incentive will also be created to violate the operations. Tactical strategy may require the company to lose business by not selling to the opposition at all, or risk losing business by selling inferior or defective goods, as described in Chapter 12; they may be required to agree to strategic or predatory pricing practices as described in Chapter 14, or provide discounts to other friendly organizations outside the direct military distribution channels. In any case, the company must be made aware of the terms to properly evaluate the benefits. After any agreement is made, proper due diligence must be exercised to ensure that these terms are not violated or that opposition spies are not being employed by the company in order to collect intelligence or sabotage production. The same skepticism and caution when directly employing foreign nationals and opposition defectors must be used when following-up when hiring these individuals indirectly through the cooperative efforts of the organization to which they belong. This means, at the very least, practicing regular inspections and operational audits, training the organization in situational awareness practices, and implementing internal controls. Some critical roles within the organization may need to be divided into parts to keep either specific pieces of intelligence from being collected by a single individual, or to keep production and implementation functions separate. By distributing the functions of important roles between varieties of individuals there one is diversifying human resources risk which decreases the amount of influence any single individual has and magnifies the amount of total organizational cooperation

that must be had to perform an act harmful to the agreement. In short, this makes harmful actions public thereby improving the chances of discovering them before any negative consequences can occur.

Particularly for organizations that had previously allied with the opposition, once strict controls have been established it becomes possible for individuals within the organization, or military personnel intentionally placed in the organization, to then collect economic information about the opposition or even provide economic misinformation. The rapport that had already been established between the company and the enemy would provide options to take advantage of that trust either through providing inferior or defective goods under the false pretenses, or to actively participate in economic intelligence, which is described in further detail in Part III.

15.4 Adapting to the Strategic Environment

A company that agrees to cooperate will be put in a position to better handle tactical fluctuations in pricing and volume. The increased demand that a company experiences from getting contracted for distribution to military posts will help the company reduce their costs per unit produced by improving their economies of scale, which was mentioned briefly in Chapter 9. As shown in Fig. 15.1, the average cost per unit of output decreases until a certain point in both the short run and the long run. This acts sort of like a bulk discount.

The short run is any period of time in which some asset owned by the company cannot be replaced, usually something large like a piece of equipment or a building. The long run is any period of time in which any, but not necessarily ever, asset can be replaced. A company estimating short-run production potential will calculate costs and volume using existing equipment. Their current equipment can only produce additional output until a certain point, the maximum output for that equipment. At this maximum, the average cost of output will be lowest since the most output possible is being produced at equivalent fixed cost (costs that do not change with output, such as the cost of a building which doesn't change no matter how much you produce. In contrast, variable costs are costs that will change with your volume of output, such as raw materials). In the long run, a company is capable of purchasing additional equipment or equipment that will produce greater volumes, decreasing average costs even more in the long run. These decreases in

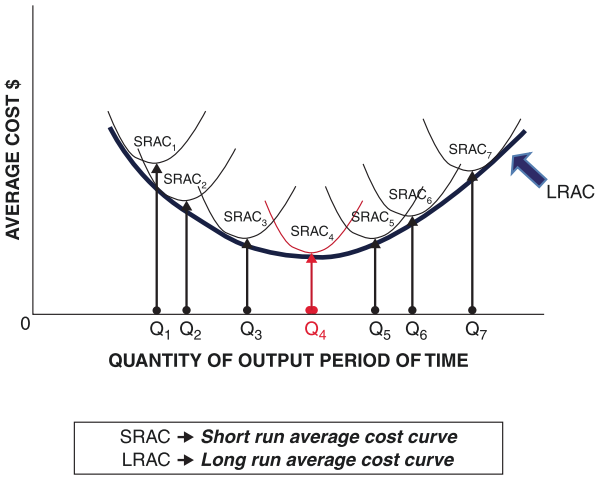


Fig. 15.1 Economies of scale

average costs are called economies of volume, which is sort of like a bulk discount.

By decreasing average costs per unit of output for a company operating in a market wherein other organizations are working on the old fair market prices, the organization that's cooperating with the military has greater leeway to fluctuate pricing and output for tactically important uses. This limits the amount of hardship the company must face during their time cooperating for tactical purposes and dramatically increases their long-term competitive potential.

15.5 White Supremacist Infiltration of Law Enforcement

A 2006 report by the US Federal Bureau of Investigation and a 2009 report by the US Department of Homeland Security both clearly demonstrate and warned of a long-term concerted effort by extremist white supremacist organizations associated with Neo-Nazis, Ku Klux Klan, and others with violent racial tendencies to infiltrate law enforcement at the local and state levels. While this is not a particularly new phenomenon, these two reports note new trends that significantly

change the relationship between white extremist organizations and law enforcement organizations that create the potential for serious harm to the national law enforcement system.

The reports note, most profoundly, that recruitment of right-wing extremism has increased dramatically and that their involvement in law enforcement has shifted away from typical racially motivated law enforcement decisions, but into the collection of intelligence. Right-wing extremism tends to increase during times of economic hardship demographic shifts, both of which occurred in a most dramatic fashion starting in 2007 and all throughout the Obama administration. These conditions coincide chronologically with a large number of military returning from combat and intelligence missions in foreign nations, and having great difficulty reintegrating themselves into civilian life. The typical recruitment methods used by right-wing extremists such as playing on fears of jobs being sent abroad, fear of foreigners, fear of financial loss, and fear of people of different subcultures to attract unusually high volumes of people under the 8 years that the USA had its first black President. The people being recruited, many freshly ending their term in the military, had skill sets and recent experience that made them especially qualified for law enforcement even under the best circumstances, but under these circumstances all those skills and experience would start to be used for racially motivated reasons. According to the FBI, "The primary threat from infiltration or recruitment arises from the areas of intelligence collection and exploitation […] The intelligence acquired through the successful infiltration of law enforcement by one white supremacist group can benefit other groups due to the multiple allegiances white supremacists typically hold."

While white supremacist groups are not a major company like Coca Cola, they have been serving as a source of human assets. Law enforcement organizations have been getting well-qualified recruitment, though they are fully aware that the recruiter holds flawed social philosophies that align with their own, and in return the recruiter gets intelligence services and preferential treatment under the law. It is an ongoing, and increasingly threatening trade, in which there are distinct sides of conflict by means of social strife which some predict may result in Civil War. Clearly the unethical and illegal nature of this relationship means that no formal agreements exist, so the process is performed using subtle "signals." Signal theory is a field of study that concerns itself with the manner people indicate to others specific information about one's

self. An obvious example here would be sending the signal of one's background and credentials by sharing stories about their time in the military. More subtle signals about their demeanor, ideas, and propensity to gravitate toward one subculture or another are included in the manner that a person talks about their military service; using words, phrases, emotional inflections, or body language, a person can express to others what they think about the conflict, how they feel about their encounter with foreign people, and their desire to continue using their skills against perceived foreign threats. In a similar manner, white extremist organizations signal to potential recruits what their intentions are by discussing support for police in recent cases of shootings against unarmed minorities, by wearing clothing or exhibiting body language that indicates aggressive or domineering positioning, and slowly increasing the severity and frequency of the words used in conversation as negative representations of subcultures other than their own. When the signals are aligned, and eventually match each other, a successful relationship has been developed in which the potential recruit is likely to revisit the location where the conversation occurred, or attend a location to which they are referred. This results in a phenomenon called "agglomeration," in which people of a specific subculture such as right-wing extremists regularly congregate for social purposes. For example, a specific dive bar may serve as a popular place to meet where everyone is of like mind due to signaling cues that either attract or repel people based on ideology. Extremist groups then select recruitment based on signals of skill sets and experience, emphasizing their efforts on people who match the labor market in a manner that maximizes their likelihood of successfully infiltrating law enforcement.



CHAPTER 16

Currency Manipulation

The manipulation of currency is a common, everyday occurrence. Altering the volume, availability, movement, and value (all of which are related, changing one changes another) of a currency is typical of central banks in their daily open market operations in order to reduce volatility and stimulate growth. The value of one's own currency in relation to a different currency is also a matter of concern when it comes to trade, commerce, and the movement of capital. The International Fisher Effect states that for every 1% change in relative interest rates between two nations that the exchange rate between the currencies of those nations will change at an equal rate in the opposite direction. While a one-to-one ratio is far too precise and consistent to be true, it does demonstrate the general short-term effects of how the value of currencies change, though lowering the value of your own currency does make your goods cheaper relative to the goods produced in other nations, so the increase in exports tends to strengthen a currency over time actually having the opposite results of the International Fisher Effect in the long-run.

No matter how you are manipulating a currency, there will be implications that can be used for strategic purposes. On a level more precise that broad, national policies, particularly changing the movement and availability of domestic or foreign currencies, will have an impact on the exchanges that are being transacted and the value of the assets each side in a conflict own.

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16.1 Catalan Fight for Independence

Shortly after 2010 an effort began in Catalonia to convince its population that it should be an independent nation from Spain, resulting in a referendum in 2014 that led to an official declaration of independence that would be challenged by the Spanish government, and by the end of 2017 it seemed as though they had ceded to the demands of Spain under threat of Civil War. While the formal political rhetoric quieted to a great degree to avoid provoking war, a more logistical process began to quietly take shape to implement independence in a de facto manner, even if the official declaration was still being debated. This process struck directly at the heart of why Catalans wanted to declare independence in the first place, and the very reason why Spain is so very insistent on refusing, and it is all about money.

Catalonia, and particularly its largest city of Barcelona, is easily one of the most economic prosperous regions in Spain, and one of only four regions which contribute net positive gains to the nation. Despite composing only 16% of the nation's entire population, it contributes roughly 20% to the entire nation's economic value. As of 2017, unemployment in Catalonia was 4% less than the national average, and they maintain exports which are nearly twice that of Spain's next largest export region—Valencia. Yes, Catalonia has an identity of its own, with a culture and language that reminiscent of Spain but certainly distinct, as do many places around the world which are part of larger nations. When addressing the matter of independence, though, the big topic of discussion was that of money: Catalans feel that it is improper that so much of their tax revenues should be flowing to the Spanish government while they get so little value in return. They declared independence in order to take control over their own economy and use their money as they wish. That is exactly why the Spanish government cannot allow that to happen, though, as the division would cause cash flows from the region to cease resulting in both the fiscal deficit and public debt as a percentage of total GDP to increase dramatically. Catalans are of the opinion that Spain needs them more than they need Spain, and they may just be correct, so Spain has seriously considered, almost to the point of becoming a threat, the use of military force to arrest those in charge of the independence efforts and ensure they stay a part of Spain.

For all its wealth, Catalonia does not have a military to rival the rest of Spain, nor is all of Catalonia in support of independence (a sizeable minority wish to be both Catalan and Spain, presumably functioning as a

semi-autonomous region, and a larger minority wish to simply maintain the status quo). So, the independence rhetoric quieted greatly, but the independence efforts did not stop. In order to prevent Spain from collecting tax revenues, even if force is attempted, some in Catalonia began developing their own currency using blockchain technology, following in the footsteps of Estonia. While likely to accomplish their goal, the side effects this would have would be devastating. Blockchain currencies are inherently limited and prevent a nation from the proper tools of monetary policy, which would effectively cut Catalonia off from the rest of European Union in terms of currency exchange, trade, and so forth. As the majority of surrounding nations use the Euro as their currency, the transition to a new currency would strip Catalonia of its involvement in the European Union, creating barriers to trade. Other nations are highly skeptical of this attempt to create a new currency since it will be extremely volatile in the beginning under the best of circumstances, and in the worst of circumstances be unable to fulfill the needs of even domestic transactions resulting in total collapse of its value. Simply, no one will want the new Catalan blockchain currency, forcing Catalans to perform foreign trade in Euros. It is possible that this could work, assuming Catalonia maintains a positive current account balance in their balance of payments (meaning they continue to export more than they import, funneling Euros into the nation so that they can then use their reserve of Euros to pay for imports), but even assuming this is possible in theory if Catalonia stops its cash flows to Spain then both the Spanish and Catalan economies will experience severe recessions that will ripple throughout Europe. The introduction of a new currency as a method to force functional independence from Spain would destabilize the Spanish economy, as previously noted. Just as with Greece earlier in the twenty-first century, the financial problems that would occur in Spain would further destabilize the Euro, causing economic shocks throughout the entire European Union. The increasing national debt in Spain and the inability to pay its debts would require debt forgiveness and restructuring, resulting in loss of value for those holding Spanish assets and Euros owed by Spain would stop being distributed to other nations causing the cash flows in many nations to be lower than expected, slowing the economic growth in those nations, and ultimately causing the Euro, itself, to lose value. Spain has declared that Catalonia would be an economic pariah, shunned by the international community, but Spain can do little to forcefully stop Catalonia from trading with other nations, since

Catalonia sits in the far northeast, with its borders containing a large volume of coastline and a shared border with France. Still, it would be a simple matter for Spain to issue an embargo of Catalonia and put pressure on any nation which does trade with Catalonia as an independent nation, validating its cessation from Spain. Not wanting to risk trade restrictions or military conflict with Spain over the right to trade with a tiny, newly formed nation with an unstable currency, it is very likely that an independent Catalonia would fail.

16.2 Currency Liquidation and China's Reserve of US Dollars

For more than a decade during the twenty-first century US government officials, and to a lesser extent others around the world, have furiously accused the Chinese government of keeping their currency artificially undervalued. What exactly does this mean, though?

The value of a currency is measured either in terms of how many goods it can purchase per unit, or in terms of its value relative to another currency (which includes some precious metals such as gold or silver, both of which are traded as currency in many respects). When the value of a currency is measured in terms of the amount of goods it can buy, this is called the purchasing power of the currency. Inflation occurs when the purchasing power of a currency decreases over time, thereby requiring more units of currency to be spent in order to purchase an equivalent amount of goods. If 1 US dollar can purchase 1 orange in 2010 but it takes 2 US dollars to purchase 1 orange in 2011, then inflation in the USA would be 100% in 2010. There are a number of reasons this occurs but they are not relevant for our purposes. In trade theory, the purchasing powers of different currencies are compared to each other giving us a measure called purchasing power parity. For example, if 1 US dollar can purchase 3 grapes and 1 Chinese Renminbi (RMB) can purchase only 2 grapes, then the US dollar has greater purchasing power. The purchasing power parity (PPP) of the US dollar in China, in this example, would be 1.5, or that the dollar will buy 50% more in China than it will in the USA. This is often used to measure the value of production or trade by nations around the world using a single comparative currency, with the US dollar being the benchmark currency. In economic terminology under a floating currency an increase in value is called appreciation, while a decrease in value is called depreciation.

By contrast, the other method of measuring a currency, the exchange rate, is the amount of one currency it takes to purchase another currency directly. The exchange rate of a currency can be floating or pegged. A floating currency is one whose value is allowed to change in value freely with fluctuations of market forces, including a number of other factors that have little bearing on the content of this book. The US dollar is a floating currency whose value is managed using fiscal and monetary policy, rather than the direct setting of a specified value. A pegged currency is one in which the value is explicitly determined by matching it to another thing of value; usually another currency, a series of currencies in specified proportions (called a basket of currencies), or some common trade commodities such as gold. The value of a currency is then managed by changing how much it is worth relative to that thing of value. In economic terminology under a pegged currency an increase in value is called revaluation, while a decrease in value is called devaluation.

The overvaluation or undervaluation occurs when these two metrics deviate from each other. An overvaluation occurs when the exchange rate on a currency is much higher than the PPP while, inversely, an undervaluation occurs when the exchange rate is lower than PPP. The mechanics of purchasing power and exchange rate are extremely important in trade theory because a change in one valuation of currency will redirect production, purchases, sales, imports, exports, inflation, employment, and more. So when the US officials accused China of keeping their currency undervalued, what they were saying is that the Chinese currency was pegged to a basket of currencies at an exchange rate much lower than the purchasing power of the RMB at parity to the same basket. This resulted, the accusation alleged, in unfair trade advantages for Chinese businesses by keeping the price of Chinese goods very low compared to the price of goods produced by China's trade partners. Such a circumstance causes increased unemployment in China's trade partners (but increased inflation in China), and an annual value of exports out of China and into other nations very much out of proportion to Chinese imports.

This conflict reached one of many climaxes in 2007 when, in order to remedy the perceived problems that the USA faced as a result of the undervaluation of the Chinese RMB, they threatened to implement tariffs (a tax on imports from China) in an amount that would increase the market price of imports from China to that which would have occurred under a fair-value RMB. China responded to this threat in kind. As a

result of the trade imbalance as well as Chinese foreign investments, the Chinese government had accumulated the world's second largest reserve of cumulative US currency and debt (second only to the USA itself), and they threatened to liquidate it should the US implement the threatened tariffs. The result of China mass-selling reserves of US holdings would have been to create an intense depreciation in both the value of investments in US bonds, drawing money away that would have otherwise funded US government operations, and also the intense depreciation of the market value of the US dollar in exchange rate and, eventually, in purchasing power. Done during the same period in which demand for US goods was already low and the instant drop created from low government spending and decreased foreign investments would have devastated the economy as a whole for a period extending until the lower dollar value increased demand for US exports.

This potential created such a panic that all plans in the USA to implement a tariff of Chinese goods were tabled for 4 years until 11 October 2011. For those familiar with US-China trade relations however, there was much consent that China simply had too large a stake in the US economy to create such harm without harming themselves as a result. This was confirmed again in 2011 when, after renewed threats of liquidating US treasuries, China failed to actively take steps to enter into economic positioning with the USA, instead opting to attempt to diversify their currency reserves giving more focus on gold and less on the US dollar but not to a degree consequential to the value of the US dollar. Simply put the economic codependence between the USA and China was too strong for either, creating a proverbial "double-edged sword" for both. While this example ended without any actual conflict and is, in fact, much larger in scale than would be generally effective for a targeted approach, China's calculations for the impact of a US dollar liquidation were sound, bringing attention to the potential for currency manipulation to be used as an effective tool of combat strategy when refined for purposes of influencing available resources for combat participants by pumping currencies and values across geographic regions.

16.3 Diverting Foreign Currencies

The very introduction of a moderately sized military force to a region (e.g., village, town, city, metropolitan area, groups of villages, and geographic radius) brings with it the expenditure of money on local goods

and services. Where the money is spent, and the type of money that is being spent, are things that should be taken into consideration for strategic purposes before introducing personnel to any new region, and also for the potential to influence transactions and resource availability in regions with no plans to directly introduce personnel. The two general variables for this are: type of currency, and direction of currency flow. While there are a wide variety of specific strategies with a multitude of variables, this provides us four main options regarding the strategic manipulation of cash flows, two of which are related to foreign currency.

16.3.1 Pumping Foreign Currency into a Region

Increasing the amount of a foreign currency into that region will cause inflationary pressures on the foreign currency being used, depreciating its purchasing power as a result of the increased supply of currency and increased demand for local goods using that currency, but to a greater extent it will depreciate the value of local currency in the region. The increased supply of foreign currency must be spent by locals so as the foreign currency increases in prominence they will use local currency less resulting is lower demand for the local currency. This will hold particularly true in intra-regional transactions wherein individuals within the affected region may have difficulty using the currency in transactions with organizations or individuals from other areas. The result will be an increase of individuals attempting to exchange the foreign currency for local currency at the current market exchange rate, as well as individuals trading among each other in transactions denominated in foreign currency. As the amount of foreign currency brought into an area increases, the ability to spend it outside that area or exchange it for local currency will grow increasingly difficult. The regional inflationary pressures will cause overall prices to increase altering the terms of trade for that region. Such a strategy would increase the cost of transactions for groups sourcing from companies in this area but who are operating outside that region and using pricing not yet subject to those inflationary pressures, if ever they will.

As an example, should England decide to target some militant tribal community in Afghanistan that sources weapons from Iran to use against the English military, they might attempt sourcing weapons or other resources from the area of Iran that these people purchase their weapons from using Afghani currency transactions. The devaluation of Afghani

currency that occurs as a result of the altered terms of trade from management in regional inflationary pressures and exchange rates will result in a more expensive purchase for the Afghani militants.

16.3.2 Pumping Foreign Currency Out of a Region

The other option with foreign currency is to reduce the amount of that currency available. This can be done by denominating sales to the locals in the foreign currency and denominating purchases with local currency. Within nations that have a difficult time exchanging money for foreign currencies (resulting from the local government's inability to exchange because of low foreign reserves, or simply a lack of demand for the local currency on the part of foreigners) this can be particularly troublesome when the need arises to purchase goods from a nation or company requiring transactions to be denominated in a foreign currency. This can be used to limit the transactions of organizations or people that source from foreign companies, whether that happens to be the enemy themselves or someone from which they get resources.

16.4 Diverting Local Currencies

Just as foreign currencies can be manipulated, so too can local currencies, of which the remaining two options.

16.4.1 Pumping Local Currency into a Region

Besides foreign currency, the market can be flooded with an influx of local currency. This is relatively standard anytime a moderate-large group of military personnel is introduced into an area but happens gradually. It is also relatively easy for the affected locals to disperse the surplus currency out of the area in the form of purchases outside the area, in fact causing short-term wealth. By introducing a large volume of local currency very quickly and without expectation from the locals it is possible to cause something called a market shock. A market shock occurs when the pace of change caused by any number of exogenous factors occurs so quickly the overall market does not have time to react thereby shifting equilibrium and creating short-term shortages or surpluses until additional supply, additional demand, or alternatives can develop to once again stabilize markets and pricing. The effects can wear off relatively

quickly, sometimes lasting only a few days, but this window provides opportunity to take advantage of the disequilibrium.

Such a shock, as described, would cause a short-term differentials in the pricing and available of resources in an area, particularly for those who use the same currency but traditionally purchase from outside that area. As a result, a temporary inflationary flux in economic transactions will increase spending by the affected individuals ("importing" more from another town, city, or district) and decrease sales ("exporting" less to other towns, cities, or districts). This short but valuable window of opportunity will create a temporary hardship for enemy combatants who purchase from the affected area, particularly those who are already troubled by other economic tactics. Such an opportunity would best be performed immediately preceding a physical attack to ensure limited supply, or in order to create generalized volatility to force the enemy into sourcing elsewhere in an effort to engineer the economics of their operations without creating long-term problems for unassociated civilians (which is discussed more in Part III).

16.4.2 Pumping Local Currency Out of a Region

Lastly, removing local currency from a region is our final broad option. The actual logistics of this is much more difficult than others but the impact, if successful, is also more devastating. This involves creating insolvency for individuals and companies by purchasing as much inventory as possible on agreement to pay in the future with the intent of promoting cooperative organizations entering the market to meet the demand from shortages created and pushing down prices to below that which the original company can compete, forcing them to close before repaying them for the purchase. This strategy completely removes an organization that refuses to stop selling to opposing forces and replaces them with one who will cooperate, giving ownership of the local market share and benefits of value and increased distribution to cooperative organizations.

While this strategy is viable for companies of all sizes, it is most likely to be successful on companies that deal in large-ticket items. Bullets, for example, are simply too plentiful, easily manufactured, and easily sold for insolvency to become a concern. Another challenge with this is the process of working through a proxy since the targeted companies are those that sell to enemy combatants and may be hesitant to also sell to friendly

forces, if they agree at all. Still, when the opportunity presents itself, a particular industry in a region can be completely captured without a single casualty.

It is important to note that the use of these strategies will have a certain amount of collateral damage. Alterations in the value of currencies or goods will not be isolated exclusively to the intended region. The degree of influence that market changes in one region will have on another will be determined by its trade gravity. Trade gravity is the amount of transactions that occur between those that reside within and those that reside outside any geographic area. It is calculated as follows:

$$F_{ij} = G\left[\left(M_i M_j\right)/D_{ij}\right]\eta_{ij}$$

where

- F Amount of Trade between Nations i and j
- M Economic Mass of Either Nation i or Nation j (typically measured in GDP)
- D Distance Between Nations i and j
- G Gravitational Constant Calculated as an Interpretive of $6.673*10^{-11}$ m^3 $kg{-}^1$ s^{-2}
- η Deviations from Calculated Gravity Caused by Value Volatility

As one might guess, affecting a city with larger economic mass will require much larger volume of currencies redirection. These, and even cities with only moderate economic mass but in close proximity to other cities, will be particularly difficult to influence and may take extra resource or, at least, additional time. Once one is successful in creating the desired impact, though, the effects will bleed out beyond the targeted area to varying degrees depending on their trade gravity. As the volume of transactions between those of an area and those outside that area increases a greater number will be affected secondarily by the impact. Smaller, more isolated towns that have little trade outside their own people will create little influence on other geographic areas since the changes in the value of currency and pricing they experience will not be a factor in nearly as many transactions with other towns or cities.

This, on the other hand, also maximizes the impact of the approach since these towns are incapable of dissipating or diversifying the currency redirection through outside exchanges. The best scenario for these strategies would be against small, loosely connected extremists, then.

Operations OIF and OEF are a prime example of conflicts that might benefit from this the redirection of currencies, given the extremely low trade gravity that these militants, and those that they associate with, experience.

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CHAPTER 17

Counterfeiting

Besides altering the availability of currency, counterfeiting is an effective way to discredit local currencies that has been used a great number of times throughout history, although this is no longer as easy a task as it once was. The prevalence of counterfeiting throughout history has led many nations to take a number of anti-counterfeiting measures to protect against such strategies. The result is not an end to counterfeiting but, rather, a limited number of people skilled in the trade being secretly employed by military and intelligence agencies for purposes of either creating this false currency or, more commonly, detecting counterfeits and tracking perpetrators.

Counterfeiting has been long established as a practice to undermine the value of currency and the legitimacy of government during time of conflict. Records show that a plot by British loyalist David Farnsworth to destabilize the newly formed American government indicates that counterfeiting was already known to be an effective economic weapon. Such a wealth of examples in how to take both offensive and defensive stances in counterfeiting strategies provides a well-established foundation for more refined, targeted approaches that reduce the risks and collateral damage historically associated with this tactic.

17.1 Altering Value of Demand in Afghanistan

In 1965, Marxists in Afghanistan formed the People's Democratic Party of Afghanistan (PDPA, a name that had changed multiple times before reaching that final incarnation) and overthrew the government, taking

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control of the nation to varying degrees of success until 1992. For much of this time, and for a time beforehand, the Afghan government had close ties with the Soviet Union leading to Afghanistan falling under Soviet influence as the Red Army moved southwest from Russia in an attempt to reach the oil-rich Persian Gulf via the Balochistan Plateau. Balochistan is a highland region that lies primarily in the northwest corner of Pakistan but extends into the southeast corner of Iran and southern tip of Afghanistan, and connected the areas of Soviet influence directly to the oil fields of the Persian Gulf.

CIA agents in Afghanistan, in order to discredit the PDPA-led government, employed expert counterfeiters to produce and distribute counterfeit Afghan currency, the Afghani (AFN). Since the PDPA was ripe with internal conflict, leading to both an overthrow of the current leader and a splitting of the party into smaller factions, the prevalence of counterfeit currency was used to force the Afghani population and its trade partners to question the validity of the currency at all, eliminating the value of the AFN as a currency which kept the government from obtaining resources using their reserves. The Afghan people, who are primarily farmers and textile makers prone to bartering for their needs already, decreased the number of cash transactions used, instead of increasing their reliance on a barter system. Since governments and militaries produce little of their own goods, relying on the non-government population to purchase their supplies, this left the Afghan government incapable of supporting their own operations. This led, eventually, to a full Soviet invasion as the USSR was not successfully gaining access to Balochistan any other way, fighting against Afghanis (specifically, the US-funded Mujahedeen, who were religious militants and a precursor to modern Jihadists) and the Pakistani intelligence agents which recruited them to defend the nation as a proxy military for the US resistance to Soviet control over the Persian Gulf. Despite the slaughter of a great number of Afghan civilians by the USSR during what is now known as the Soviet War in Afghanistan, the currency manipulation was successful in aiding the discredit and weakness of the Soviet-backed PDPA government. The counterfeiters went on to begin producing counterfeit US currency as a criminal enterprise but this is generally seen as a minor inconvenience compared to the necessity of removing the Soviet-friendly PDPA.

Producing counterfeit currency is very effective at generating friction in cash flows by forcing people to resort to barters and other alternate means of quantifying the value of transactions. There have been two

primary methods of introducing counterfeit currency. The first is to attempt to funnel the fake money directly to the enemy by distributing it to cooperative organizations or organizations ignorant that they are holding fake currency and that provide them with funds, such as banks, financiers, trade partners, and more (sources of capital funds are discussed more in Chapter 3). This method is meant to directly discredit not only the money used by enemy forces making it more difficult for them to transact business, but also the enemy themselves by creating distrust for them as they attempt to unknowingly provide fake currency to an unsuspecting public who will then question the motives and trustworthiness of those opposition forces. This should be done when resources are in ample supply or else when opposition forces are short on capital anyway, eliminating the credibility of what little capital they have left.

17.2 Altering Value of Supply During World War II

The second method of applying counterfeit currency is to use it during a time of resource shortages. During a shortage, distributing counterfeit generally through the populace will make the sources and channels of the currency harder to trade, allowing more fake funds to make their way into legitimate transactions. The benefit this will have will be to increase consumption by those that have the additional funds, exacerbating the effects of the shortage for enemy troops who do not receive any of these funds. Once the realization sets in that there is a significant supply of counterfeit currency being used, a general distrust of the currency will set in resulting in increased alternative transactions, as noted, leaving those government and military transactions that rely nearly exclusively on currency more difficult perform, thereby limiting the enemy's ability to acquire the resources necessary for normal operations.

This was done during World War II when the allied forces of Britain, France, and Russia distributed throughout German-occupied France and Japan-occupied Philippines counterfeit ration coupons for food, cigarettes, and other consumer supplies. The counterfeit coupons gave the general populace increased access to these supplies, creating an additional lack of locally available supplies for the occupying forces. Once again, these counterfeiters moved on to criminal careers counterfeiting currencies, emphasizing the importance of following up with individuals employed in these practices to provide continued career opportunities or at least to ensure that such a progression does not occur. After

discovering these counterfeits, in 1940 Hitler's Nazi military began forging Bank of England notes. The counterfeits were distributed in foreign nations such as France and Spain in order to cause a loss of confidence in British currency and trade, and became so numerous that this objective was fully accomplished. Britain strongly considered recalling all notes and starting over, while Sir Edward Reid of MI5 wrote, "In general it can be said that the German object of destroying confidence abroad in Bank of England notes has been achieved. At present no one will accept a Bank of England note in any neutral country of Europe except at a very large discount." The full effect of the strategy came to fruition in 1944, thanks in part to a very slow beginning, which was too late given that the war was nearly over by the time.

17.3 Preventing Counterfeit Currency

Counterfeiting, when done successfully, is such an effective strategy that it can completely discredit entire governments, particularly when distributed through targeted channels to maximize their effectiveness. As a result, nations go to great lengths to combat counterfeit currencies, including some of the following:

1. Serial numbers are logged and monitored in order to identify and track bills while confirming the existence of counterfeit bills and expediently finding them.
2. The addition of a portrait is extremely common among many world currencies and has been for centuries. These are difficult to replicate and added detail results in increased difficulty.
3. Printed textures are included in the backgrounds of the images on both sides of the bill using extremely fine lines.
4. An offset watermark identical to the portrait and printed on both sides of the bill becomes visible only when held up to the light.
5. Layered seals are printed over or under other text but still remain visible giving the appearance of translucency.
6. Money is often printed on various types of special "paper," made by incorporating materials such as wool, cotton, or synthetic polymers.
7. Color-shifting ink used in the one corner of bills appears one color when looked at directly and appears to change colors when looked at from an angle.

8. Microprinting used to create the drawings and include text in various spots is extremely detailed, adds additional textures, and is extremely difficult to replicate clearly.
9. Federal Reserve indicators show exactly which bank issued the currency to assist with tracking, alongside the serial numbers.
10. Within the paper lies an ultraviolet-reactive security thread that can be seen when held up to the light and will glow under a black light.
11. Low vision, machine readable numerals at one corner of the bills are designed to be read by machines created to be used by blind individuals to help them cope with the challenges of identifying currency denominations without the help of others.

These measures should be taken by all nations to avoid not just criminal counterfeiting as one might expect from organized crime but, more importantly, to protect against strategic counterfeiting as a form of military offensive.



CHAPTER 18

Limitations and Failures of Trade Manipulation

While trade manipulation resolves many of the challenges associated with supply manipulation strategies and even expands on the economic tools available to a fighting force in their pursuit of military conquest, trade manipulation in itself is not without its own challenges. The logistics of developing and executing these strategies is difficult and requires a significant amount of intelligence gathering regarding both enemy operations and market trends. Even when this is accomplished, these strategies require constant maintenance to remain effective, so they are best used in conjunction with the intention to take advantage of otherwise temporary trade fluctuations as an opportunity to overwhelm a weakened stance for the opposition.

18.1 Time Elasticity Problems

In order to determine how to implement strategies such as preclusive purchasing or supply exploitations, or whether they will even be feasible, a well-developed understanding of the market for particular goods as well as the enemy's need for those goods must first be had. This involves a great deal of intelligence gathering on specific industries such as pricing, sourcing, distribution, alternatives, competitors, and more. More importantly one must also understand where the enemy sources their supplies from and what alternatives are available. This is not an easy process but it's also not an impossible one. The hiring of individuals who

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work in the industry, and are already familiar with the market, as consultants can help to expedite this process.

While many of the strategies associated with trade manipulation require no prerequisite conditions, or at least that those conditions can be created, some other strategies described are simply opportunistic in nature when taken at face value. Tactics that involve other companies such as predatory business practices or developing trade cooperation with local companies require that certain conditions be met before they are feasible, such as critical businesses being already integrated into the market and willing to cooperate. Even those prerequisite circumstances that cannot be readily created using supply or trade manipulation, however, can be engineered using strategies discussed in Part III.

As hinted at briefly throughout Part II, many of the effects of these strategies are temporary. Over time the elasticity of demand for goods increases. An increase in price for price inelastic goods may result in higher profits at first but competitors and alternatives will be the final result as people become frustrated with high prices; the same holds true for artificially manipulated trade wherein supply is limited, distribution channels are managed, and the value of capital is altered. People will find other ways to manage their transactions over time. The benefits of these strategies can be prolonged if managed properly, as mentioned in Chapter 12, and one can continuously adapt their strategy to continue the impact, but it is much more difficult to predict and alter changes to a dynamic market than it is to exploit existing conditions. It is inevitable that in time the effect of any strategy will wear off, which requires one to take advantage of these affects as soon as possible. This doesn't imply, however, that military action is required. Part III will show how the eventual transitions in the market that result from trade manipulation can be leveraged to ones benefit. As with the creation of black markets that result from artificial shortages, the fact that we are able to anticipate market transitions means that we can appropriately prepare and use it to our own advantage.

18.2 Legal Concerns

Regardless of the debate on how difficult a strategy may be to implement given the context of the combat environment, still another challenge may stop an otherwise effective plan from ever coming to fruition: legal barriers. The nature of a government or military involving companies directly

in warfare strategies, even companies designed specifically for that purpose such as mercenary organizations like the now defunct Blackwater USA, has long been controversial. Doing so often involves higher costs, a lower degree of direct control that the military has over the people it manages, the use of civilians in a military setting is seen as distasteful for some, and any expansion of government control over private enterprise violates philosophical taboos for some of the most ardent proponents of free-market thinking. As such, using a military to alter market competition for cooperative businesses is likely to continue to have some ethics considerations that will remain pervasive, forcing politicians to question the legality of such an approach. Still, we must remember that the extreme circumstances of warfare are rarely, if ever, the better option and when compared with the devastation of large-scale physical violence this would appear to be the lesser of two evils. If a taboo such as murder can be readily justified in the name of self-defense, then so too can taboos in traditional business ethics and certainly at less harm than resorting to the risk or damage are associated with physical harm.

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CHAPTER 19

Suggestions for Future Research

These descriptions are far from comprehensive. Neither the full wealth of historical use of trade manipulation nor the full potential of future use is described within these pages, as the number of examples available is too numerous to be included. To the contrary, the number of strategies that may yet be developed and the breadth of understanding that we may yet have on this subject far exceeds that which is included, and history fertile with templates upon which grander inspiration will bare ripened fruit of economic strategy.

The nature of currency redirection and value manipulation has only briefly been explored. Further research into the potential for more targeted strategies that will cause not only the final outcome, as discussed, but can also create a full series of effects as currency is passed from one had to another, altering the availability and value of the currency at each step, should cause a multiplier effect if managed properly. The greater challenge to this would be ensuring that the currency is passed on properly, which would require multi-step supply chain engineering that would be quite difficult for even the most ingenious strategic minds.

This would be particularly important, however, since better managed currency usage will maximize the benefits through a more focused distribution that does not distribute as much of the total value out of the targeted region thereby losing strategic efficiency nor creating as much collateral damage for the surrounding areas. As with bullets wherein kinetic energy released within the intended target is most effective, currency manipulation strategies that stay within the intended region will

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have the greatest impact. Combinations of approaches such as with blockades may assist in this but greater research would be required to refine the understanding of the impact.

There are methods of collecting intelligence about an enemy's cash flows but that will be discussed further in Part III. Even with this intelligence, the use of counterfeit currency will, in time, cause undesired difficulties for one's own soldiers as well. There will be a certain degree of backlash created as soldiers experience some of the same hardships and asset costs as the enemy, regardless of the degree of preparation. Particularly if it should become public that the currency originated from your side of the conflict, this could cause generalized distrust and additional friction between one's soldiers and the people of the affected region.

The psychology of motivation, incentives, and other employment issues is a very broad subject. Cultural influences will certainly play a critical role as social variables develop our values through learned traits, but to attempt to identify and isolate the role of every variable within that sub-study, or any other sub-study of organizational psychology, would be an extremely lengthy description that extends far beyond the parameters of this book. Still, as a science in human behavior, economics has a significant overlap with psychology and one should consider the psychological implications of these strategies and how Psyops might best be utilized to optimize their effectiveness.

PART III

Market Manipulation

Overview

The final category of economic combat that will be discussed is that of market manipulation. Where as supply manipulation alters the availability of supplies directly, and trade manipulation alters the terms of transactions that are had by either opposition forces or those that they deal with, market manipulation is a far more subtle approach to combat strategy but just as effective. In review, take note that although supply manipulation will likely be readily and easily noticed by the enemy, trade manipulation would take an enemy unfamiliar with such an approach longer to realize what is happening; that the business they were transacting business with or the resources for which they were interacting with a particular organization were being managed by those they were attempting to defeat. Market manipulation takes this one step further by taking an approach that involves nearly no direct involvement by military soldiers. Instead, the market forces themselves are manipulated, allowing the enemy, those that the enemy interacts with, or neutral 3rd parties to be directed into taking actions themselves that would harm the enemy. This is done simply by understanding the economic forces at work, anticipating how individuals and organizations would react to alterations on those economic forces, and making the alterations required to make a desired impact occur.

In *The Art of War* Sun Tzu states that, "The general rule for use of the military is that it is better to keep a nation intact than destroy it."

This is one of the primary benefits of market manipulation. Since little or no direct force is used in this approach there is no damage created as a result, except to the operations of the targeted organization. In minimizing the collateral damage that results from defeating an enemy, it is much easier for people to rebuild their lives in the aftermath thereby reducing the need for aid, assistance, or even the negative consequences of social and political backlash that is so common when one nation invades another regardless of whether it is for offensive or defensive purposes.

All nations, regardless of politics or social stance, are subject to market forces. Politics and social forces may frequently result in alterations to the market through policies and trends that contradict proper market management, but those market forces are still at work. Even in a nation wherein the central government attempts to control every aspect of the entire economy, such as has been the case with North Korea beginning in 1945, those market forces are still at work and government policies have merely resulted in devastating shortages throughout the nation. As if on trillions of invisible puppet strings, every person, every business, and every nation on the planet is subject to the pull of market forces. These strings that connect each of us in ever-entwined interdependence, for those that can recognize them, can be pulled by individuals to influence those connected on the other end, or to pull the puppet perhaps connected by way of the 2 or 3 individuals between. Regardless of all other matters, if something becomes scarce then the cost of it will increase, the ratio of ownership of total aggregate resources will change, and we will all feel it to some extent whether we're aware of it or not.

Since we are all interconnected in this manner, as more destruction that takes place during a conflict all people pay the consequences indirectly in some form or another. Keeping a nation intact ensures that the nation's resources remain intact for use that will benefit its people or other peoples in the form of trade and consumption. This provides opportunity to gain alliances or trade cooperation that otherwise would not have existed if relationships soured as a result of the destruction, and it is less invasive for the civilians in the region.

Some of the most valuable intelligence available to the military comes in the form of market information on pricing, volume, and distribution. Once one understands the operations and needs of the enemy, those needs can be exploited by engineering ownership and competition in the marketplace. The attitudes and opinions of people can be altered as well, not just in convincing a populace of who is going to help them, but by

directly taking advantage of their natural self-serving instincts to which all people inherently adhere. Together, this intelligence and the ability to alter market forces form some of the most effective and important strategic planning ever devised, creating the ability to effectively predict attacks and even manage the enemy's strategies from afar by way of those puppet strings that connect every side of a conflict.



CHAPTER 20

Economic Intelligence

The data that makes up economic intelligence is relatively easy to collect compared to other forms of intelligence and provides a detailed look at the inner workings of enemy operations including any future plans they might have to take action. Economic intelligence consists of information in the volume of sales of goods, the specific types of goods that are being sold, availability and distribution of goods, changes in pricing, and more. By collecting this information, one can determine the amount of types of resources being used by the enemy and when they are being used. Not only does this allow one to determine how effective their economic strategies in combat have been, but it even allows one to deduce the actions that are being taken or are going to be taken sometime in the future, accurately predicting the intentions of the enemy and responding to those intentions through calculated anticipative reaction.

20.1 Analyzing Economic Fluctuations

The simplest example of this is the purchase of radioactive materials. When a nation begins purchasing yellowcake uranium in quantities much greater than it had previously done, one can start to assess the risk that the nation will begin producing nuclear weapons. Uranium is a material that has very few sources, is very limited in supply, and is under constant watch by a number of national and non-governmental organizations (NGOs) around the world, meaning that intelligence about uranium is quite easy to collect for those with the organizational

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ties and security clearance to access said information. This is the current case with Iran, wherein the Iranian government had begun purchasing undeclared nuclear materials and other components in the early 1990s after restarting a previously disbanded nuclear energy program that was developed with the help of the USA in the 1950s. Despite Iranian denials of a nuclear weapons program, the economic intelligence was clear and in November 2011 inspectors from the International Atomic Energy Agency (IAEA) published reports showing beyond the shadow of a doubt that the uranium was being used for military purposes, including the application of detonators.

Uranium is a very prominent and carefully monitored material, though. Those organizations that have any intent of building nuclear weapons will have a difficult time hiding the fact under the best of circumstances, and those who are attempting to build less refined weaponry (such as "dirty bombs" where a nuclear reaction does not take place but radioactive material is spread over a smaller radius using more standard explosives) will attempt to hide their uranium purchases more than the purchase of any other materials. It is not required that in order to make conclusions regarding the enemy's military strategy that such a prominent resource be under investigation. An alteration in the supply, demand, distribution, or price of any good can be extremely informative given the proper timing and context. While the availability of information about some more mundane resources may not be thought to be so readily collected given the "who cares?" nature of a particular market in the context of warfare, this benefits intelligence agents in the sense that there is also deemed no reason to hide the fact that these purchases are being made. Any particular piece of information, combination of information, or simply enough volume of information will yield a full picture as to the intents and actions of an enemy organization without collecting plans or briefings directly through the use of traditional spies, hackers, or even satellites. Sometimes determining what the enemy is planning or where they are located can be as simple as asking someone at the local market what is the price of bread.

20.2 Price Analysis and Black Market Diamonds

During World War II, industrial diamonds played a critically important role for the tools used to build the heavy industrial machinery that was so common during this war. These diamonds were also necessary to

make the guidance systems required for flying the aircrafts of the time. The primary sources of industrial diamonds were the British-controlled De Beers mines in Africa and the South American diamond mines that were under US influence. Germany's voracious appetite for these diamonds, and to a lesser extent that of Japan, led them to seek black market alternatives to acquiring them since traditional methods were not feasible. Finding the undercover German ships and soldiers sent to South America to purchase these black market industrial diamonds was a task left in the innovative hands of a few United States intelligence agents. Rather than attempting to find these Germans directly using traditional intelligence to reveal identities, or waste the resources merely attempting to outbid the Germans on every single bid, realizing that either option would have been ultimately futile the US agents resorted to using economic intelligence; they watched the prices. Remember that, as a general rule, when demand for goods increases, that price increases as well. As a result of this, whenever undercover German ships entered the docks in South America in pursuit of black market industrial diamonds, the prices of these diamonds increased. US agents watching for variations in pricing were able to detect these sudden fluctuations by simply monitoring what price dealers were asking on a daily basis. When the price of these diamonds increased, the US agents would then search dock records to find out which ships had entered port during the same time period. Using this method, they were able to accurately and consistently detect German ships and repel enemy soldiers from obtaining the diamonds they so desperately needed. These led the Germans to experience supply inefficiencies in both tools and guidance systems, part of a series of generalized resource shortages that they struggled with that contributed to their eventual defeat particularly near the end of the war.

20.3 Predicting Behaviors Based on Resources

This example illustrates how monitoring the external markets can provide critical intelligence about the movements of one's adversary. Perhaps a decrease in the availability of locally produced footwear, or an increase in price of the same, may betray the enemy's intentions to prepare for movement by foot to another location. There are a variety of potential external indicators, and the key to understanding them is simply to understand what might cause such alterations in the market and ascertain why the cause occurred. If prices see a dramatic downward trend with

no change in the consumption from one's own troops, then it can be determined that the enemy is consuming less. Exactly what this means will depend on what items are decreasing in price. The opposite holds true if prices are increasing with known consumption held constant; the enemy is consuming more, but the importance of this will be determined more in identifying which items have varied in their level of consumption rather than the quantity of variation in consumption trends. A low supply and high price of ammo may mean that an attack is imminent, since ammo production will have reached an equilibrium over the course of years of supplying a level of demand that is either constant or is experiencing consistent growth with accurately measurable annual growth. A sudden increase in the demand for ammunition would be considered a market shock that would be a strong indicator that an attack will occur relatively soon. The ability to anticipate the attack gives one the opportunity to exploit their plans by altering the outcome, as noted in Part I, Chapter 4, and will be further discussed in Part III, Chapter 6.

Just as external indicators might provide important information about the status of one's opponent, so too might observing their actions directly. As Sun Tzu notes, "When they will their horses for meat it means that they have no food." Taking note of changes in the behaviors of the enemy can provide information about the resources they have available, what their next actions might be in response to their resource levels, whether or not other economic strategies have been effective, and even how one might drive them into ultimate surrender.

Some enemy behaviors related to their purchase and consumption of resources can be easily identified as abnormal under any circumstances. The cannibalization of resources for purposes other than their intended or most efficient use, when alternative resources more effective are known, shows desperation on the part of the enemy. Referring back to the quote by Sun Tzu, if soldiers are eating their hoses, it means that they are desperate for food. If one had already put a supply manipulation strategy in place to cut off resources, then this would indicate that your strategy is highly effective. If one had not implemented such a strategy, then this may indicate that a critical resource is not locally available, or it may be the proverbial gasmask which indicates that the local resource is not safe for use. The differentiation is important because if the resource is locally available but not currently being used by the enemy then identifying means available to the opposition to acquire these resources will allow one to anticipate their movements. If the enemy's inability to

access the proper resources is the result of artificial shortages, then allowing the enemy to access the resources they need gives the opportunity to set ambushes to capture them while they overlook obvious traps in their state of desperation.

Not all significant behaviors can be considered unusual in absolute terms, however. Changes in resource usage will be more difficult to discover since they require one to watch for relative differences in resource usage over a period of time rather than observing a single instance of unusual behavior. These changes over time can provide an even greater degree of information, however. A decrease in the amount of fuel used at a particular location can be extremely informative, since fuel is an important indicator of the amount of overall activity in a location. If the amount of perishables that the enemy is consuming decreases, but the price of the same perishables does not decrease, that would indicate simply that supplies are limited since the price of perishables such as meat must change quickly in order to avoid waste. On the other hand, if the enemy begins purchasing more perishables and price goes up, then there is a good chance that they are preparing either for more people to arrive, or for conflict or movement.

20.4 Counterintelligence and the Board of Economic Warfare

Any action that the enemy will ever take will require different types of resources in variable quantities. By observing the amount of each resource that is being consumed, distributed, produced, or how prices react to these other variables, it is possible to determine what is being planned well in advance and without requiring direct observation of communications. As in direct combat, economics plays an extremely important role in intelligence. Since information on operational economics can help one to predict intentions, then economic counterintelligence can be provided in order to give the enemy inaccurate predictions thereby altering the actions they will take. As with economic intelligence, economic counterintelligence and misinformation can be presented both through the general market as well as by allowing them to directly observe deceptive actions meant to mislead the observer.

During the Cold War between the USA and Soviet Union, the US Board of Economic Warfare would recruit businessmen from companies that dealt with the Soviets or their allies to carry falsified records.

These records were either openly presented or expected to be observed covertly, but they contained information that exaggerated the economic strength of the USA in order to intimidate the Soviets during the arms race. This was intended to discourage any direct attack by the Soviets but had the added advantage of contributing to the urgency with which the Soviets wasted their already depleted reserve of resources causing additional problems from shortages. This strategy kept the USA from having to actually waste resources to produce an elevated level of defense assets by simply having the Soviets believe that they had either already done so or were capable of such an elevated level of production.

Similar strategies in providing market counterintelligence could be implemented by manipulating price or production volume to give unusual information to the enemy. Rather than hiding the volume of ammunition being distributed, for instance, to try and hide that information from the enemy, increasing the amount of ammunition being distributed to a location where nothing is planned in order to make them expect an attack and allocate resources in kind to that spot would create an opening on the real target. This idea would be reinforced with a price increase of ammunition in that same region since that would be the normal market reaction to the increase in demand leading up to an attack. Whether utilizing cooperative individuals and companies to plant misinformation or intentionally manipulating market data getting the cooperation of company's that have ties to the enemy, or placing organizations in such a position, can be greatly beneficial. As already noted in Chapter 15, having organizations in a position of influence can allow one to manipulate the enemy directly through trade manipulation. Having an organization in this position also gives an important advantage in collecting and disseminating information. Such a company will have advanced industry knowledge regarding the competitive market as well as the volume of a product that the competition produces. At the same time, they have the opportunity to clandestinely distribute false information about their own production, the production of the competition, or information about their customers. In any case, rather than cutting ties with the enemy or those who have relations with the enemy, its important to ensure that organizations in these positions not only stay in business but continue to keep their ties, regardless if they provide the enemy with some of their assets. Taking advantage of those connections allows for a more important strategic advantage by collecting useful information and presenting

to others misleading information, in addition to the fact that profiting from the enemy accumulates additional assets for friendly organizations, as noted in Chapter 12.

20.5 Economics Style Information Warfare

This approach to information warfare can be extended to include direct, intentionally deceptive activities that are undertaken specifically to be observed by opposition forces with the goal of convincing them to take actions they would otherwise not have taken. Remember from Chapter 6, that resource availability alters the enemies incentive to attack and that anticipating an attack allows one to react to it in a manner that is more appropriate than a mere heavy-handed defense that will result in both casualties and wasted resources. By allowing the enemy to collect intelligence on one's own actions, it is possible to actually redirect the movements of their troops or the target of their attack by providing the perception that there is a lower risk or higher-value target worth attacking.

Recall the 23rd Headquarters Special Troops from Chapter 12, who used artificial vehicles to draw enemy fire during World War II. One particular mission brought a team of artists and architects to a river where a simulation was installed that would appear to any outside observer that a bridge was being built. This simulation included artificial equipment, artificial vehicles and people, and even included extremely loudspeakers over which were played recordings of actual construction sites. This conspicuous spectacle drew the attention of the Nazi soldiers who would send teams to attack the artificial crew on bridge duty to the south of where the Nazi's were located, only to find they had been fooled. During this time, more secretly, the real operations went underway to the north of the Nazi's location and were left completely unnoticed. This allowed the US transportation convoys to move assets across the river, a slow procedure as movement across bodies of water often is, without fear of being discovered by the enemy troops while in a precariously unfavorable position mid-stream. Such decoys can also be more subtle, such as giving the appearance of large shipments being made to locations that, in reality, hold nothing other than the appearance of large missions that would garner the attention of any enemy, giving one the ability to make the real intended movements while the enemy's attention is on the decoy. Particularly in a time of satellite imaging, even small

movements are under intelligence scrutiny and might benefit from drawing the attention of prying eyes with false shipments that would appear to be vitally important for their size, value, or threatening nature.

Altering the enemy's movements by way of taking actions meant to deceive through economic abnormalities is not limited to just decoys. Trading in unusual quantities of goods, trading those goods at prices higher or lower than the fair market value, and distributing those goods in a manner meant only to provide the enemy with false intelligence will give the perception to onlookers that something of significance has occurred where nothing has occurred at all. This simulates not any grand mission, as was the case with the bridge mission of the 23rd Headquarters Special Troops, but it simulates more subtle internal operations that the enemy typically should not know of but which is meant to be seen by the enemy in order to take advantage of the rational behaviors they will exhibit in response to the intelligence they gather. By giving the impression that a military post has more resources than it truly does by accepting fake shipments, presenting the image of having a great number of human assets active at any given point, and, in desperate scenarios, by presenting the image that rations are being consumed at normal rates, one is exaggerating the availability of resources that one has thereby discouraging enemy advances. This occurs because the intelligence one is providing is that a direct attack would involve greater risk than truly exists, as was the case when the USA used businessmen to exaggerate the economic potential for military production relative to the Soviets. In contrast, hiding a wealth of resources by storing them while consuming local goods, carefully rationing what you have, cannibalizing some goods, and otherwise acting desperate for resources will encourage the opposition forces to attack. Emboldened, possibly even to the point of overconfidence, the enemies will be drawn to attack a post against which they are grossly underprepared to do battle. As it has been written in The Art of War, "When you are strong, make them think that you are weak," a game of deception based entirely on economic strength that can make the difference between winning or losing vital battles in a larger war.

In combination, one might take bold actions using an insignificant post to appear over strength, while giving the impression that the other post is experiencing severe shortages. Once the enemy has proper incentive to attack, they are already set up, using economic counterintelligence tactics, to make decisions that are faulty because they are based on faulty intelligence. By simulating many of the behaviors described throughout this book

in a way that is contrary to the real circumstances, the ultimate goal is to control the enemy's movements and actions by controlling what they perceive. Philosophically, our actions are merely a response to what we learn, mostly through our senses—vision, hearing, touch, etc. By controlling what the enemy learns, we control what actions they will take. This concept will be greatly expanded upon in Chapters 26 and 27, giving additional application through sophisticated analysis to fully control the enemy's actions.

20.6 Operation Tidal Wave II

Chapter 3 notes that directing capital away from opposition forces limits their ability to fund military operations, weakening their strategic position. However, in recent years, there has been a greater emphasis on allowing financial transactions that involve opposition forces to take place and using the data that the transactions produce to collect strategic intelligence on their activities. In what has been dubbed "Counter Threat Finance," the US Treasury's Financial Crimes Enforcement Network works with military and intelligence agencies to identify specific actions and functions of foreign operatives and to predict future events. This includes monitoring financial activities not only through traditional banking and financial networks, but also through cryptocurrency networks (e.g., Bitcoin transactions).

So accurate is the financial data that it has allowed intelligence and military agencies to identify individual facilities among many that are being operated by opposition forces. Operation Tidal Wave 2 was just such an accurately targeted mission. The original "Operation Tidal Wave" was a World War II bombing mission to destroy oil refineries in Romania. Likewise, Operation Tidal Wave 2 was a mission to destroy oil assets controlled by Daesh, except it was much simpler to identify enemy operations during World War II than it is to distinguish between friendly, enemy, and neutral operations in OEF/OIF. At their peak, Daesh were producing $47 million per month from forcefully seized oil production assets, making them easily the most well-funded terrorist organization in the world. Stopping them meant stopping their source of funding, but mistakenly targeting the wrong facilities could have serious global implications for oil production and distribution and become a significant international relations problem. So using financial transaction information, they were able to isolate Daesh-controlled properties, destroy them, and reduce their oil revenues by 30%. It was the first time that a strategically targeted attack was performed based purely on financial intelligence.

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CHAPTER 21

Labor Exploitations

21.1 Labor Disruptions

All markets can be altered, including labor markets. While manipulating labor markets without direct intervention can be easily the most devastating economic human resource strategy available, it can also be the most difficult to implement, requiring intimate knowledge of the regional labor markets as well as critical individuals within those markets. When utilized properly, these can create a chain reaction that brings a vast proportion of an entire nation or global industry to a complete stop.

In order to instigate these economic disruptions through labor stoppages, it is vital to convince people that they are not receiving the fair market value for their labor and that the difference in power between the employed and the employers can be overcome by utilizing collective bargaining rights. Particularly when offered in conjunction with labor strategies listed in Chapters 4 and 13 so that people can see first-hand what fair market value for their labors are but that the foreign employer can not hire all the people, there will be a greater incentive to collectively coordinate since the difference will be readily visible. The impact of these disruptions is twofold. First, their production will stop creating shortages of goods and services. Second, it will undermine the control had by whatever authoritative body is in charge, whether that is the government, the military, or even company management. Supply shortages can play a vital role in changing the combat environment, as noted in Chapter 2, while destabilizing authoritative bodies yields the opportunity

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to take advantage of any changes by gaining influence within the body or convincing the new body the end of the conflict.

21.2 Work Stoppages in Nazi Germany and Soviet Union

During World War II in German-occupied areas, and for a long time after the end of World War II in Soviet-controlled East Germany, foreign agents would attempt to disrupt the German labor market not by directly hiring their workers (as was noted in Chapters 4 and 13) but by empowering workers to demand for themselves fair market values for their efforts. These areas, during their respective periods, were rampant with extremely long working hours in unsafe conditions, very low pay, and all while experiencing the desperate shortages of those goods needed for the basic survival resulting from an extreme recession for all but the political elite. This is often the case in totalitarian governments wherein excessive control over the economy by the government results in unresponsiveness to fluctuations in market forces. In this case, US agents placed in the region took advantage of the generalized public discontent by initiating organized labor strikes that quickly garnered attention, inspiring others to do the same. Among their demands, safer working conditions, shorter hours, higher wages, and better access to subsistence goods were some of the most common. The tools available to these groups were consistent with modern strikes and consisted primarily of work stoppages, but more extreme methods such as violent outbursts occurred occasionally, particularly when talking and negotiations failed.

All the pieces were already in place for these disruptions in production to occur on their own. Rather than getting directly involved by confronting in a military fashion the Nazi-occupied nations or the Soviet-occupied East Germany, an action that would have been politically sensitive and possibly trigger greater conflicts, the USA needed only to set into motion a chain reaction. By acting as the proverbial clockmaker, wherein all the pieces of a clock are placed properly so that the end result functions on its own, the USA helped achieve their goals of economic military strategy by means of encouraging the people of these nations to act in a manner that was in their own interest regardless of US intentions.

By this point, the USA was already quite familiar with the national economic hardships that labor strikes could create, as they had experienced some of the largest strikes in history, including the 1934 Textile

Worker's Strike that included over 400,000 people, and the 1919 Seattle General Strike that included over 65,000 shipbuilders.

These strikes brought entire industries to complete halt. During a conflict, a strike that keeps additional textiles such as clothing from being made, or that keeps ships from being built, will certainly create problems both for the soldiers as well as for their nation as a whole.

The strikes in the USA were organized by labor leaders; however, people who took the initiative to coordinate other workers and form unions. While workers living in nations that attempt to keep total control over the economy, such as the Soviet Union or Nazi-controlled Germany, will nearly always experience hardships comparable to, or worse than those experienced in the early twentieth century USA, its also in the nature of these nations that the government will keep workers from organizing. It is contrary to their attempts to maintain total control over production that laborers should organize themselves to exert their collective bargaining power and improve their quality of life through increased wages, better working conditions, and other common labor motivators. In such nations, it's often required that foreign individuals groom labor leaders to begin the efforts necessary to represent and coordinate the workforces. This is exactly what occurred in the 1953 Gulag Revolts in Soviet Russia, when Ukrainian and Kazakhstani prisoners were brought from Kazakhstan to the gulag prison in Norilsk, Russia. They had been planning the revolt for quite some time by 1953 and had intended for the publicity they gained to trigger additional revolts across a multitude of prisons. The strikes at these labor camps were much more aggressive, overpowering guards and taking total control of several camps. Even the Soviet government first attempted negotiations to end the strikes, these foreigners had gained so much support throughout the gulag, yet their promises were broken and soldiers from Russia's interior ministry (called the Ministerstvo Vnutrennikh Del, or MVD) opened fire resulting in the massacre of over 200 people in all and wounding over 550.

Despite ending poorly for them, these labor uprisings forced even the Soviet government during its height of power to attempt to negotiate with a group of prisoners who were sorely outnumbered and overpowered. When market conditions are right, this exuberance can be harnessed by any nation's people against its own government or business elite, altering that entire nation's economic potential and social coherence. When such economic circumstances present themselves, they can then be easily leveraged to set in motion highly influential labor disputes

that put a nation's people in charge of fighting instead of one's own nation, as would occur during traditional warfare or even supply manipulation or trade manipulation strategies.

21.3 The Labor Revolt of 1877

The USA has, nearly from its conception, been ripe with abuses of the labor market by plutocratic industrialists. So problematic was the situation that just a little over a decade after the Civil War between the Union and Confederate states ended, a new Civil War nearly began in which several cities in across the nation erupted into protests by the workers which quickly escalated into full combat as the plutocrats called upon President Hayes to deploy Army soldiers against them.

Although the original protests were triggered by a 10% wage cut to railroad workers employed by B&O in West Virginia, it was clear that conflict was inevitable, as this was not the first time their wages had been cut and rumblings of mutiny were ripe across the entire nation. The idea of organized labor was a new idea during this time, so civil negotiations were not likely to have been possible under any circumstances. Instead, the police were called to reopen the rail yard that had been blocked by the workers, and yet again in order to rescue a railcar of cattle that had been hijacked. By this point, however, word had already spread of the protests and rail workers from all around came in support, or began their own protests in various cities. They were all quickly joined by miners, dock workers, ironworkers, and laborers across a variety of industries, successfully forcing the police away to maintain their protests. Protests were seen from New England to California, and into Southern Texas. In response, several states made use of their National Guard (or equivalent state militia), which is when the real problems began. In their attempts to retake control of facilities and put people back to work shots were fired, at which point instead of continuing their protest the workers began to shoot back. Particularly in Pennsylvania, Philadelphia strikers would set coal cars on fire and send them careening into the facilities occupied by opposition soldiers, successfully stealing high-powered weaponry.

As fires were being lit in Philadelphia in response to the use of military tactics to force laborers to work in abusive conditions, in Chicago this was all used toward a more political purpose. The Marxism-based Workingmen's Party, emboldened by the success of workers in

Pittsburgh to gain the support of the local National Guard, called on the public to take control of the city. This did not end so well, as rather than executing a successful coup, the crowd merely erupted into riots, the chaos of which accomplished nothing beneficial. In order to avoid the failure of Chicago, the Workingmen's Party of St. Louis insisted on a peaceful protest of singing and chanting and, of course, refusal to work. Police arrested key leaders within the organization, and with that failure, the strikes began to end—enthusiasm for workers' rights was overtaken by the desire to maintain a more even-tempered society than what had been demonstrated in Chicago. The strikers were villainized by their employers in the papers, and the same B&O president who directed the 10% pay cut stated that the military should have killed more workers, while others claimed foreign interests were the ones that had organized and led the violence.

This movement of organized labor began with a noble purpose and quickly gained popularity and success. That the involvement of a political party attempting to use an already successful movement as a way to gain influence resulted in its total failure demonstrates clearly how difficult it is to utilize labor markets for strategic purposes. The perception of perpetual and systematic injustice in the workplace must be created to direct public discontent toward the nation's means of production, at which point the ideas and actions presented must be directly aligned as a solution to the perceived problem, and actionable goals offered by which to achieve that solution. The Workingmen's Party failed to understand that the involvement of more public leaders attempting to achieve political goals was in direct contrast to what the original movement was attempting to accomplish. The successes of the movement came from internal sources—workers organizing with other workers in defense of themselves and each other; whereas political involvement meant workers being led by those who did not share in the injustice, could not possibly empathize with it, and who were personally benefitting from the efforts of the workers (exactly the thing they were originally fighting).

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CHAPTER 22

Expropriating Peoples

During his campaign to expand the northern Greek state of Macedon, Alexander the Great was quite often not fought off as a conquering commander and his mighty military, but greeted and welcomed by those regions he would soon overtake. This was, in part, a result of being given the option to either be conquered in battle by the overwhelming power of his military or avoid the devastation of war by simply agreeing to be annexed by the Greek state. Avoiding war was not the only motivator, however, and many regions actually went as far as to request to be "conquered" because of the incentives, or positive motivators, associated with becoming a part of Macedon.

To those areas he commanded Alexander brought the protection of his military, jobs and wealth for the people, status within the Greek empire, technological advances, world trade and culture, and almost total autonomy. Despite being officially considered a part of his territory, Alexander allowed these regions to keep their own culture, govern themselves with minimal interference, and even claim much of the glory of the cities that were built in his name. Alexandria, the once great capital of Egypt, founded in 332BC by Alexander and considered to be second only to Rome in both size and wealth, can be used as a prime example of all this. By many, being defeated by the army of Alexander the Great was not a seen as a thing of shame but, rather, an opportunity to prosper as many cities had before. This pattern continued until his death sometime in 323BC, not in battle, but the result of some undetermined illness perhaps by disease, infection, or poison (intentional or accidental).

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The empire of Macedonia under Alexander the Great expanded in size exponentially, reaching sizes much larger than that all of Greece beforehand. First, conquering those lands surrounding the Mediterranean Sea that he encountered as he traveled southeast from Greece to take Egypt, he then moved on to dominate large swaths of what is now considered the Middle East, including nearly all of modern Iraq, Afghanistan, and Pakistan. In a great number of cases, the turnover of control from the previous empire to his was as simple as asking, an approach he owes nearly entirely to the use of proper and successful economic policy with consideration for social psychology. For those times when these things did not work, he could always fall back on one of the most effective and devastating military forces known to mankind up until that point, but only as a final effort. Like Sun Tzu, he believed that destruction might win a war but that winning was not enough and that it is construction that builds empires; winning without war is success without cost.

22.1 Providing Honorable Option to Change Sides

Looking deeper at the reign of Alexander the Great with consideration for its economic merit, it becomes apparent that he effectively utilized some of the same strategies outlined in this book, particularly those regarding human assets and maintaining proper supply channels for his territories. The end goal was not, however, the same as those discussed so far. The end goal was to change the hearts and minds of the people using what we now call economic development. Economic development is the study about people's overall quality of life and how to improve their quality of life. Economic growth, in contrast, refers to an increase in the production of assets, otherwise as an increase in wealth. Growth is usually measured in one of 3 ways:

GDP (Gross Domestic Product) per Capita: The total value of all production inside a single nation divided by the total population within that nation.

GNP (Gross National Product): The total value of all production of a nation's companies regardless of where in the world that company is producing their goods.

Income per Capita: The average amount of income that a person makes measured by dividing the total income in the nation by the total population within the same nation.

A single measure of growth, usually GDP per capita, is typically accounted for when considering development simply because an increase in wealth per person means that there is an increase in production per person increasing the total value of assets available to a society for an equivalent number of people. In short, being rich is a good thing. This is not the only consideration when measuring development, however. There are several different metrics (e.g., Human Development Index (HDI), Quality of Life Index (QLI)), most of which also consider education and health, although each measures these different parameters in different ways.

By bringing education, jobs, riches, protection, medicine, infrastructure, and more to the people he conquered, what Alexander the Great was actually doing was improving the economic development of the regions over which he reigned. Over time many of these lands then went on to even adopt the Greek culture including much of the food, architecture, music, philosophies, etc. The influence of the Greeks throughout the Middle East can still be found today if one looks hard enough, although much of that has since been destroyed with political and social volatility in the region. Still today, though, the power of social influence through economic development can help militaries to win wars as the people of a region ask to be taken over ("liberated" is a word that's gained popularity) with a common enemy of some group that will later be considered a rogue minority or some despot leader who's harming their own people.

The individual components of economic development are not mutually exclusive, as improvements in one component often bring improvements in another. In Rome, for instance, soldiers not currently on combat orders as well as the otherwise unemployed were typically given jobs building roads, walls, aqueducts, buildings, and other infrastructure. This not only created productive jobs that positively contributed to the total value of the nation (increasing wealth) but also provided important improvements in the availability of clean water (improved health) in addition to other advances. Like Rome, Alexander the Great was quite fond of this method and often hired locals to build new infrastructure such as roads, walls, and buildings. This gave meaningful and gainful employment to the people of that region as they worked to develop a great city to call their own. This is particularly important during and after a period of physical conflict where much of the infrastructure in a city is likely to be destroyed thereby reducing the quality of life for everyone in that area, regardless of affiliation.

Applied to the modern day, the first critical thing to remember is that the people must be allowed to operate normally. Over the centuries, one of the largest challenges any occupying force has had is acting in a manner in which it is clear that they are not there to exert control or influence the people in a manner in which they do not want to be influenced. Any time it occurs where a general populace no longer welcomes the influence or presence of the occupying force or that it is the goal of the occupying force to exert anything other than a bare minimum of influence the result becomes severe public backlash wherein the occupying force, even if once welcomed, becomes a resented enemy. The goal is not to maintain control in this case, the goal is to ensure that the people want to continue relations and, in extreme cases, even hand over control willingly, by providing them with development. This occurred during OIF wherein the US soldiers were welcomed at first and the defeat of Saddam Hussein was celebrated. Over the course of the extended occupation in the area, however, it became apparent that the original motives of the USA weren't entirely clear giving way to deep resentment and suspicions from the people of the area that there were attempts to manipulate Iraqi progress during the development of an alternative ruling government. These resentments contributed to the increase in attacks against US soldiers during the aftermath as extremist groups increased recruitments and others funded mercenary bombers who could prove they had killed US soldiers or caused valuable damage to cargo. What the people had thought would create a better life for them resulted in nearly anarchistic chaos for several years afterward, giving the Iraqi people little reason to want the USA to continue to occupy their nation, must less trust them to continue assisting with the rebuilding of their political and social infrastructure. Not that it was the intention of the USA to annex the Iraqi people, but certainly if the USA wasn't welcome as an assistant to the people's recovery then they would not have been welcome as empire builders.

In addition to ensuring that the people of an area will maintain an adequate degree of autonomy, development must be readily witnessed in whatever form that is typically deemed acceptable by the local culture. This can take many forms. During the reign of Alexander the Great, one of the most popular benefits he brought to many of the areas he conquered was prostitutes which was, at the time and in these locations, an entertainment option of great value and variable ethical acceptance that

ranged from being a sacred requirement (such as in Sicily, Corinth, and Cyprus) to being a tolerated taboo (such as in Sparta, who restricted themselves mostly to Hetaera; something more resembling the professions of a Geisha or a skilled escort). While this was a very popular benefit of joining Alexander's Macedonian empire, it would not be acceptable at all in the modern age throughout most of the world. While a huge variety of alternatives might exist, some of the most beneficial and most common would include jobs, wealth, education, health care, technology, and trade.

In order to accomplish the goals at hand, any development should be accomplished by hiring locals. Particularly if jobs were lost during conflict as a result of collateral damage or strategic economic warfare, hiring those displaced individuals in meaningful and gainful employment would be important in maintaining good relations and improving both growth and development after the war. Whether through cooperating companies or directly contracting locals, giving people the option to accept these jobs can be an extremely important factor in utilizing the available human resources while contributing positively to the region. Particularly for those attempting to defect from enemy loyalty or influence, providing this opportunity could very well be the deciding variable (as was discussed in Part I, Chapter 3). Those projects that tend to create the most long-term sustainable employment with generalized development include the construction of such things as schools, hospitals, and roads; anything that develops the infrastructure of the region so as to improve their productive potential (such as transportation, communication, and utilities infrastructure) and improves other quality of life indicators (such as education and health care). Sponsoring or otherwise getting involved in large development projects such as these attracts not just individuals, but also entire local companies which have greater social influence than any single individual.

It is worth noting, however, that the foreign occupation of Egypt degraded quite significantly after the death of Alexander the Great, and eventually led to a system in which the native Egyptian population were largely treated as second-class citizens. This system of social oppression finally came to something of a pinnacle of its confrontation in the iconic historic moment in which Julius Caesar was assassinated by his own people, triggering the beginning of the end for the Roman and Greek occupations of Egypt. This underscores the importance of placing emphasis on the well-being and development of the local people.

22.2 Safe Zones in Syria

Technically not "safe zones" by their formal definition as used in Srebrenica or Bosnia, The Brookings Institute recommends securing and defending "sanctuary areas" within Syria as a starting point for reconstruction and the distribution of aid. What, in the view of The Brookings Institute is the difference between a "safe zone" and "sanctuary area"? The degree of commitment that the USA offers to maintaining the security of these established regional pockets of relative safety; in a "safe zone" the USA offered 100% dedication to maintaining control—promises that have a history of being impossible to keep, with tragic results. By contrast, "sanctuary areas" are basically the same thing except no promises are made. From an economic perspective, and even from a functional perspective according to the recommendations made by The Brookings Institute, there is no difference between the two. As the distinction is vague, at best, for our purposes they are the same thing—a defined regional area within a war zone in which combat troops have established eliminated opposition forces, established security, and in which normal functions of living can resume to some degree.

These are important because it allows for the introduction of initial direct aid to assist in the survival of citizens and localized refugees and then, more importantly, for reconstruction of critical infrastructure to begin in order to return that region back to its pre-war condition. Civilians do not generally enjoy being inside an active war zone or an area destroyed by war and possibly controlled by the regime that they did not support. Thus, the first important result of creating safe zones and providing aid is that it will attract people from the region to live within the safe zone, attracting an active labor force motivated to rebuild their lives as much as their homes and hospitals. This creates a shift in available human resources to sustain the war effort and security of the safe zone.

The second effect that will occur, chronologically speaking, is that the development will demonstrate the possible quality of life that be possible as compared to the quality of life under the opposition, or even under continued active war. This will demoralize opposition troops and provide incentive to change sides in the conflict, as described earlier in this chapter.

Finally, the aid and reconstruction can be used as leverage for the opposition leaders to give up. They will receive no aid or reconstruction so long as their regime remains in place, but in establishing a successor

that will agree to surrender then help will be made available to rebuild the entire nation. This places a great degree of social and political pressure on the ruling regime to find a way to peacefully step down for the benefit of civilians, and their own supporters. That is the final goal of the strategy presented by The Brookings Institute in an August 9, 2017, article by John Allen and Michael O'Hanlon.

22.3 Westernization

Simply giving aid is not enough. Not only does this not provide any sort of sustainable development, as was shown in the section entitled A Critique on Current Methods, but it does not integrate the occupying forces into the local culture and ideas well enough for them to maintain due diligence on their influence, which requires not only a constant presence but also regular adaptation to a dynamic social environment. How one manages this environment is a critical factor in the degree of success they will have in changing the attitudes of the people of a region. Management refers not to the degree of control one has over the region, rather, how much the presence of one's people has in changing the ideas an attitudes of those in the region to more adamantly support their presence and, in many cases, even begin to take on their cultural traits. The process wherein one group takes on the cultural traits of another is most commonly referred to as Westernization because this process is most commonly referred to in regard to the spread of the cultures of Western Europe and the USA across to the rest of the world.

The origins of this term began as Europeanization, which started back in the 1400s as many European nations attempted to colonize other parts of the world. Britain colonized parts of the UK, South Africa, India, and America; France colonized parts of Northern Africa, parts of the Polynesian islands, and parts of Canada; Spain colonized parts of Central and South America, and the Philippines; and other nations participated in this global landgrab to lesser degrees as well. Centuries later the term evolved to include the influence that any developed nation from the Western hemisphere has on other nations, particularly developing nations or least developed nations.

Developed Nation: Any nation that has a "very high" rating on the HDI is considered a developed nation. This includes many European nations, the USA, Canada, Japan, South Korea, New Zealand, and Australia.

Developing Nation: This term can be a bit of a gray area, with a little bit of overlap with both developed nations and least developed nations, but generally consists of nations that receive a "high" or "medium" rating on the HDI. Some examples include the majority of South America, Eastern Europe, most of Asia.

Least Developed Nation (LDN): Any nation that meets all three of, (1) GNI per capital of less than US$905, (2) Low quality of life as measured through education and health, and (3) Economic vulnerability through volatility, lack of diversification, and reliance on primary goods. Typically this can be easily indicated by finding any nation that has a "low" rating on the HDI and includes nations in Africa and some in Southeast Asia.

Although development within a nation tends to decrease a people's propensity to participate in warfare (increased education results in the ability to find alternatives, increased wealth gives people something to be proud of that they do not want to lose, etc., discussed briefly in Part II, Chapter 5), not all change brings development. It is important, at this point, to differentiate between some of the terminology used. Often there is correlation between these types of changes, and sometimes even causation wherein one will cause another, but the distinction between these terms is important.

Westernization: The process by which nations come to adopt Western cultures. This does not equate development at all, rather, simply a changing of ideas and tastes. While Westernization was, at one point, seen to be a form of development, this view was ethnocentric (where one's ethnic culture is seen as better than another) in nature and is now rejected.

Industrialization: The process of social and economic change that transforms a human group from an agrarian society into an industrial one. While the end result of increased production is often development, there is some debate about nations becoming overly industrialized having a negative impact on environmental or social issues.

Modernization: The transformation from a traditional, rural society to a secular, urban society. Modernization is sometimes seen as indistinguishable from industrialization and used to be seen as inherent in Westernization. This has led to some resistance to globalization as some groups of people attempt to modernize their nations while removing Western influence. Modernization is considered to be an important factor in developing nations.

The political control of the colonial era itself brought with it little or no cultural change, and yet in these areas one can still, to this day, find a strong influence of their past colonial sovereigns. The primary source of Westernization came not from forced exertion of control but simply from the fact that people moving to these colonies brought with them a part of their home nation.

When the people of one nation move to another nation to live (a process called expatriation, while each individual moving is called an expatriate) some of the first things they bring with them are those creature comforts and reminders of home that we often include as traits of a culture. As these foreign foods, clothing, architecture, ideas, and intersocial interactions are introduced into the local nation, quite often they will be adopted by the local people to varying degrees. Sometimes this comes in the form of locals attempting to profit from the population of foreigners by selling them those goods and services that are in demand by foreigners, but more frequently the locals will come to demand these goods and services themselves. The immense power of trade in locally produced goods is probably best exemplified in the global influence that the Silk Road had for centuries. Silks from China were shipped west through India, the Middle East, and all the way to Western Europe, while groups from each major stop along the Silk Road utilized the same paths for spices, animals, metals, and so much more. Entire nations thrived or collapsed based on the trade that went along the Silk Road and the merchants that distributed their wares brought with them cultural influence, so that each stop along the Silk Road became a marketplace where eclectic groups shared their ideas and goods, then brought home with them the ideas and goods of other nations. Stories of exotic places grew abound increasing demand to experience these foreign places. Even in the modern day this holds true. Throughout the USA there are small patches of foreign influence wherein one might find a Chinatown (common in the coastal regions), Little Italy (Manhattan, New York), Koreatown (prominent in California), and Mexicantown (Detroit, MI). Each group of migrants would typically attract each other, tending to live near each other, and form communities all their own that quite resembled the communities of their nation of origin. As the people in the USA became more educated regarding the cultural traits of these people, over time they will often adopt those cultural traits themselves. The demand for authentic ethnic foods throughout the USA has become extremely

high, more people are traveling and moving abroad than ever before, and even the popular media is incorporating many of these once foreign ideas (e.g., Dora the Explorer, Japanese animation). Now this isn't to say that all culture have been welcomed with open arms in the USA, any change to the demographic landscape has typically been first welcomed with suspicion and resentment, but over a period of time each culture has been integrated to varying degrees.

In order to make this occur, there must first be an attraction to some aspects of the foreign culture. The things that people are being exposed to must be better, or cheaper, or exotic, or simply not available in the host nation, but they must be competitive in some way that will may the local people demand those goods, services, and ideas that the foreign nationals are bringing with them. These things must also become easily available if they are to become widely popular and fully integrated, rather than continue to be considered some odd novelty. Once these two conditions have been met, then the stage is set for cultural influence to play a role in strategic warfare in developmental economics.

Prince Yorihito Higashifushimi is infamous throughout history to being prominent in Japanese imperial photographs wearing uniforms of obviously Western origin during a frictional period in which Japan was making the transition from traditional Japanese culture to modern, Western-influence Japanese culture. Prince Yorihito was the last head of a branch of the Japanese imperial family, and a fleet admiral in the imperial navy during the Meiji period in Japan. Under Emperor Meiji, who reigned from 1867 to 1912, Japan made the rapid and often frictional transition from the ancient feudal state system of a now bygone era to their current status as a modern superpower. In addition to general political reforms, the introduction of Western culture was quickly adopted. Like Emperor Meiji himself, Prince Yorihito was depicted in pictures and seen during formal ceremony wearing the uniform styles of the Western nations while participating in many customs that also departed from traditional Japanese imperial rituals. While those transitions being made led at first to a great degree of friction across the country, with a large percentage resisting the changes in order to preserve their ancient and deeply engrained cultural heritage, the technological progress that brought improvements in the overall quality of life for the Japanese, in addition to the governmental support that these transitions had, led to the inevitable. The influx of Western people and their cultures led to a strong increase in Western influence on the Japanese cultural ideas,

particularly in the larger cities and industrial regions. The result was a strong incorporation of Japan into the affairs of the Western world. Whereas Japan, for centuries, were fierce opponents of foreign influence and dealing with nations abroad, the changes that modernization and Westernization brought keep Japan involved in global affairs as a highly trusted ally of Western nations over a century later.

In the modern day, this demand for the culture and goods of a foreign people during a time of conflict persists. During the aftermath of OIF, the youth culture of Iraq came to more closely resemble the youth culture of the USA than they did previous generations of Iraqis. In becoming more fashion and status conscious they adopted Western clothing styles and attitudes, rap music increased in not only sales but also production, and the social life in younger generations of Iraqis came to include such entertainment options as night clubs.

22.4 Secularism in Iran

During the late 1970s, Iran went through a violent, religious political revolution that resulted in the overthrow of the monarchy and established Islamic rule under Grand Ayatollah Khomeini. Though in some ways this new rule was a republic with votes for the position of president, the Ayatollah was considered the final rule of law as the nation's top religious leader, leaving the position of president to be more of a formality than functional role. The USA opposed this revolution, and there has been a great deal of friction between the two nations since that time, however, that began to change dramatically around in the early twenty-first century under public discontent about the influence of the Ayatollah and the hard-lined presidency of Mahmoud Ahmadinejad. The religious rule that began with strict enforcement by Gasht-e Ershad (Islamic morality police) has gradually faded; while the dramatic anti-Western rhetoric of President Ahmadinejad escalated political tensions between particularly against the USA, Iranian society was adopting a far more secular transition. In contrast to the religious traditions still strictly enforced in places such as Saudi Arabia, the Iranian people generally wanted greater personal freedoms and were successfully making progress. This contrast between political rule and social trend (also spurred by economic troubles) eventually led to nationwide violent protests over the reelection of Ahmadinejad in 2009. Hundreds of thousands of protestors aligned themselves with reformists to break the control of Iran's clerical establishment.

In 2013, Hassan Rouhani was elected President of Iran, then reelected in 2017, both times by large margins with promises of social and economic reforms, increased freedoms and transparency, and improved relations with the nations of Europe and North America. Under his presidency the internal conflict of Iranian politics has become clearer, as many of these promises, and even efforts to make progress, have failed due to the influence of powerful religious hardliners. Still, some limited progress has been made, particularly in the efforts to improve relations with the world and increasing government transparency. As the nation adopted more secular views aligned with Western philosophies of governance and social order, the amount of political friction with Western nations decreased dramatically. Cooperation between nations that once feared the threat of nuclear war against each other was improved, and even domestically there were relatively fewer civil rights violations, with Rouhani even condoning the use of peaceful protest to express discontent—an action that had previously been met with deadly force. Most importantly, however, as small as these reforms were compared to what was promised, it gave the Iranian people a taste for that which they fought, and they wanted more.

In 2017 protests broke out again, this time in much smaller numbers, but still with cries of "We don't want an Islamic republic," "Death to the Revolutionary Guards," and "People are paupers while the mullahs live like gods." "Mullah," by the way, refers to the wealthy religious elite in Iran and is sometimes considered to be derogatory in nature. The movement that Rouhani promised the people of Iran toward a more secular society had failed to meet the expectations of the public, and the 2017 protests reflected that, as they call for the resignation of both conservatives and reformers in government. Rouhani has pledged to hear and respond to the demands of the public, but this has yet to diminish the growing discontent, particularly while people are in the grip of high unemployment rates and rising prices of basic subsistence goods. The continued efforts to eliminate the Iranian Islamic Republic which began in 1980 and replace it with a more secular government shows great promise to reduce the amount of conflict between Iran and Western nations. However, economic hardships are a strong motivator for public feelings of revolution—a need for change—and Donald Trump's decision to stop the repayment of money owed to Iran (money that was previously frozen under Ahmadinejad due to fears about Iran's progressing nuclear program, and later released under Rouhani as a result

of satisfactorily ending the nuclear program and offering transparency to the international community) will exacerbate the economic troubles currently being experienced, making the USA a very easy target for the frustrations and hardships of a nation that was previously making significant progress to achieving shared ideals. The outcome of Trump's decision, while yet to be seen in its entirety, is already resulting in public outcry against the USA and is predicted to cause severe backlash during a time of active protests, giving Iranian conservatives an opportunity to regain control and push Iran back into a position of Islamic nationalism and anti-Western sentiment.

22.5 Culture Shock and The Wal-Mart Effect

Demand for foreign goods can be stimulated dramatically by ensuring that they are in ample supply as well as ensuring that they are very cheap. Together, these variables speed up the influence that one can have on a people resulting in something that has been dubbed The Wal-Mart Effect. The Wal-Mart Effect occurs when a large retailer (such as a Wal-Mart) opens a store and attracts enough business by utilizing convenience and low prices to put a variety of smaller stores, or specialty stores, out of business. This phenomenon can be applied to any similar example, not just Wal-Mart, however. When installing such an influential store into a foreign culture, the result will greatly speed up the cultural influence of the impeding store's home nation. As the hyper-competitive nature of these businesses takes market share away from their competitors, they're not just exposing the local people to the foreign culture but, rather, rapidly removing to local alternatives and these pre-existing stores can no longer compete.

McDonald's is a prime example of how this occurs. McDonald's in nearly every nation it operates is subject to resistance by the local people. In France, McDonald's restaurants are often the subject of extremely heated controversy and acts of vandalism, including a 1999 bulldozing of McDonald's to protest "malbouffe" (junk food) and public outcry against the opening of a McDonald's in the Louvre art museum. Still, despite what's seen as the destruction of their culture, McDonald's continues to thrive in France, who saw 450 million sales at McDonald's in 2008 making them second only to the USA themselves in that year. They accomplish this by remaining extremely fast, maintaining razor thin profit margins, and effectively utilizing mass marketing techniques.

Regardless of how the French say they feel about McDonald's, Americans, or even their own culture, these sales figures are a telling tale of the influence of competitive business in spreading culture regardless of perceived quality. Other businesses simply can't compete which puts many locals out of business leaving only the cultural "invader."

The streets of Xi'an China tell a similar story. The streets of Xi'an near the Drum Tower would typically be bustling with food vendors, both stationary and mobile, as well as a variety of store front restaurants. The Drum Tower is a large tourist attraction in the area and an important landmark in Xi'an. Those stores and vendor carts that are so common throughout China and that one would especially expect to see so near to a location so popular with Chinese tourists have been replaced with a large, newly build McDonald's, built where a series of small, traditional shops used to sit. The ability of this McDonalds resulting from low prices and the chic of eating Western food has driven a large number of vendors out of business leaving few alternatives in the direct vicinity.

In times of conflict or volatility, it is important to encourage these organizations to continue operating and even expand their business. This not only ensures the continued presence of friendly and cooperating companies (as described in Part II, Chapter 7) but also plays an important role in assimilating the local people thereby giving them additional incentive to support one's goals and intentions. When done effectively, particularly in combination with Psyops mass media techniques and given the alternative of being faced with physical conflict, this method can bypass warfare completely as the people simply agree with your intentions as was seen during the reign of Alexander the Great.

22.6 Anti-gang and Anti-terror

No one is quite as intimately familiar with the operations and methods of a terrorist insurgency as someone who was once a loyal member, especially if that person was in a position to be trusted with strategically important information. That is why it is common practice to use members of gangs and terror cells who have defected from their allegiance to help fight against those organizations. There are two methods used in this regard.

First, and most simply, it is typical for law enforcement to use gang members who are under arrest as informants, while the same goes for military forces fighting whatever opposition group of which they belong. This begins simply by asking questions and obtaining

whatever information the person already has available to them. Simple psychological manipulation methods such as those described in Psychology and Modern Warfare make it a simple matter to extract the most current knowledge an individual has, even if they are not cooperative participants. It is, however, far more beneficial to convince people to become cooperative and actively help bring the violence to an end. This allows you to continue to obtain updated information if the individual agrees to become an undercover informant, or obtain evidence by collecting physical records or recording conversations so that specific actions can be taken to prevent additional harm from being done. No matter the circumstances, a person from the opposition can be a very useful individual, providing valuable services that is only available by someone who is a member of the opposition.

The second way that reformed opposition forces can be utilized is to convince others within the opposition to also change sides. Typically this is done by people who are no longer actively engaged in the opposition and cannot provide ongoing updated intelligence. People who were once a part of a gang or terror insurgency are most familiar with the reasons that people join, and the problems that people face that give them incentive to quit. This method gives members of the opposition a familiar face, culture, and experience with which they can connect and create an empathetic response that is more easily trusted than the people they have been trained to distrust, already. That is why anti-gang and anti-terror community outreach organizations are often started by ex-members of these organizations. Convincing people to switch sides during a conflict is not an easy thing to accomplish, but it is certainly easier to do when recruiting is performed by someone who has already gone through the process and knows how to opposition members to be cooperative in dismantling the opposition to which they belong, or otherwise end their association with the opposition.



CHAPTER 23

Equity and Debt Engineering

It has been hinted at multiple times so far that control over the entire operational landscape can be engineered. Recall from Chapter 9 and Chapter 12 that manipulating the terms of trade for organizations that alterations in the proportion of asset ownership can be altered. Using trade manipulation, the ownership of resources was changed by artificially altering the pricing or value of goods and money. This was meant, in part, to ensure that through managed exchanges that those organizations friendly to one's cause obtained either a greater value from the exchange or that these organizations had the ability to force competing organizations out of business. When the goal is to engineer ownership of the market, this can be a very indirect method that exaggerates normal competitive exchanges in a free market. There is a more direct method to accomplish this goal, however. By directly engineering the amounts and types of equity and/or debt, control over organizations, supply chains, entire industries, or in some cases even a large percentage of the local economy can be obtained.

23.1 Altering Ownership Structure

Ownership in any organization comes in two forms: equity and debt. Equity refers to the amount of an organization is owned directly by an individual. If you start a business as a sole proprietorship then you own 100% of that company's equity. If you buy 1 share of stock in a company that has a total of 10,000 shares (for those who are financially inclined,

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this means 10,000 of common stock outstanding in a company that has no preferred shares), then you own 0.0001% of the equity in that company. When referring to home equity, this refers to the amount the home is worth for sale on the market minus the amount you still owe on your mortgage. So if you have a $100,000 home and you still owe $75,000 on your mortgage, then your home equity is worth $25,000. This is how debt comes into play in ownership. When you loan any organization money in the form of debt they must pay that money back, usually with interest. Any equity that the owners of the company have, regardless of the number of owners that exist, is valued by subtracting debt from assets. So if you loan $100,000 to a company worth $1,000,000, then the owners really only have $900,000 worth of equity. This is expressed in the following basic accounting equation:

$$Assets = Equity + Debt$$

This means that any assets the organization has must have been funded either by capital expenditures by the owners or by borrowing money. When you give any organization money you are purchasing either a percentage of the ownership in the company's value or a predetermined amount of their future cash flows, guaranteed by the value of the company's assets, which must be sold to pay off their debt in the instance that they cannot pay off their debt in the manner specified in the contract.

The ultimate goal in engineering debt and equity is to manage ownership in the economics of the combat landscape. As ownership of critical organizations, supply chains, or industries is shifted to those individuals and organizations that are cooperative with one's strategic plans, the degree of control that they have increases, making the strategic cooperation more effective and easier to implement. This is particularly important for companies that are too large to either take complete ownership or to drive out of business because these strategies require only a large enough stake to be influential rather than 100% ownership, which could end up being extremely expensive or difficult.

In any company, owning more than 50% of the company's equity gives one complete control over all decisions that the company makes. This is much easier to engineer than attempting to arrange for full ownership for all but the very largest companies (which are sometimes more influential than some nations in the case of many Fortune 500 companies, giving them a unique position in world politics and are, as a result, immune

to engineering for military purposes but are still subject to cooperative partnerships, discussed in Chapter 15). Equity in a company comes in 2 forms, depending on the type of company in question, but both forms are types of ownership. First, for corporations, equity comes in the form of stock. This is typically purchased from the people or investment firms that currently hold the stock on the secondary market (which occurs when intermediary financial institutions assist in the transfer of ownership from one person to another. In contrast, the primary market only happens during the initial sale of stock, called the initial public offering, which raises funds for the company through the original sale of ownership shares). For anything other than corporations, the company itself needs to be legally altered to reflect ownership, which means that the current owner or partners need to sign into a contract that includes the new partner and the percentage share of the company that they will own. Payment would go directly to the original owner or partners in these cases.

A government entity such as a military is not likely to be interested in directly purchasing equity in a company, nor is any company other than a corporation likely to partner with a government entity, particularly if they support the opposing side of the conflict. In engineering equity, the goal is to ensure that friendly individuals and organizations acquire this equity. This can be done by simply purchasing the equity for these individuals, but a more feasible option is to provide loans with little or no interest for the purpose of purchasing the equity. By providing these loans at below market rates, the friendly individuals can obtain money very cheaply to purchase equity that will result in long-term financial returns. Such purchasers of equity might be venture capitalists, hedge funds, larger competitors, conglomerates, or entrepreneurs, but they will always be willing to cooperate with the strategic purposes of the military, even if that means simply ensuring distribution does not reach the enemy. Any of the cooperative strategies listed in Chapter 15 can be used in this instance as well, but engineering the equity of the company is better used in cases where cooperative agreements can't be made, where the current ownership in a company can't be trusted despite offers of cooperation, or where stricter control over the operations must be had (perhaps in operations or on missions with necessary security controls).

Issuing debt to a company works a little bit differently than purchasing equity. You might offer a loan but if the organization doesn't want a loan or they want to use a different lender then this can stop the strategy dead in its tracks. The best approach is to offer loans at below

market rates through an intermediary. The local banks or lenders might cooperate in offering low rates to the targeted organization, or could be encouraged to offer those lower rates if they are offered subsidies to make up for the loss. These lower rates, offered by someone other than a foreign governmental organization, will help to attract the target organization and incur debt that was issued with the purpose of gaining control over the organization. There is still a lot of uncertainty involved in this approach, though. The best approach is to simply purchase existing debt. Financial institutions that issue debt to a company will often then sell that debt to other organizations. If the targeted company has any debt outstanding then determining who issued that debt will allow one to purchase that debt directly, without necessarily requiring the use of an intermediary, and gain control over that company.

As with equity, the proportion of debt that you hold relative to the full value of the company matters. Owning debt in the amount equal to 0.0001% of the full value of the company does not buy much influence, while issuing debt equal to 100% of the full value of the company purchases a very significant amount of influence. Issuing debt that exceeds 100% of the company's value holds particular significance, especially if the debt is issued before the company decreases in value to below 100% of the debt held.

While owning debt in a company doesn't typically give the debt holder direct control over the company's decisions this does happen in some circumstances when oversight of the use of funds is contractually required. This allows for the greatest amount of control over the company's decisions, as it allows the debt issuer to exert decision control over how the funds are used. This is done by requiring a guarantee from the borrower to spend the funds on items or services predetermined and listed in the contract, and for nothing else. All debt, regardless of whether or not such a guarantee is included, includes rights for the issuer to recoup their assets in the case the company cannot pay back their loans or, in some cases, simply appears to be at risk of default. Sometimes specific assets, called collateral, are listed that will belong to the debt issuer in the case of default. For instance, if a company incurs debt in order to purchase some piece of machinery then the debt issuer might take ownership of that equipment or take ownership of some other asset that belongs to the company. They will then sell that piece of equipment of other asset in order to get the money that was owed to them in full, including interest and any potential penalties that may have been

included. This is why debt can be particularly important because it allows others to take ownership, partial or full, of a company that otherwise would not have been sold or agreed to cooperate. In many cases where the amount of debt a company has exceeds 100% of the company's total market value (which occurs when the company decreases in value significantly after incurring the debt) it is not uncommon for the debt issuer to take completely control of the company in order to reorganize it and ensure that they will get their money back.

23.2 The Taliban Refines Its Opiate Operations

According to a senior Afghan official, "If an illiterate local Taliban commander makes a million dollars a month now, what does he gain in times of peace?" Afghanistan produces 80–90% of the world's raw opium, and the Taliban has primarily funded their operations using the global drug trade by taxing farmers and distributors in exchange for protection against government and US forces, which have spent more than $8 billion attempting to eradicate production. Refining the opium into morphine and heroin has historically been the role of cartels in Russia and Southeast Asia, at which point the product is distributed around the world, with a large bulk of it landing in Central America or Baltic states where it is destined to be consumed by people in the USA, Canada, and Europe.

In 2017, the Taliban's business model changed, though. In what most businesses would call "vertical integration," the Taliban is expanding their operation to include additional steps in the production chain, either merging with refineries, or simply refining the product themselves in competition with other refineries. In either case, the Taliban has successfully increased their profitability and ease of covert distribution by producing the morphine and heroin themselves, rather than simply exporting opium.

Besides generating greater revenues by gaining ownership over refinement operations, this consolidation of the production process has given the Taliban an increased amount of direct control over the global drug trade, as well as making them even more vital to sustaining Afghanistan's GDP (of which the narcotics trade composes a very large percentage). In terms of their role in Afghanistan, this means they are now producing even more jobs for the Afghan people, generating more income in the region, and collecting even more taxes with which to manage

territories over which they have control. The Afghan government has trouble hiring people for eradication efforts, because locals do not want to burn their neighbors' fields, and the income being provided in the area does offer a path to prosperity in these regions which would otherwise be unavailable. As for the global drug trade, expanding their control over the industry gives them direct contact with wholesalers and even retailers, giving them greater influence over the very significant value of product being consumed in the Western world. For example, making direct ties to Mexican drug cartels and developing close relationships or organizational integration would put Taliban operations right on the border of the USA, while providing them with a vital strategic position in which they can increase profits by cutting out other organizations.

The Afghan opium production is worth an estimated $60 billion per year, and the volume of opium production continues to see record increases year and year, making the opium trade a massively successful industry in its own right. Eradication efforts have recently begun to greater volumes of refined heroin, morphine, and precursor chemicals than actual opium, however, and are increasingly stumbling across simple refinement sites setup in rural shacks or caves. These sites can be set up in less than a single day and be ready for production the same day, and are extremely cheap to produce. With an estimated 500 sites across the nation, for every site they can find and seize it is a simple matter to establish another. It costs far more to identify the location and go through the efforts to fighting to seize these refinement sites than it does to create them, putting the Afghan government in an extremely disadvantageous position. Quite frankly, under these conditions, it will literally be impossible to stop local production, and with locals unable or unwilling to eradicate the raw opium, the "War on Drugs" is lost. In fact, the 2017 US strategy for operations in Afghanistan approved by Donald Trump gave little or no emphasis to stopping the production or distribution of narcotics in Afghanistan.

23.3 Leveraging Key Industries and Businesses

The most effective goal associated with engineering the debt or equity of a company is to increase the amount of control that friendly groups or individuals have over strategically important companies and sectors. Particularly in industries that include food, weapons, automotive, communications, or any other supplies wherein one would want to

manipulate the enemy's usage or secure one's own usage. If one already has the cooperation of other companies in the same sector then gaining such control over competitors would give one control over an entire industry in the area. Not only are industries important to critical combat supplies a valuable target for ownership acquisition, but so are suppliers that provide precursor materials.

Putting control over companies from which opposition forces source their resources has the advantage of giving one direct control over the market for those resources, but can be somewhat obvious, leading the opposition to seek alternative sources. Recall from Chapter 6 that an industry in which there are a greater volume of producers will offer more options to diversify and select the suppliers from which a force obtains their resources, meaning that acquiring producers of food will have little effect if it becomes known that the change in ownership was a strategic one. However, if successfully hidden by using cooperative efforts with locals or related companies, then this would provide a very important opportunity to selectively tamper with food supplies so that distribution of tainted shipments is isolated to opposition forces, ensuring that civilians are not harmed in the process, thereby preventing any violations of the Geneva Convention.

Less obvious and often just as beneficial is the ability to take control of operations by companies which supply precursor materials to the companies that supply opposition forces. Since there is less direct contact with opposition forces, it will not be as readily noticed that ownership has changed, much less who was involved. However, if opposition forces are getting their communications equipment from a particular set of companies, then acquiring the supplier from which those companies source components for communications equipment allows for an important opportunity to alter the components slightly so that they include a "kill switch" that causes communications failure, or includes a way to tap into their communications easily and monitor correspondences. Likewise, taking control over not arms dealers directly, but wholesalers or other middlemen offers the opportunity to swap components of weapons out for altered variations which include critical failures; perhaps worn or faulty hammers so that they either do not fire or are prone to firing accidentally and without warning; or barrels made from metals with lower melting points so that the heat eventually warps the barrels and causes the weapons to aim improperly over time, and possibly even explode in the hands of the shooter in extreme circumstances.

The lack of direct control, however, does have its disadvantages. Returning to the example of acquiring food producers, if instead companies from which farmers or food processors source their materials still allows for the creation of tampered food supplies, but not direct control over the distribution of those food supplies, putting civilian populations at risk.

While gaining control over companies or entire business sectors would be extremely advantageous for extended warfare, there is an additional benefit that results from the psychological impact that will occur if (or when) the enemy finds out the companies they work with are owned by, or have borrowed money from, the people they are fighting. The invisible nature of using economics in warfare can cause confusion for an enemy who doesn't realize how one is impacting their operations indirectly. Should they learn that you are in control of some or all of the businesses they work with then they could be convinced that you control everything, as Psyops units present the image that you are some untouchable puppet master who pulls the strings of everything around them. This will result in an increase of distrust and friction between the opposition and any organizations they do business with, force them to reorganize their operations to secure alternative sources for their assets, and strongly harm their morale as they come to believe that you control everything, even if you have only a minority share in a company that has no real decision-making authority.



CHAPTER 24

Equilibrium Redirection

Strategies meant to change the equilibrium of supply and demand have been talked about at length, such as through preclusive purchasing, distribution channel destruction, and more. Some are meant to improve economic conditions, others to harm them, and many are meant to target only specific groups within a region rather than the general population. In all cases, however, there is some direct manipulation of economic forces meant to have strategically important results, and in all cases, such a direct approach may have too strong result. It is possible to have an impact on the economic environment of a geographic location without any actual actions other than simply having people and equipment in the area. This will result in a far more subtle influence on the economic conditions, but by looking at the economic role that occupation troops have on a nation without any further actions, or the effect that an OCONUS (Outside Continental United States) military base has on a nation that the USA is not at war with (such as Ramstein Air Force base in Germany), it becomes possible to determine exactly what economic influence a military is possible of exerting without taking any additional actions beyond merely arriving in the area.

24.1 Changes to Resource Consumption

Any change in the supply, demand, or price of any goods or services that result from military personnel and equipment arriving in the region that will persist until those personnel and equipment leave is called natural

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reallocation. This differentiates these changes in economic equilibrium from those changes that occur when manipulation strategies create artificial changes. It is still considered a reallocation simply because the result is dependent entirely on maintaining an equivalent quantity of personnel and equipment and will return to its original equilibrium when these quantities are decreased, which results in a reallocation of assets consumed, distributed, produced, wages paid and expended, and prices charged.

There are a number of different economic effects that occur when a foreign military enters a new area. The strength of each effect will be determined, in this case, simply by the volume of personnel and equipment that are maintained in the region. Since no direct, artificial manipulations are being utilized, the impact can be measured more accurately on a per-unit basis. Once the impact of introducing people has been established (it is likely to be different depending on the exact location at which these people are arriving), it can be quite simple to determine the amount of impact that each individual person will have, as well as how much impact each additional person will create. The amount of influence that a single additional person has is called the marginal influence. For example, the resource cost of sustaining 1 person abroad may be $70,000 after taking into consideration their salary, cost of transportation, lodging, food, equipment, and so forth. The cost of sustaining 2 people abroad may be $100,000, meaning the marginal increase in force sustainment costs for the 2nd person is only $30,000 because of shared means of travel, lodging, equipment, and so forth. However, each person is likely to require equivalent volumes of food, water, hygiene, and other consumable resources, while durable goods are more likely to be the source of achieving economies of scale. For this reason, the marginal impact that each additional unit of arrivals has on the natural reallocation of resources will decrease marginally. This is called the Law of Diminishing Marginal Returns, which simply says that for each additional unit of input the rate of increasing output will slow.

A favorite example of economists is the diminishing marginal returns of drinking beer (an example with which a great number of military are familiar). After 5 beers, a person is likely to achieve a great degree of enjoyment from their consumption. Between 5 and 10 beers, a person is still achieving greater levels of enjoyment, but their enjoyment is increasing at a marginally diminishing rate. That means that as the person drinks beer number 8, beer number 9, and so on, each additional

beer is bringing them closer to that point where they will start to feel ill. They are not to that point yet, so each beer is still bringing some enjoyment, but to a lesser degree each time. After beer 10, each additional beer makes them excessively drunk and they become ill, fall over, black out, and eventually die. As a result, each additional beer achieves negative enjoyment, bringing the total enjoyment achieved down from its maximum at 10 beers. Note the difference between "marginal" and "average," where the marginal enjoyment is the amount of enjoyment brought by the next successive beer in a series, while the average enjoyment is the total amount of enjoyment achieved divided by the number of beers consumed. This difference is important because the first beer brought more marginal enjoyment than any other, but the same average enjoyment as all the others.

So as more units of personnel and equipment are introduced, they will have a diminishing marginal impact. This would seem contradictory to the nature of the supply and demand curves (shown originally in Fig. 10.1, in Chapter 10) because of the increasing slope of the supply line. As demand for any good increases, the price for that good must increase at a marginally increasing rate (price goes up faster and faster as demand increases) because a company's ability to provide the additional quantity requires additional workers, additional equipment, and so forth. Each additional unit will move the demand curve at smaller intervals, however. If the first person demands 9 pounds of rice, then the next person demands 8 pounds of rice, then the amount that the demand curve moves will be smaller. The reason for this is improved efficiency in the use of acquired resources. Two soldiers may drink twice as much beer as 1 soldier, but they are likely to drive together to the bar. So, exactly how an increase in personnel and equipment will alter the equilibrium of supply, demand, and price will depend greatly on the degree to which that 1 unit increase in personnel and equipment shifts demand, as well as the steepness of the supply and demand curves.

The exact impact, to varying degrees as described, will be to increase consumption of consumer goods and services. Some of the industries that will see a direct effect will be food and dining, entertainment, office supplies, clothing and textiles, hygiene products, and fuel. Since the price for these things will increase as a result of the increased demand, and all people consume these things, the price of other things will also increase as a secondary effect. Also resulting from the increased demand for goods, demand for workers will increase, production will increase,

and overall economic growth will be stimulated. In the case of permanent or semi-permanent military bases, the amount of economic growth that results can cause urbanization (described in Chapter 16) in otherwise rural areas.

Whereas several previously discussed strategies that alter the availability of supplies or decreases the value of a currency in a region that the enemy sources their supplies from, as long as that area is outside of that in which they hold their primary operations, sending military forces to that area will decrease the enemy's operating efficiency. Note again, that the effects of this will be much more subtle than with some other strategies. The increased demand in the area, and the resulting economic stimulation that it brings, will cause inflationary pressures to devalue the currency slightly (in the form of generalized increase in prices and wages), making it appear to anyone sourcing supplies from outside the affected area to experience higher prices without attaining the benefit of higher wages or profits that those within the affected region will experience. Alone, this action would appear to be completely worthless for military purposes but remember that the goal of market manipulation is to use market forces, not direct intervention, to impact the enemy.

24.2 Labor Redistribution

The resulting employment and growing wealth that the increased demand that military forces bring when they occupy an area, as noted in this chapter, will attract people. Recall from Chapter 16 that trade gravity can be observed as people recognize the opportunity to earn money causing an increase in trade and business to be attracted to an area. A military base that is set up in an otherwise completely rural or agrarian area will attract businesses in a variety of sizes and types to begin operations in the area immediately surrounding the base. Some types of businesses that are extremely common outside of nearly all military bases, and nearly always among the first to begin operations, are restaurants, barber shops, tailors, and retail stores. In anticipating the wealth that people seek from clusters of military operations, and understanding the logistics of how trade gravity causes urbanization, it becomes possible to change the demographic landscape of an area. It is possible to alter the locations of different types of people geographically by carefully managing the natural human migrations that occur as a result of trade and economic opportunity.

During the migration process, closely monitoring people and businesses can be extremely important in identifying the motivations of people and companies, allowing one to identify those organizations that might be available for cooperative efforts, who are sympathetic to ones intentions, or even those who may have malicious intentions. Those businesses that begin operating around the base soon after it opens are likely to be opportunistic entrepreneurs; people who are simply attempting to make a profit with little regard for politics. There are also likely to be those that support the occupation troops. In either case, these businesses that cater to one's own military personnel will most often be cooperative. There will be a great number of businesses that do not move their operations, and that is normal, but it is those that intentionally avoid the military area or will refuse to sell to one's personnel that are of concern.

If used carefully, it also becomes possible to use the migration process to better isolate targeted groups. As already discussed in Part I and Part II, the local wealth creation for locals is best allocated to those individuals and organizations that are cooperative or, at the very least, sympathetic to the intentions of the occupying soldiers. At the same time, directing counterfeit currency (as discussed in Chapter 16) can be better targeted to the geographic location with a higher concentration of opposition forces or those with which they do business. By influencing market forces, one can monitor and alter the behavior and movement of both people and capital in strategically important ways, thereby engineering the demographics of the combat field in a manner that makes other strategies more effective.

24.3 March of the Anti-Nazi Neo-Nazis

Wunsiedel is a city in the Northeastern region of Bavaria, in Germany. It was also the home of the burial site for Rudolf Hess, who was Deputy Fuhrer directly under Hitler, during World War II. Despite Hess' treasonous betrayal against the Nazis by unilaterally flying to Scotland in an attempt to open peace negotiations with Britain, his gravesite had become a place of pilgrimage for Neo-Nazis and White Supremacists from around the world. Even after Hess' body was exhumed, cremated, and scattered to the sea in an attempt to discourage the annual gatherings, each year these pilgrims held a march in memorial of the Nazi regime and its ideas, with Hess functioning as more of a symbol than

truly a focus of the gatherings. Needless to say, this was not the image or legacy that Wunsiedel wanted, nor were they attracting a group of people with which they wanted to be associated. Though not openly hostile, the collection of Neo-Nazis was not exactly welcome, as much of the nation sees anything associated with Nazi regime as a stain on the history and heritage of the German people. Still, no laws were being broken, so instead the citizenry of the city decided to get creative, and redirect the economic value added by the event.

Their strategy involved turning the march into a walkathon. Walkathons, in case you were not aware, require the people participating in the walk to request that people pledge to donate money based upon the distance that the walker travels. A person might offer 50 Euros for every kilometer that the participant walks, for example, and usually these events have some predetermined path and maximum distance. The donations are typically sent to the charity hosting the event. In the case of Wunsiedel, some people within the town decided to solicit pledges from people for the Nazi march, except the money raised was donated to EXIT Deutschland, which is an anti-Nazi organization in Germany and Sweden. The organizers of the event, without the knowledge of the marchers, were very successful in attracting donors to pledge funds for every step the Nazis took during the march. Tables were placed out with water and bananas and signs of encouragement to help sustain the marchers and keep them going. Numbers were painted on the ground to track the distance they traveled, and by the end of the march, roughly 10,000 Euros had been raised through pledged donations.

This example is a bit tongue-in-cheek, but it is a true event that occurred, starting in 2017, and exemplifies the creative application of equilibrium redirection. By turning the pro-Nazi march into a walkathon that funded anti-Nazi organizations, the actual value produced through the efforts of the marchers was redirected to become counterproductive for their originally intended purpose. The simple arrival of "opposition troops" altered the equilibrium volume and value of transactions occurring within the town, and normally annual events like this help a town prosper, but the nature of this event brought with it a type of toxic environment that discouraged other forms of economic value. So, the town redirected the value being produced by the event away from the toxic elements and allocated it so that the increased equilibrium created positive value.



CHAPTER 25

Decision Management Modeling

Decision management is the process by which organizations determine the best ways to utilize the resources they have in order to optimize their interactions with customers, suppliers, competitors, partners, and general stakeholders. At its heart, decision management is a study in statistics, giving people a systematic process by which they might determine which option, among several developed alternatives, is the best despite having to make that choice in a state of uncertainty, having incomplete information. Every day people are faced with a great number of decisions they must make, many being mundane and routine, while others are of great consequence. During times of warfare, the consequences of a decision can be dire, so each option must be carefully considered but certainly with a sense of urgency. Regardless of the importance, however, each decision is still a product of two things: the resources available to the parties involved and the probability of estimated outcomes using our limited availability of information as the decision is being made.

25.1 The Decision Management Process

The process of decision management can be broken down into a series of five steps: Identifying the Objective, Developing Options, Comparing Options, Executing the Best Plan, and Performing Due Diligence.

Identify Your Final Objective—any good decision made will first start by identifying what it is that one is attempting to accomplish. Without this, one is acting aimlessly, impulsively, and without progress.

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Identifying your final objective includes specifically, and in detail, defining the end result you hope to accomplish as well as the effects this result will have. This step includes setting long-term goals so that, as the decision-making process continues, one can align short-term goals and logistics with the long-term objectives, comparing the success of each plan against what was meant to be accomplished.

Develop Several Options to Complete the Objective—an option is only valid if it accomplishes the minimum requirements of the final objective and related goals. In developing these options, one must detail the steps that must be taken to pursue each option, explain exactly how each will complete the objectives, set short-term goals to ensure that the plan is being pursued successfully within the parameters of the long-term goals, and also explain potential detriments, problems, or anticipated challenges. If an option is likely to face a problem, alternatives must be developed in advance to ensure that the mission is still accomplished in a timely fashion. These alternatives are considered new decisions that can be aligned in a series called a decision tree, but that will be discussed later in this chapter.

Calculate the Comparative Outcomes—in calculating the comparative outcomes of each option, one is really calculating 2 separate things. First, the value of the outcome is being measured. To provide an oversimplified explanation, the value of the outcome can be determined by determining the value of the benefits created by an option, then subtracting the value of the costs. In wartime, one might measure the value of destroying a bridge as the benefits created when a strategic enemy outpost can no longer receive ammunition. This would be a great benefit in the enemy's defeat, the taking of a strategically important outpost, and even the lives saved from battle. From that value, however, they must subtract the lives lost in attempting to destroy the bridge, the loss of the explosives used, and the other supplies consumed during the process. If that bridge is also used by friendly forces to transport food, then the loss to friendly forces would be far more urgent than to enemy forces, creating negative value in the strategy.

The second thing being calculated is the probability of a particular option succeeding in its goals. A strategy that has tremendous benefit but only a 5% chance of succeeding is not worth as much as a strategy that had moderate benefit but a 95% chance of succeeding. To put it another way, faced between two strategies that each accomplish the exact same goals, a person will choose the one that is most likely to succeed.

Execute the Best Option—when it has been decided which option is best, that then becomes your plan. It is time to make any preparations required to enable the plan to succeed, and then begin performing the tasks outlined in the plan. This will, of course, vary greatly depending on exactly what plan it is that one is pursuing.

Perform Due Diligence—no plan is entirely self-managing, regardless of how well it may have been laid out during its developmental stages. One must continuously ensure that people are properly performing their tasks, that the dynamic environment in which a plan is being executed has not changed in any significant manner, that the goals that were set earlier on are being met in a satisfactory manner, and that the ultimate objective is still on its way to be accomplished on schedule and under budget. If the plan is not meeting expectations or some exogenous factor of significance to the plan has changed, then one must change the plan. This results in the entire process starting over by redefining the objective of the changes to be made. As noted, however, attempting to anticipate such changes in advance can expedite this process by having a contingency plan appropriate to a given change already in place. During the due diligence step, it is expected that one should collect as much information as possible about the execution phase. Collect information about what your team did well, what they did poorly, how the combat environment played a role, how the enemy reacted, and every other detail that might be valuable for future applications of the same plan. It is important to record what works and what doesn't in order to avoid repeating mistakes while improving operations by developing a more refined understanding of tactical strategies.

Sun Tzu noted that, "Every battle is won before it is fought". As he describes it, the battle is won during the decision-making process. As each side in a conflict evaluates the resources available to each side (the quantity of assets, the skill of the soldiers, the genius of the commanders, and more), it is the military that develops the best plans and contingency plans that will win in the end. Of course, drastic power differentials play a role, but only as much as the plans make use of that power. When the USA fought in Vietnam, the amount of training and firepower they had available to them could have easily overpowered both the North Vietnamese Army and the Vietcong. Poor planning, however, resulted in both a dire underutilization of assets that left many US soldiers without the supplies or support they required to maintain combat effectiveness, as well as a lack of contingency planning that left the soldiers without a

command structure able to adapt to the extremely dynamic environment of guerilla warfare (a form of warfare that utilizes primarily high levels of mobility and surprise tactics such as ambushes and sabotage).

25.2 Analysis and Modeling Methods

The above brief example describes how differentials in proper decision management can overcome even large differentials in power. This power derived from decision management comes from Step 2 and Step 3 of the planning process, wherein the value of alternative options is identified and compared. Step 2, in which alternatives options are developed, starts largely as a process off assessing the strengths and weaknesses of each side in the conflict and taking advantage of differentials. This can be assisted using a variety of different analytics tools.

A large part of developing a proper economic strategy involves assessing resource utilization and how effectively the utilized resources accomplish various tasks, operations, and goals. This begins by mapping the organization and its operations, paying special attention to dividing the organization into related pieces and assessing their contributions to resource consumption and contributions to mission success. One economic analysis to improve decisions and operations actually began with the US Army during World War II and has since grown to become a highly popular buzzword in organizations of all types: Quality. The US Army states this it is their implementation of Six Sigma quality management in 2005 which was responsible for saving them $110 million in resources in just 3 years. There are lots of trendy names for it like “Six Sigma”, which Motorola coined in order to try and take credit, or TQM (Total Quality Management) which was originally coined by the US Navy in 1984, but they all refer to the exact same thing: Using statistical methods to determine how consistently a specific function is achieved successfully. This is measured using the number of defects per million opportunities; simply meaning that for every 1 million times an action is performed it measures the number of times that particular action fails. By understanding the rate of failure in each specific function, it becomes possible to very accurately measure the probability of success or failure at any given point. It is also possible to identify specific problems, as whether something is successful or not is defined by whether or not the final output of a function falls within predetermined acceptable parameters. Upper and lower measurements are set for what is considered the

range of acceptability, and if an action falls outside those parameters then it is considered a failure. Using something called the Taguchi Loss Function, the further away from the target each attempt is, an organization will experience greater loss, and so parameters are set based on the amount of acceptable loss. This provides insight into the nature of problems, when they do occur. If an operation consistently gravitates toward the failure range and surpasses it, this is called a "run", which means there is some systematic issue that is causing the failure and can be readily identified and remedied. If failures occur at seemingly random times but at regular intervals, that also helps to identify the source of the problem. It is when something called a "random walk" occurs that things become complicated, because the odds of success or failure appear to have no discernable patters, at which point the nature of the process itself must be reassessed because it contains some unreliable function within it.

Defects found through quality analysis are only the first type of waste which can seriously reduce combat readiness. The acronym DOWNTIME is used to help remember the different types of waste: Defects, Overproduction, Waiting, Non-utilized talent, Transportation, Inventory-in-Process, Motion (extraneous), and Extra processing. Waste means that the available resources are accomplishing less than they could, and that you have less potential given those available resources. This is all related to a broad spectrum of economic analytics called "efficiency". Efficiency simply refers to one's ability to maximize the amount of output while minimizing the required input, thereby making the most of what you have available. Being efficient allows you accomplish more missions successfully because fewer resources and less time is required, the implication of which is that you can overcome greater challenges and increase the speed with which success is achieved. Efficiency and speed was a critical part of the military success that drove Alexander the Great and the early successes of Nazi Germany.

There are many types of efficiency, though.

Allocative Efficiency: This is the most basic type of efficiency to understand but often the most difficult to accomplish. Simply, allocative efficiency is a state in which your operations are equal to the needs of the combat theater. In other words, your own forces have exactly the right amount of capacity in all of its operations and that each geographic location is receiving the proper volume of each type of operations it requires.

Productive Efficiency: There are actually 2 elements to productive efficiency, both of which are used to ensure that the production inputs are being utilized in the manner that maximizes production outputs. The first element states that productive efficiency is achieved when marginal cost is equal to average total cost. To put that simply, since each process requires a degree of resource consumption before it can even begin to start producing value, enough volume of that process must be performed to generate value at least equal to the total cost associated with starting-up along with the cost of operations, themselves (i.e., fixed cost + variable cost = total cost; total cost/volume = average total cost). As the marginal cost (which is the cost of producing 1 additional unit) increases, it will eventually surpass average total cost, meaning that the cost of producing the next unit of value will actually cost more than the value generated. That is why production is most efficient when the total average cost is at its lowest, because it is at that point that marginal cost will stop being less than the marginal value produced. The second element to productive efficiency is to consider what combination of value-generating process to pursue. With limited resources, only limited volumes of each process can be produced, and some are likely to have greater value than others. In a combat theater you might think that producing simply as many soldiers as possible is the best choice, but without logistics, and transportation, and finance, and other supporting operations to provide soldiers with the resources they require then very little value is generated. Productive efficiency requires a person to consider what combination of processes generates the greatest total value. When the best combination of processes is chosen, and each is functioning at the lowest average total cost, then your organization has maximized its productive efficiency and the combination of possible outputs chosen sits directly on the production possibilities frontier (the maximum possible volume of outputs given any combination of processes).

Pareto/Kaldor-Hicks Efficiency: Related to productive efficiency, Pareto efficiency is a state in which resources from one process cannot be allocated to another process without reducing total value generation. In other words, Pareto efficiency is achieved when both parts of productive efficiency are achieved. However, if it is possible that the allocation of resources to a specific function reduces total value generation in the

short-run because it takes away from some necessary process, but that the value generated through this reallocation is great enough to exceed the loss it allows the organization to replace the resources that one process was deprived, expanding the boundaries of the production possibilities frontier.

Dynamic Efficiency: When considering events over time, it is necessary to consider dynamic efficiency. It is not effective to consume all your resources at once and then have nothing left to manage the aftermath of the first operation. Dynamic efficiency measures the utilization of resources over time, guaranteeing that the maximum volume of resources are made available during the current period without putting limitations on the resources which will be needed during the next period.

X-Efficiency: This can be thought of more in terms of inefficiency resulting from contextual conditions. For example, if a high-value target is made accessible, it may be tempting to allocate surplus volumes of resources toward that target, thereby starving other functions of resources necessary to continue their operations. X-Efficiency is related to allocative efficiency and both are achieved simultaneously.

With a thorough understanding of the resources available and the manner in which they are utilized, it is time to consider the combat environment and how to apply those resources in a manner that maximizes one's own strategic position, or weakens the position of their opposition. The simplest of these assessments is called a SWOT analysis. A SWOT analysis takes inventory of the internal and external environment related to strategic planning and stands for the following:
Strengths—these are internal characteristics of a group that give it a relative advantage over its competitors or opposition. In combat, an inventory of strengths would include those things that are in ample supply. Things that may be included could be larger stores of rations than the enemy, stronger firepower, better training, more creative strategists, etc.

Weaknesses—these are internal characteristics of a group that give it a relative disadvantage compared to its competitors or opposition. In combat, an inventory of weaknesses would include those things that are lacking and could include the possibility that one will run out of water faster

than the enemy, or that one does not have as much information on the terrain, or one lacks as much cooperation with the local people.

Opportunities—these are characteristics of the external environment in which a group operates that have the potential to assist the group in their pursuit of their objectives. This might include an assessment of the terrain, social trends toward your own benefit, or improvements in technology.

Threats—these are characteristics of the external environment in which a group operates that have the potential to hinder the group in their pursuit of their objectives. This might include a lack of local suppliers, unstable political support for the war, or legal concerns with crossing national boundaries.

Once one understands what resources are available to each side, and in what ways one might take advantage of the differentials in strengths to overpower the enemy, developing ways in which these differentials might be taken advantage of becomes a creative process. Say, for instance, that one has a wealth of ammunition and the enemy does not, there may be multiple ways to take advantage of that difference in available ammunition. Unfortunately, the creative processes by which such ideas may be developed are not well understood and the theories behind them go well beyond the scope of this book. Suffice to say, though, that receiving suggestions from numerous people will give a greater number of perspectives from which to pull inspiration, assuming they can avoid the problem of group think. Group think is the process by which all members in a group tend to agree either to please an authority figure or to conform to the group, and it limits the potential of the available human assets by decreasing the amount of variety derived from them. The point is to come up with a number of diverging ideas regarding how to approach a problem and choose from them the one that accomplishes the stated goals using the lowest cost of resources and with the lowest risk.

In evaluating the probability of success in a mission (part of Step 3, wherein the alternative potential plans are comparatively evaluated to determine the best one), many organizations now use a simple tool called Composite Risk Management (CRM). CRM allows individuals to quickly and simply develop rudimentary weighted average risk assessments with a plan to determine its probability of success to a limited degree.

CRM scores the risk of a particular event in two ways; the probability that it will occur and the potential severity that the event could cause. Each is scored on a scale of 1–5, with 5 being the worst possible score. With regard to the probability an event will occur:

1. Extremely Unlikely = The risk of a particular problem being encountered is near zero, where it would only be by severe misconduct that one might encounter such an incident.
2. Remote Possibility = The risk of a particular problem being encountered is low but certainly possible without proper consideration for mitigating that risk.
3. Distinct Possibility = The risk of a particular problem being encountered is relatively high but easily avoided if proper consideration is given to avoid its occurrence.
4. Likely = The risk of a particular problem being encountered is very high and will be quite difficult to avoid altogether.
5. Extremely Likely = The risk of a particular problem being encountered is almost certain, with the probability of avoiding it being nearly zero.

With regard to the severity of the damage a problem might cause:

1. Insignificant = The damage caused by an event of risk will do nothing to impact operational efficiency and combat readiness.
2. Minor = The damage caused by an event of risk will do slight damage to property, person, or otherwise slightly harm the mission.
3. Moderate = The damage caused by an event of risk will do significant damage to persons or supplies, or otherwise pose a serious threat to the mission.
4. Major = The damage caused by an event of risk will result in the loss of life or important supplies, giving way to the high potential for a failed mission.
5. Critical = The damage caused by an event of risk will result in multiple fatalities, total loss of supplies, and almost certainly a failed mission.

Once the probability and potential damage have each been scored for a particular event of risk, the two scores are multiplied together creating a

composite score. The composite scores range from 1 to 25, with a higher score indicating greater risk.

0–5: Low Risk
6–10: Moderate Risk
11–15: High Risk
16–25: Extremely High Risk

For instance, the risk of someone twisting their ankle while walking on a dirt road might receive a probability score of 2, while the severity score might also be 2, giving this event of risk a composite score of 4, making it a low-risk event.

While CRM is a very simple tool to use, it is entirely subjective in nature and contributes little of value to the decision management process in strategic planning.

In Composite Risk Management, the valuation of the potential impact an event might have on a mission provides no information useful in strategic planning. Taking lessons from those companies that most successfully utilize risk management, oil companies, a translation of cost and potential revenue can be developed. The costs associated with any particular plan, in a combat scenario, are quite the same as an oil company, though with higher stakes. These costs include the expenditure of resources, capital, and human assets, whether through the inherent consumption of all three through standard operations, or through enemy attacks. Though it is a very unsentimental process, a value is placed on each and the full potential cost is subtracted from the full benefit. The total benefit includes not only the harm caused to the opposition but also any gains made from a mission wherein the assets of the opposition can be taken for one's own use. The total gains, called the gross benefit, can come in the form of depriving the enemy of supplies or people through any of a variety of methods from traditional warfare tactics to modern economic combat. As described throughout Part III, however, leaving those supplies and people intact provides the potential to double the value of a strategy in that depriving the enemy will create strategic value, but then taking those assets for your own use adds an equivalent amount of strategic value. Once the costs of a particular potential decision are subtracted from the potential gains of the same decision, one is left with the net value of the decision (meaning the value after costs). This is still different than the decision's total value, however, in that the probability of success has yet to be calculated.

Improving on the probability evaluation of Composite Risk Management is significantly more difficult but just as critical as improving on the potential impact of a particular event occurring. The probability of any problematic event occurring can be broken down into a series of variables that cause that event to occur. One of the most common risk concerns in the military is hot weather injury, such as heat cramps, heat exhaustion, and heat stroke. Hot weather injuries have 3 primary variables that determine the probability of an occurrence: (1) the temperature outside—as the temperature that a person is working in increases, the likelihood of a hot weather injury occurring increases; (2) Acclimatization—as a person gets used to hot weather by living in it for longer periods, the likelihood of hot weather injury decreases; and (3) Electrolyte Imbalances—if a person continues to drink enough water to offset the fluids lost in sweat, and get enough food to maintain proper nutrient concentration, the likelihood of hot weather injury decreases. Putting each on a sliding scale, it becomes possible to accurately estimate the probability of hot weather injury to an exact percentage using existing data. For example, keeping all things constant, a 10% increase in temperature might increase the probability of hot weather injury from 5 to 15%.

Using the contributing variables of an event to project the probability of it occurring is called a multivariate analysis (multivariate meaning multiple variables). While these analyses can be applied to a wide variety of situations, they can involve extremely complex statistics and may not be readily applied in the high-speed combat environment. With the aid of technological advances such as smartphones and tablet computers, however, tools can be relatively easily developed to assist in fast and accurate modeling for the risk of a wide range of situations. One might input the resources they have available to them (e.g., the number of people, the amount of water, and the amount of food) as well as the temperature, the level of acclimatization, and the number of hours people are expected to be in the sun, all in order to determine the probability of someone having a hot weather injury. The computer would then do the statistical analytics, producing useful information in a manner more quickly than can be done manually. Again, this is a highly simplified example but it's meant to show how the basics of the process would work. A real example would include a wider number of variables, each weighted for the strength of the association (e.g., the temperature

outside has a much stronger association with the probability of hot weather injury than the amount of acclimatization the person has had).

25.3 Decision Management Optimization

With a greater understanding of the component variables that determine the probability of an event occurring, it becomes possible to more accurately plan strategically as well as to more effectively mitigate risk. This can be accomplished by allocating resources in a targeted manner to influence those variables causing increasing the probability of event to the greatest degree. If one estimates that they can decrease the amount of sun soldiers hike through by 10% by taking a shaded route instead of a sunny route, this might decrease the risk of hot weather injury by 10%, a number that may be extremely helpful when planning for the number of people that reach a specific location in time to execute an attack plan.

When used in conjunction, these values allow us to develop something called a weighted average decision tree. Refer to Fig. 25.1 for an example of a weighted average decision tree (WADT).

Each circle is called a "node" and indicates a point where a decision must be made. The lines extending from each node are potential decisions that can be made, but only one decision per node can be chosen. Note how some decisions bring one to another set of decisions later on in a series. The triangles at the end of some decisions indicate the end of a series of decisions with no additional decisions to be made. Standard decision trees, often used in computer programming, simply act as a series of cause and effect options. When a decision is made, the computer program responds in a predetermined manner in an "if-then" logic

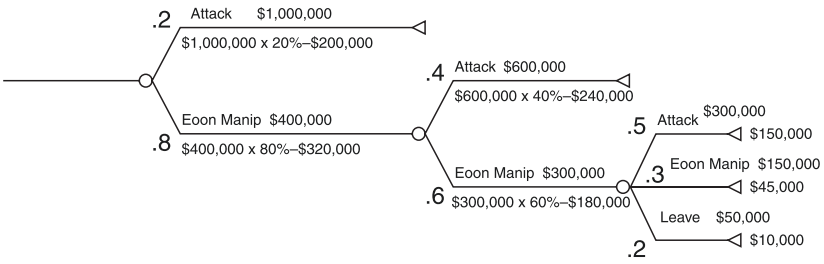


Fig. 25.1 Weighted average decision tree

series. In the more detailed WADT, the net benefit of a given decision is multiplied by the probability of success to determine the total value of each potential decision. Decisions are typically based on one of the two criteria depending on the level of risk aversion had by the person making the decision. They will either choose the decision with the greatest total value or they will choose the decision with the greatest total value that has over 50% probability of success.

This approach to decision management is very common in oil companies when deciding on locations of where to drill for oil. They will determine the net value (value after cost) of a drill site by subtracting the cost of drilling from the estimated revenues generated by selling the oil in that location. The net value is then multiplied by the probability that the site contains the oil they believe it does to determine the total value of the site. The sites with the greatest value are chosen for drilling, sometimes unsuccessfully, but oil companies are among the largest and most profitable in the world, with Exxon Mobile alone making over $11 billion in profits during the first quarter of 2011.

Figure 25.1 applies the same decision management principles to a warfare scenario. The first node brings a group to decide whether to attempt a physical attack worth $200,000 ($1,000,000 with a 20% probability of success) or the use of some economic combat strategy worth $320,000. Even though a successful economic attack will have lower net value ($400,000), it has a higher total value than the physical attack because of its high probability of success. Making the decision to pursue economic combat methods brings the group to the second node in the decision tree, at which point they again have the option to choose a physical attack or an economic attack. This time the physical attack has greater total value ($240,000) than the alternative but also has only a 40% chance of success, while the economic attack is worth $180,000 with a 60% chance of success. Since the most valuable option is not likely to succeed in this case, the risk itself can be evaluated to determine if the additional risk is worth the additional benefit. The economic strategy is 50% more likely to succeed than the physical strategy, while the total value of the physical attack is only 33% greater than the economic strategy, which means that the additional benefit of the physical attack requires taking on a disproportionate degree of risk. For those who have low risk adversity (meaning that the person is willing to accept a greater degree of risk), they may simply choose the greater total value of the physical attack regardless of the risk. For those with very low risk

adversity, they may choose the economic attack just by nature of it being the only option with a probability of succeeding over 50%. The calculated response will be to measure the value of the added risk as a ratio of the added benefit to see if the additional risk exceeds its value in potential gain. Choosing this calculated option, and bringing the group to their final decision node, the decision is now between a physical attack, an economic attack, or to simply leave. For this example, the enemy has now been devastated by economic attacks (which accounts for the lower net gain from total defeat by way of a physical attack, since they are now not worth as much strategically), making them ripe for a physical attack. The physical attack now has the highest total value as well as the high probability of success with a 50% probability rate. This has become the obvious choice out of those listed at the last node.

Decision management optimizes the use of one's available resources. Unfortunately, it is impossible to expend a single resource more than once, so in choosing one plan, one must forego the benefits of the next best plan (a loss called opportunity cost). It is important, then, to maximize the benefits that one is capable of producing by using their strengths and minimizing weaknesses in order to take advantage of opportunities and avoid threats.



CHAPTER 26

Resource-Based View of Conflict

Now it's time to bring it all together into a final, unifying theory on the military applications of economics. In this chapter, many of the elements from other chapters will contribute to an overall greater look at how warfare and the progression of conflict are a function of resource availability.

26.1 Combat Progress Model

Probably, the most significant breakthrough in warfare analysis came from English mathematician Lewis Fry Richardson in 1948, when he published a data set called Statistics of Deadly Quarrels, 1809–1949. In it, Richardson provides some of the most comprehensive information on conflict available even today, collected from 779 separate conflicts and includes data ranging from the size and duration of the conflict, to economic variables such as involvement in trade, to metrics on cultural distinctions between opposing forces participating in the conflict such as dress and marriage customs. The data collected is still being analyzed as of the writing of this book and little has been found that allows for the use of correlated variables to accurately predict the duration or severity of a war. Little, that is, except that Richardson himself discovered a pattern in the frequency of fatal attacks measured cumulatively by duration between the first attack and an attack on any given day thereafter. In other words, the number of fatal attacks that will have occurred cumulatively up until any day after the first attack, in any conflict in history with

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M. Taillard, *Economics and Modern Warfare*,
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properly recorded data, will be significantly close to that predicted by a single mathematical formula as follows:

$$\left(T_n = T_1 n^{-b}\right)$$

where

T_n Cumulative number of attacks of day n
n Any given day after the first attack in a conflict
T_1 The first attack in a conflict
$-b$ Variable logarithmic ratio

The formula states that there will be a cumulative T_n number of attacks n days after the first attack, T_1, which is more than any day up until day n, but increasing at a marginally slower rate to the power $-b$. The only problem is that the exact value of $-b$ varies and is not easily predictable. $-b$ is the speed at which the total number of fatal attacks increase; the total number of fatal attacks not only increase over time but also start out increasing at its fastest rate and slow down over time until the conflict ends. There are a number of variables that influence the value of $-b$ but none studied have a strong enough relationship to predict what the value of $-b$ will be in any given conflict, except in hindsight. Still, even though we cannot yet determine the actual value of $-b$ as anything but a variable until at least near the midway point of the battle, we are able to change the relative value of $-b$ regardless of our ability to predict it. In other words, just as you know you can increase the weight of a bucket by filling it even though you don't know the weight of the bucket itself, so too can we alter the value of $-b$ in strategically important ways without actually knowing its initial value. If this sounds complicated then keep reading because, as with all the formulas described, an example follows.

The accuracy of this formula in predicting the progression of a conflict has been challenged in more modern days by Neil Johnson of Miami University who applied it to OEF and the number of fatal insurgent attacks in Farah Province, Afghanistan. The correlation between cumulative number of attacks and duration of days after the first attack still held strong significance as shown in Fig. 26.1.

The graph shows the interval between attacks, illustrated by the dots, begins relatively slowly and increases in frequency over time until

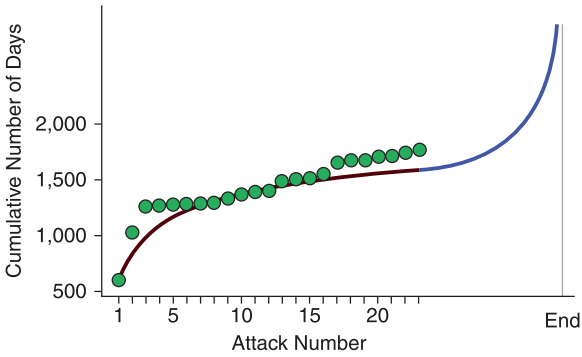


Fig. 26.1 Comparison of predicted and actual attacks

it reaches a mostly consistent rate between attack numbers 3 and 8 and then slowly begins to decrease in frequency once again with larger gaps in the time intervals appearing. The curved red line is the mathematical graph of the equation using a $-b$ valued using data derived about conflicts in Farah Province after-the-fact. The blue portion of the curvilinear line is not accounted for in Richardson's original formula but must occur as attacks decrease in frequency resulting in the end of a war, indicated by the vertical red line labeled "end." This is supported by the increasing deviation of actual attacks from the prediction line. As the war reaches its end, the line must extend upward and a fully vertical manner since the duration of days until the next attack will be infinite given that there will be no future attacks in that specific war. While the graph does not predict the attacks perfectly each time, it does predict individual attacks within a statistically significant range allowing for useful estimation of when they can be expected. In other words, one might not now the exact day of the attack, but they can know that an attack will be coming within a range of days, giving one the ability to have specific plans laid out to prepare for and respond to that attack, if only the value for $-b$ is known.

26.2 Implications of Model

Variations of Richardson's model are used accurately in a number of applications; in economics, it's seen in modeling predictions of exogenous growth, in information technology, it is used to model software

implementation progress, and in marketing, it is used to predict sales trends of new product offerings. Generally speaking, this is something of a general-purpose model which shows increases in efficiency and growth that slowly decrease with responses to this progress in the form of new innovations or competing progress. For example, sales of CD players were slow at first as the new technology took time to be adopted but increased dramatically over time, dominating previous technologies, until new technology in the form of MP3 players replaced them and sales slowed to a near halt. Even as applied to warfare and the content of this book, over the course of millennia the manner in which we develop ways to kill each other in traditional forms of warfare progressed very slowly, gradually speeding up with major breakthroughs like metalworking, gunpowder, and nuclear energy, our ability to efficiently kill each other sped up with tremendous velocity, but it was with the invention of the nuclear bomb that things slowed down quite a lot again because our progress went beyond our ability to use it without destroying ourselves in the process. So, we backtracked and are now making small, gradual improvements to older technologies, while at the same time there is a massive increase in the recognition and development of alternative methods of winning conflicts without resorting to traditional warfare, as discussed earlier in this chapter. These are the same basic trends can be seen in Richardson's model, allowing us to derive functional use of it based on lessons learned in other fields, even if we are not entirely accurate in its calculation. This is primarily the result of how it relates to the attack incentive model discussed in Chapter 5 and the principles of decision management discussed in Chapter 25.

26.3 Relationship to Incentive Model

With combat, as noted, the exact influences on the slope of the curve are not yet well understood. Using the existing knowledge that is described throughout the book, however, it becomes possible to alter the curve. Recall from Chapter 5 that it is possible to directly alter the amount of incentive that the enemy has to physically attack. In that chapter, only supply manipulation is discussed in this option, but both trade manipulation and market manipulation also alter supply availability thereby shifting the enemy's incentive curve. Choosing, at each node in a decision tree (shown in Chapter 25), the option that alters enemy incentive to attack in a manner that either speeds up or slows down the frequency

of attacks give one the opportunity to indirectly manage enemy operations. On the graph comparing actual and predicted attacks, each point indicating an actual attack has its own incentive curve to attack that can be altered as shown in Fig. 26.2. As a result, each attack can be delayed or expedited as is deemed necessary. This helps to not only control when the enemy will attack in order to best prepare for that attack but also control the timeline of the battlefield to your own favor.

The nature of the curve has an important implication: As attacks increase in frequency, resource usage increases. As resources decrease in availability, either the attacks must decrease in frequency or severe shortages will result in the enemy's ultimate defeat in a shorter time period. As a result, using the Resource-Based View of Warfare, we can alter the very course of a war by manipulating both the availability of resources and the enemy's incentive to attack.

The desire to increase the enemy's incentive to attack is not always the most obvious option, at times seeming counterintuitive. If the goal is to force the enemy to consume supplies at an increased rate in order to expedite the creation of shortages or deplete rations, then a higher value for $-b$, which would result in more frequent attacks, might be the best option. An overall increase in the frequency of opposition attacks can also help to lure an enemy that is not readily seen or recognizable out of hiding. Such as is the case in OEF wherein enemy soldiers are not easily differentiated from standard civilians in the region, increasing the incentives for the enemy to attack can help to draw out these individuals and

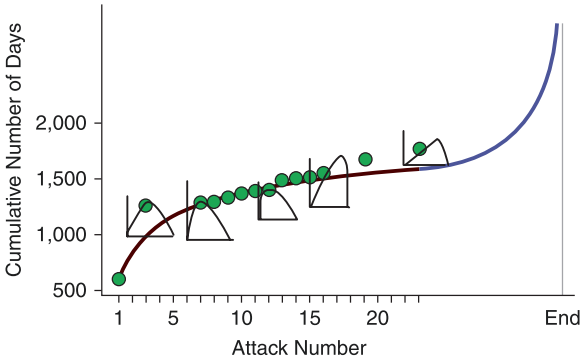


Fig. 26.2 Mapping sequential attack incentives

expedite their defeat. Increasing the frequency of attacks can also help to shorten the total duration of the conflict to avoid the hardships and risks associated with keeping soldiers stationed in a distant combat zone for extended periods of time. Rather than attempt to maintain a military force for a lengthy occupation, if one is confident that the war can be won, then giving the enemy incentive to attack will help speed up their defeat rather than risking running out of supplies or needlessly depleting morale and public support.

An increase in $-b$ can be accomplished by increasing the incentive for the enemy to attack, either treating each attack individually and managing their incentives of each potential position or by altering the overall dynamics of the battlefield to give the enemy an overall increase in incentives. As noted in Chapter 5, the incentive to attack decreases when the enemy has either not enough resources or else a supply of resources that is, for all intents and purposes, nearing unlimited. A group of bomb-makers that have no access to ignition components will stop making bombs resulting in low incentive to attack. At the same time, if there are unlimited supplies and the bomb-makers themselves perceive no risk to themselves, they will not put themselves in harm's way unless it is strategically sound. Also remember that the incentive curve may be steep or gentle, depending on the resources that have limited availability and the perceived immediate risk that the soldiers experience. The goal then, in increasing the incentive to attack, is to increase $-b$ as a value in the frequency of attacks.

Managing the incentives of individual attacks is addressed in Chapter 5. Increasing generalized attack incentive that will impact the overall frequency rather than simply altering the time frame on an individual attack is a bit more complicated but can be accomplished. Ensuring that the enemy has some form of supply chain that can maintain a continued source of their required assets will keep them in operation. Should there be suspicion that the enemy is working out of multiple geographic locations or via separate subgroups or factions, then setting up multiple supply chains can yield a greater amount of economic intelligence about the enemy but is also more difficult to manage, while giving a bulk discount (called economies of scale, in economics lingo) from a single source is more easily managed but may be more difficult to monitor for internal distribution and consumption ratios. This can be best managed by using cooperative trade partners, as shown in Chapter 15 by introducing supply channels to the enemies operations that will later on take advantage

of the position by eliminating supplies, decreasing supplies, or providing faulty supplies. During the interim, information about enemy operations is collected.

Perceptions in improved operating efficiency on behalf of the enemy can be developed by giving direct access to artificial operations, such as described in Chapter 20. Any perceived successes will bolster confidence and give a false sense of security in their operations encouraging them to increase the frequency of this type of attack to obtain more of these "successes." No matter what approach is taken, the ultimate goal of increasing attack frequency, in terms of the graph, is to flatten the line in the middle in order to make it rise steeply more quickly. In practical terms, this means that the frequency of enemy attacks increases for a much shorter duration but with plans in place to ensure that attacks stop altogether or happen extremely infrequently after a short period of high activity.

The alternate approach to altering the value of $-b$ is to decrease it which, as a result, decreases the frequency of attacks. With low incentive to attack, the interval in days between each attack will increase. Whether this will eventually end a war entirely by simply manipulating the enemy consistently into positions wherein there is no benefit to attack thus forcing them to surrender or continuously take self-destructive actions depends on the circumstances of the war. Of course, this is the most desired outcome since it results in the least amount of death and physical destruction that one can imagine might be possible in warfare. However, the motivations for entering into war are not always rational, as one might see with conflicts over territory, resources and economics, or political disputes. Throughout history, perhaps as frequently or more frequently than rational disputes, are incidences of dispute over ideologies that extend far beyond the rational. Ideas that motivate groups of individuals to take arms and fight to the death regardless of tactical disadvantage that might otherwise lead one to seek alternate options such as religious or philosophical extremism, views of racial inferiority, and personal disputes of honor. For these irrational motives wherein strategy holds little sway, if any at all, attempting to bring an end to a war by managing a consistent lack of enemy incentive to attack will only prolong the war. The duration between attacks may increase, but the attacks themselves will not stop altogether as a result of low incentive since the incentive comes not from military strategy, but from personal ideal extremes. For all other circumstances, bringing an end to a way by

decreasing the value of $-b$ continuously over time should be considered as a potential option.

Many of the strategies listed in the book until this point have the secondary effect of decreasing the frequency of attacks by decreasing either the ability or overall incentive for the enemy to attack. Limiting an enemy's resources, limiting their capital, altering their trade, controlling their supplies, changing the minds of their people, and many others all weaken the position of the enemy in any considerations they might have of attempting a direct attack. Enough use of these things to control each, individual attack incentive curve will increasingly decrease the frequency of attacks as the opportunities for them to attempt a direct confrontation become ever more elusive. In addition to attempting to manage each, individual incentive curve, however, as with increasing the frequency of attacks, it is possible to take actions that more generally decrease the frequency of attacks as well. To accomplish this, one's focus must be on decreasing the enemy's operating efficiencies. Opportunities to do this might present themselves in the form of ending trade partnerships for the enemy in one form or another, decreasing their availability of non-tactical supplies, creating diseconomies of scale (the opposite of economies of scale, where increases in unit output actually result in increased average cost), eliminating or limiting communication capabilities, eliminating the use of the best transportation routes by forcing much longer routes, and a number of other opportunities that generally make the daily operations of the enemy more difficult to execute. By looking at an increase in the frequency with which an enemy can execute attack and an increase in the level of devastation created by each attack as a form of progress (in the sense that they have improved their operations through experience, infrastructure development, and improved partnerships), then the ultimate goal is to destroy those things that allow the enemy to operate in this improved manner.

As noted, progress comes from three primary sources. The first, experience, is not one that can be easily stopped without simply conquering your enemy quickly. One can attempt to manipulate the enemy's actions using economic strategies or simply attempt to recruit those individuals who have the greatest amount of experience prior to the outbreak of fighting, but in the end experience will be gained on both sides of any conflict as the war continues on over time. The development of infrastructure is a source of progress that is quite a bit easier to harm and includes cutting off communications, blocking transportation routes,

cutting off utilities, destroying machines and equipment, and even taking away those creature comforts that help to develop a soldier's morale during those trials and tribulations experienced during a conflict. All these things will limit the operating efficiencies of the opposition forces by forcing them to utilize outdated and less-effective means. Finally, the progress that an enemy will make from developing partnerships will come in the form of trade cooperation, social networking, sociological integration, and the building of psycho-social and cultural ties within a region as well as along any transportation routes used by the enemy and their partners. Debt and equity engineering (described in Chapter 23) and trade partnerships (described in Chapter 15) are both effective ways at managing the enemy's connections to businesses. The use of human resource management (described in Chapters 4, 13, and 22) will manage the labor markets, while the use of psychological operations, particularly using one's own culture to influence ideas and values (such as that which was described in Chapter 23), can help to manage the enemy's general social and cultural integration, making it much more difficult to operate normally within the region as they experience public friction, general disdain, or even simple indifference. An additional impact on the morale of opposition forces will further slow down their operations as they lose motivation as a result of the hardships they experience.

The value of $-b$ is a best-of-fit value. That means the value, when graphed, travels through the middle of the actual attacks. This acts sort of like a mean average. A mean average is calculated by adding the values of all the numbers in a sequence then dividing the sum by the number of values. This is calculated as follows:

$$m = \left(\sum x_1 + \cdots + x_n\right) \Big/ n$$

where

x any given value
n the number of values

Step 1: Create a series of values
3, 3, 5, 9, 5
Step 2: Add those values together
$3+3+5+9+5=25$.
Step 3: Divide the total by the number of values in the series
$25/5=5$

So the mean average is 5, which is right in the middle of the values, weighted by the distribution. While $-b$ is not a mean average, exactly, it acts similarly in that it gives a value that is in the middle of the actual frequency of attacks. This does not say anything about the actual distribution of attacks, however, so the attacks might deviate from the line as it does in Figs. 26.1 and 26.2.

How far, on average, that the actual attacks deviate from the line is measured using the standard deviation, σ. Standard deviation is measured by first starting with the actual value of the attack (as measured in the number of cumulative days from the first attack), then subtract the predicted value for the same attack. Perform this calculation for each instance, square the differences, and then add all the answers together. Take the sum of the differences and divide the value by the total number of instances (such as with the mean average). Finally, the standard deviation is calculated by determining the square root of that last value. Using the same example as the mean average, the standard deviation would be calculated as follows:

$$\sigma = \sqrt{\left\{\left[\sum (x_1 - m)^2 + \cdots (x_n - m)^2\right] \Big/ n\right\}}$$

where

m the mean average
x any given value
n the number of values

Step 1: Subtract the mean from each value
$3 - 5 = -2$; $3 - 5 = -2$; $5 - 5 = 0$; $9 - 5 = 4$; $5 - 5 = 0$
Step 2: Square the differences
$-2^2 = 4$; $-2^2 = 4$; $0^2 = 0$; $4^2 = 16$; $0^2 = 0$
Step 3: Add the answers
$4 + 4 + 0 + 16 + 0 = 24$
Step 3: Divide the answer by the number of values in the series
$24/5 = 4.8$
Step 4: Calculate the square root of the answer
$\sqrt{4.8} = 2.19 \sqrt{4.8} = 2.19$

So in this case the standard deviation is 2.19, which means that, on average, the values in the sequence were 2.19 units away from the mean of 5.

This is important for purposes of measuring alterations in $-b$ during combat. A change in the predicted attack curve that results in a change in the distribution of actual attacks relative to the predicted attack curve is called volatility. Such measures are used in economics regularly and are typically given the value beta, β. Beta is measured by starting with the standard deviation of individual attacks, subtracting the standard deviation in the predicted values resulting from artificial manipulations as described earlier, then dividing the difference by the standard deviation of the predicted value. The calculation is as follows:

$$\beta = (\sigma_a - \sigma_p)/\sigma_p$$

where

σ_a Standard deviation of the actual attacks
σ_p Standard deviation of changes in predicted attacks

Whether or not an economic manipulation strategy is increasing the volatility of changes in actual attacks compared to changes in predicted attacks is important for determining the effectiveness in attempting to change the value of $-b$ as an economic strategy. In other words, if a change in the curve of predicted attack frequency changes as a result of economic manipulation strategies, then the degree to which deviations in actual attacks vary will show how effective the strategy is. This volatility index (VI) can be measured as follows:

$$\text{VI} = \frac{\Delta\,(\beta_2/\beta_1)}{\Delta\,(V_2/V_1)}$$

where

Δ Change
β_2 Volatility post-strategy implementation
β_1 Volatility pre-strategy implementation
V_2 Weighted average value of strategy (as described in this chapter)
V_1 Weighted average value pre-strategy

If the volatility index is greater than 1, then the impact of the strategy has the added benefit of impacting not just the enemy directly but is also very effective at generally altering the frequency of attacks. If the volatility index is less than 1, then the strategy doesn't have a general impact of attack frequency value $-b$, but might still be effective as a manipulation strategy in its own right.

When applied to our weighted average decision tree, the total influence of a strategy is calculated by incorporating our volatility index to the expected value calculations for each option. As noted previously, a traditional weighted average decision tree takes the net value of pursuing any decision and multiplies it by its probability of success to determine the value of the decision. In order to determine the full value of any potential economic strategy, multiplying the value of the decision by the volatility index will determine the value of the decision including the impact on attack frequency. Since the vast majority of economic strategies are designed to reduce the frequency of attacks, and even those strategies that are not designed to alter generalized attack frequency will deter current and future attacks as a result of strategic disadvantages, the total value of an economic strategy can be determined by its impact on the enemy plus its impact on attack frequency. This should be calculated as follows:

$$V_{\mathrm{T}} = (P * V_n) * \mathrm{VI}$$

where

V_{T} Total value of strategy
V_n Benefits of the strategy less the expected costs
P Probability of success
VI Volatility Index

Of course, since volatility can only be measured in hindsight, the actual value of the volatility index can only be estimated using knowledge about the impact of similar strategies over time. This will continue to remain challenging since even as more data on the impact of economic strategies is collected, any projections made over long periods of time about the volatility of attacks will be less accurate than over short periods of time. In other words, a projection made about 1 year in the future will be far less accurate than 1 week, so the attack prediction curve will slowly deviate from the actual number of attacks in an increasing amount over continued periods of time.

To make this model more accurate, one must identify the unifying variables that determine the value of $-b$. While altering the frequency of attacks as a relative measure can provide extremely important strategic advantages, understanding it at an absolute level (i.e., understanding how to predict the exact frequency of attacks at any given point rather than predicting changes) will allow for more targeted and more effective strategies to change the course of the war. By disrupting the progress of enemy operations in the most effective manner, it is possible to stop the enemy from attacking at all in many cases by creating within them an inherent inability to coordinate their people and resources to form coherent operations.

26.4 Rommel's Resources Revealed

This chapter has brought together a lot of concepts that originated with the 1st edition of this book, forming a coherent and promising unifying theory on the resource-based view of conflict and how this view allows for the manipulation of economic forces to be used as a tool to win conflict. Each of these is supported by objective historical facts, but it is also necessary to demonstrate that they have been used in conjunction that applying the attack incentive curves to Richardson's model does, in fact, allow us to indirectly control the decisions of opposition forces. Thankfully, Nazi General Erwin Rommel has provided us with not just one, but a multitude of examples that provide validation for this change in paradigm to winning (or losing) conflicts.

Rommel was by no means a genius strategist or tactician, and his trademark approach to combat that combined simple blunt force at high speeds was shaped early in his military career during World War I. At Mount Matajur in the Italian Alps, Rommel and his German forces were pinned down and outnumbered against opposition Italian military. He had been given orders from his command to wait there until reinforcements could arrive, which has always been a very typical tactical response to being outnumbered, unless you've read this book. Fortunately for Rommel, the Italians had the same perception of the situation as the German command, and given that the Italians had ample resources, they could take their time to develop a proper strategy to eliminate the remaining German troops while minimizing casualties on their own side, since it would take quite a long time for German reinforcements to make their way through the mountains to their location. Following the orders

of German command and waiting for reinforcements, Rommel would certainly have been overwhelmed by the enemy with time being the only question. So, with insufficient resources to pursue a proper strategy against the Italians, and those resources dwindling with each passing day, defeat was inevitable under either option, making Rommel's need to attack extremely high as a matter of desperation. Instead of following orders from command, Rommel ordered his troops to attack as fast and aggressively as possible, driven blindly by aggression and personal glory in battle. The Italians, thinking like typical tacticians of the time, did not consider that the outnumbered Germans would attempt a full frontal attack and were taken completely by surprise and actually winning. Simply because neither the German command nor the Italian military took into consideration the incentive for Rommel to attack, believing that being relatively outnumbered was enough to suppress the attempt, Rommel was capable of winning the battle because they were actually at the height of resource incentive to do so. They had just enough resources to potentially win the battle, but not enough resources to wait any longer while staving off defeat. It was this victory that shaped Rommel's typical tactical approach to combat later in his career.

During World War II, Rommel was promoted under Hitler to command the 7th Panzer Division, also known as the Ghost Division, and after some combat in Europe was placed in the German Afrika Korps fighting against the British in Egypt. It was here, during the First Battle of El Alamein that British forces intercepted communications from the Ghost Division and learned that the Germans were greatly outnumbered. Compounding that problem, it was commonly known that German tanks were inferior to the French-manufactured counterparts, so the British were quite certain of themselves that Rommel was forced into submission until reinforcements could arrive. If this is starting to sound familiar, then you would be correct, because Rommel instead decided to attack. His forces were, in fact, quite inferior, so he ordered his troops to kick up huge clouds of sand and dust on their way to attack in order to make his forces look larger than their true volume. This deception, along with the same speed and aggression applied in Italy during World War I despite having an objectively inferior tactical position, left the British totally surprised and defeated them using a full frontal attack. Once again, Rommel had enough resources to fight a battle, but not enough that the opposition even considered that an attack was impending—they did not take into account the role of resource-based incentives to attack.

Not long after that victory, however, came the Second Battle of El Alamein. Once again, Rommel was outnumbered by the British, but having learned their lesson from the previous embarrassing defeat came to understand that tactical position alone does not determine the outcome of a battle that attacks were determined by incentive. The result was a 5-phase battle, the crux of which was Operation Supercharge, in which the British destroyed German petrol reserves and attacking supply routes used by the Germans, dropping their incentive to attack and forcing them to a full-scale retreat. The distinction between Rommel's successes and failures was defined by the resources available and whether or not his opponents had the foresight to target those resources and force him further into the "rationing region" of the attack incentive curve, leading not to defeat on the battlefield but a full retreat.



CHAPTER 27

Profits of the Game

The decision tree described in Chapter 25 was a sample of a particular field of mathematics that concerns itself entirely with strategic decisions between people, called "Game Theory." Game theory is visually represented in two different ways, the first being the decision trees, in which case the matter is one of a consecutive series of "taking turns," meaning that the relationship between the people is dynamic, changing over time, with each attempting to maximize their benefits over the other. Each "turn" that is taken refers to each decision that is made, and refraining from doing anything is a decision as well, so decisions are not necessarily taken in-turn, one person after the other, as the name may seem to imply. Should the combat environment or the opposition change in some manner, then it is one's own goal to adapt and choose paths along the decision tree that results in achievement of the final goal (or as close to it as possible), even if that means taking temporary deviations from the original path (such is the nature of having an original plan and multiple back-up plans for each potential decision node that must be addressed, each of which ideally directing the decision tree back to its original plan by the end).

The other way in which game theory is visually represented is through something called a "payoff matrix." These are typically represented as a 2-dimensional grid with each axis either representing a person or a strategy, and the value of the payout to each person given the relative decision each has included within the grid, itself. These tend to be a

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single-turn decision in which each person makes their choice and the outcome for each is calculated.

This is all, of course, merely the visual representations of the mathematics of decisions which are made, attempting to understand how to optimize the value of decisions and, more importantly, calculating how people will react in a strategic environment assuming they think rationally. Of course, people do not always think rationally, but it can be counted upon that they will act in their own best interests. A classic example is known as the Prisoner's Dilemma; two prisoners have a decision to either testify against the other or keep silent. If one testifies and the other does not, then one will go free while the other is imprisoned for five years. If they both testify, then they will both be imprisoned for three years, but if neither testify then they will both be imprisoned for only one year. Neither prisoner knows what the other will do, so the dilemma results from the fact that if one prisoner decides to stay silent because it maximizes the total benefit for both of them, there is the potential that the other person will testify, forcing the silent prisoner to be imprisoned for five years instead of just one. This is illustrated by the grid:

Prisoner 1/Prisoner 2	Testify	Remain silent
Testify	3, 3	0, 5
Remain silent	5, 0	1, 1

Game theory is most commonly applied to economics in competitive markets to determine market positioning, pricing, and to determine whether predatory business practices like collusion is being implemented. Games like this help to demonstrate the rationale behind treaties, ceasefires, and surrender in times of war. If both sides in a conflict benefit most by ending the war without winning, then a treaty or cease-fire will likely be established. This is especially the case in which one side would accomplish a pyrrhic victory, which is a state in which the war is won but with such devastation that it is comparable to losing; such was the nature of the Cold War between the USA and Soviet Union and the policies of mutually assured destruction. During the Cold War, both the USA and Soviet Union had reached a state of Nash Equilibrium, which means that neither side of the conflict could increase the value of their circumstances by changing the strategy chosen. In other words, given the strategy chosen by the opposition, it is impossible to improve the value of one's own

circumstances by changing strategy. It may be possible to achieve a better outcome if the opposition changes their strategy, but given the constant of the opposition's strategy, if it is impossible to achieve a better outcome, then Nash Equilibrium has been achieved.

Of course, this all includes more than the simple 2-choice game of the Prisoner's Dilemma, as warfare includes a wide variety of strategy options, but using the calculations of possible outcome combinations of strategies chosen it becomes possible not only to determine what strategy the opposition is likely to choose but also to maximize the value of your own decision be comparing the outcomes of your decision. Complicating things further, though, is that wars typically include more than merely two sides to the conflict. Formally, rather than the two-dimensional grid used in the previous examples, game theory allows for "n players"—n specifying that there could be any number of people involved, while the term "players" simply refers to those who are participating in the conflict. For example, in Kashmir, there are formally three players fighting over contested land (India, Pakistan, and China), creating a three-dimensional, or cubic game. With additional players, the games become exponentially more complex, and the grid loses much of its value, so economists generally rely strictly on the equation form of the mathematics at that point. Kashmir is unique, however, in that a very new form of economic combat is being implemented not by the players, themselves, but by confounding intervention evolving from the game "board," itself. Before discussing that matter, though, first some prerequisite information must be detailed.

27.1 Traditional Private Combat Firms

The new form of economic combat described in this chapter is not from formal military groups, but are the result of private organizations. Typically, private combat groups are considered mercenaries, but these groups are actually the antithesis of what mercenaries do. In order to understand what that means, first we need to consider the economic role of traditional private mercenary organizations.

Mercenaries are human resources who fulfill combat roles. They are paid, just as with formal soldiers, but they are not members of the military—instead they are members of a separate organization. Mercenaries are a popular option when there are shortages of combat military, when there is a shortage of some specialized skill set that the mercenaries can

provide, when non-military government operations such as those executed by the State Department require combat support (i.e., particularly for security functions), or when combat operations tread and ethical line that could cause international backlash if traced directly to the orders given by a formal member of the military. Since they are not legally or politically obligated to fight in any particular mission, instead being motivated by financial gain, they do tend to be able to negotiate higher prices than traditional military soldiers, yet their non-military status also means that they are not subject to the laws of war and the protections provided to members of the military, so mercenaries are also an attractive option for high-risk, moderate-gain missions in which the value of the mission is not worth the implications of losing soldiers as prisoners of war or some other incident covered under the Geneva Convention (in other words, mercenaries are useful when the military needs soldiers who are legally disposable). As a brief summary, that is the market for private military combatants.

Mercenaries organizations tend to come in two distinct forms, though as of writing this I am not aware that these distinct forms have been given formal labels. The first form of mercenary organization is the one with which most people are familiar: formally organized and recognized companies that sell their services in combat and protection for a specified rate or to the highest bidder. A high-profile example of this form of mercenary group, Blackwater, who began involvement in the US occupation of Iraq in 2003. US ambassador to Iraq Ryan Crocker told the US Senate, "There is simply no way at all that the State Department's Bureau of Diplomatic Security could ever have enough full-time personnel to staff the security function in Iraq. There is no alternative except through contracts." Despite this description of their formal, contracted role in Iraq, a number of incidences occurred related to operations outside the scope of their contracts which violated multiple laws in both Iraq and the USA. Blackwater quickly changed its name and organizational structure, but were still forced by pay penalties for the incidences which occurred prior to reorganization. They now call themselves Academi.

The other distinct form of mercenary market is far less organized and functions in a similar manner to bounty hunters. This style of mercenary was commonly hired by insurgent groups in Afghanistan to fight USA and allied forces during Operation Enduring Freedom. Sometimes these are simply individual people, and sometimes they are small groups of no more than a few dozen people, but they are often loosely connected in

terms of communications and sometimes lending help to each other as subcontractors. They are not hired as traditional mercenary groups, however. More commonly, some organization with money or other resources wanted Americans attacked, so these groups would set up an ambush along the roadside to strike at a convoy. By the time the convoy passed, it may have been that there were no actual mercenaries even in the area, but they would most certainly record the attack, because that video is what functioned as evidence of a successful mission. The mercenaries would then get paid for proof of the attack on a singular project-basis after the project was completed, in the same manner as a bounty hunter gets paid for finding a wanted criminal, rather than being formally contracted at a specified rate for ongoing operations such as combat support or security.

It is the use of video recordings as evidence of an attack that makes this second form of mercenary similar in nature to the new form of economic warfare being waged, except that the entire paradigm has been reversed.

27.2 The Anti-mercenary Paradigm

The ability to use video to selectively control what evidence is being distributed allows people and organizations to manipulate the information that is made available. Particularly with the broad availability of phones which both take and distribute video, an innovative new form of warfare has been developed which goes beyond simple propaganda into methods of economic warfare. People have found that by recording just the proper moments in an event they can influence entire nations to support or denounce particular sides in a conflict, sending money, assets, and even recruits in response to the videos being distributed.

This is a method of conflict that has gained popularity within the USA on both sides of the racial divide. With an increasing awareness (and possibly an increase in actual perpetration) of police violence against racial minorities, both the police and victims have turned to this strategy to gain access to valuable resources. It was thought, originally, that by obligating police to wear body cameras the reality of these encounters would become clearer, but these cameras have simply turned into a strategic tool of the conflict. When such instances occur, more times than not, the body cameras are turned off for a portion of the encounter and are only turned back on when the encounter is already well underway and

the reason for a civilian acting in a particular manner is simply told from the perspective of the officer. This creates an illustration of minorities as being violent toward police that policy should allow for increasing use of excessive force in dealing with these encounters, and, most dramatically, that law enforcement agencies should be the recipients of used or surplus military resources such as armed vehicles, combat weapons, and other such equipment. On the other side, minorities have resorted to the use of mobile phones to record police encounters, clearly illustrating that shooting of unarmed people being shot despite clearly being no threat and cooperating fully. The most dramatic example is that of the case of Charles Kinsey, a behavioral therapist who was out with his patient, an individual with severe autism. When the police officers engaged them at random (no one had called them), Kinsey laid on his back with his hands in the air to demonstrate he was not a threat and screamed and begged for the life of his patient, who would not know how to respond to the situation. For his efforts to save the life of his patient, Kinsey was shot instead. The officer who shot him was later charged with manslaughter. This illustrates a key difference in the application of this strategy—mobile phones are everywhere and can be recording at any time and for any reason. Unless the entire event is recorded, as was the case with Kinsey, it is difficult to say for certain what exactly occurred. Cameras in use by authority figures are expected to remain on to record the incident, so when they are intentionally left off there is clear reason to be suspicious. In any case, civilians have been using this method to demonstrate to the nation that minorities are systematically being killed and otherwise oppressed by law enforcement in the USA, resulting in an outpouring of funding and participation for awareness, marches, protests, and so forth.

In contrast to the mercenaries in Afghanistan who record their own attacks in return for a reward, the anti-mercenary paradigm baits the opposition into taking actions that are deemed unacceptable, records the actions which are taken, and then distributes the video in order to validate their need for additional resources as a matter of defense against an aggressive adversary. These groups tend to be more concerned with carrying cameras than guns, ensuring that they turn footage of them appearing to be victimized into profit. In fact, as will be discussed thoroughly throughout this chapter, in some areas of conflict such as Kashmir, such groups would cease to exist entirely without the conflict being perpetuated. Without the ability to create the illusion of attacks for profit—without some ready-made enemy that people are ready to

denounce—there would be no profit to be had from these groups and they would be forced to cease operations simply because they, themselves, would then come to be viewed as the instigators of violence. It is for this reason of tremendous potential to gain profits and power, that these organizations are diligent in producing materials which appear to make one side or the other in a conflict (for some groups, it does not matter, so long as the conflict continues) is an imminent threat. This exaggerated perception of the actual amount of threat posed by the opposition inflames friction between foes and increases strife in society, making actual combat more likely and providing additional opportunities to use this strategy to profit.

27.3 Visions of Kashmir

With better sponsorship funding, this chapter would be a book in its own right, as the economic complexities of the conflict over Kashmir, as well as the differences in economic management in each region, and the implications that these things have for the fields of strategic economics, conflict studies, and mathematics are incredible. However, since the resources to actually travel to Kashmir and the surrounding nations to collect the necessary data were not available, the next best thing was to simply look at the Kashmir conflict through the lenses of people who live there (of course supplemented by any original sources of information available online or at the library). Since the information distributed to the public, particularly in regard to matters of conflict, is inevitably biased (often to the point of being intentionally misleading), it was impossible to find truth using the standard texts, nor by talking to people from a single nation. So, using a series of interviews with people from each of the nations/regions, local articles and reports of various types, and historical records from outside sources, a constructivist description of the nature of the Kashmir conflict and the events which have occurred as a result of it has been generated.

Before delving into the matter of getting to the truth of the conflict, it is necessary to briefly touch on some key points about Kashmir which are broadly documented and completely uncontested. That brings us to Fig. 27.1, which is a map of Kashmir, the boundaries being contested, and the nations involved in the conflict.

The shaded areas of the map are all part of Kashmir, but the different shadings define which nation controls a particular region, though

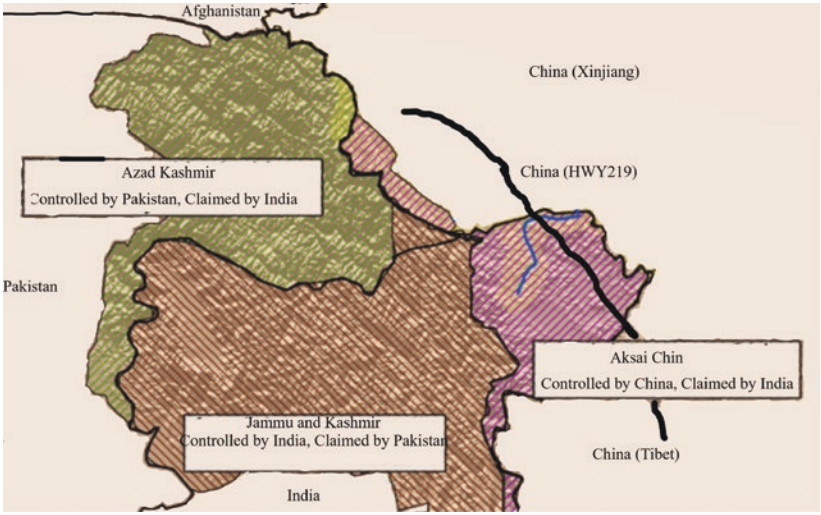


Fig. 27.1 The conflict over Kashmir

no region is left uncontested for ownership by some other nation. Also make note now of the location of Highway 219, which connects China to Tibet (over which China lays claim, while the people of Tibet insist upon independence). This will play an important role in the overall conflict as described later in this chapter. It is important at this point to note that India and Pakistan were all part of a single nation—a much larger nation of India, all of which was ruled as a colony of Britain until 1947. Once Britain left the region to be independent, India and Pakistan divided into independent nations, India being roughly 80% Hindu, while Pakistan remains about 96% Muslim. Kashmir, being stuck between the two, has historically been a semiautonomous "princely state" under British colonialism and also a mix of a wide variety of cultural and religious influences. So when Britain left, Kashmir declared independence from both India and Pakistan and became the focal point of a conflict that resulted in multiple wars over the decades. None of this is in dispute, just as the data in Table 27.1—a table listing the religious demographics in each distinct area of Kashmir—is not disputed by anyone.

At this point, the problem may appear obvious: The majority of the Kashmiri population is Muslim, leading to their gravitation toward

Table 27.1 Kashmir population

Controlled by:	*Population*	*Muslim (%)*	*Hindu (%)*	*Buddhist (%)*	*Other (%)*
China	0	0	0	0	0
India	7.25 million	66	30	2	2
Pakistan	3.6 million	99	0	0	0

Pakistan, right? Not so fast, it is actually a lot more complex than that, not least because the Kashmiri people, being stuck in the center of not only so many religious influences, but also cultural influences, and being an important trading point along the ancient Silk Road, had become extremely accepting of differences between people. They even have a special word for it: "Kashmiriyat," which refers to a secular outlook by the Kashmiri people which allows them to live and interact with each other peacefully and without judgment regardless of faith or culture.

It may also stand out to you that the areas administered by China have no population. That is not a mistake, as these regions are high-altitude deserts with some of the most treacherous mountains in the world. Only nomadic tribes travel through this region, and even they do not have any permanent residence in the area (which is obvious, given that they are nomads). That probably leaves you with a lot of questions as to why two of the largest, nuclear-armed nations would be fighting over it, but the matter of the actual conflict will have to wait just a little bit longer. First, as this is an economics book, we need to look briefly at the economies of "Jammu and Kashmir" (the colloquial term for Indian-controlled Kashmir areas) and "Azad Kashmir" (the colloquial term for Pakistan-controlled Kashmir areas). Aksai Chin does not have an economy to speak of, which is mildly amusing for me, as an author, because it simply contributes to the question of why it is worth going to war over.

27.3.1 Jammu and Kashmir

The economy of Jammu and Kashmir is almost exclusively based in agriculture. Production of grains, fruits, vegetables, spices, and lumber dominate, as well as farmed fish. They are particularly known for their saffron (which is notoriously difficult to produce and worth more than its weight in gold) and wood for high-end cricket bats. They attract a significant amount of tourism as well, which helps drive a thriving service

and hospitality industry, as well as an industry for local, traditional handicrafts. They also have a thriving mining industry for sapphires.

With the help of the federal government of India, Jammu and Kashmir has been investing heavily in industry, commerce, and infrastructure. They are working to attract foreign trade and investment by specializing in a limited scope of industrial sectors and establishing multiple special economic zones (geographic regions given preferential tax treatments for foreign companies who invest in local companies or who hire local companies to contribute to some part of an end product). In order to further assist in the development of the region, India has built railroads connecting Kashmir to the rest of India in order to improve the transport of goods and labor as necessary. In fact, these efforts at development and growth have plunged poverty in Jammu and Kashmir to one of the lowest across India, just 4% (by the standards of India, since poverty is a relative concept). However, this is all sustained by the fact that Jammu and Kashmir is also one of the largest recipients of government funding in the nation, with grant funding actually exceeding the total production value of the region. In other words, they get more money from India than they produce, themselves, in values greater than other regions of India which are larger in both population and geographic size. So, it is no wonder poverty is so low, but such a model is also not sustainable. Whether India earnestly believes that there is untapped economic potential for Kashmir as an industrial and commercial hub, or whether they are using all this aid to charm the people of Kashmir into supporting India's claim over the territory is uncertain.

27.3.2 Azad Kashmir

Under the administration of Pakistan, the economy of Azad Kashmir appears at first glance to have only subtle differences from that of Jammu and Kashmir. The bulk of their domestic economic production is still agriculture, though there are some differences slight differences in the types of grains, fruits and so forth being grown. For example, there is a much stronger emphasis on raising cattle and less emphasis on growing saffron or farming fish. Instead of sapphires as a natural mining resource, there are greater opportunities to be found in marble, graphite, and minerals. There is less attraction for tourism, but they still maintain a market for crafts.

The real difference in the economy of Azad Kashmir compared to Jammu and Kashmir is the manner in which these regions interact with their administrative governments of Pakistan and India, respectively. In Azad Kashmir, the Pakistani government relies more heavily on the natural resources available—specifically, the potential for water energy. Construction of the Mangla Dam was completed in 1967, powering a large area of Pakistan, for which Azad Kashmir gets a percentage of royalties earned from sales of electricity. While this does bring in some wealth, it does not bring many jobs along with it, so since there has been little investment in industry or commerce, a vast labor migration out of Azad Kashmir has taken place. A very large percentage of Azad Kashmir's economy relies on remittances (money sent back home from people who moved out of the country to find work), with estimates of 25–33% of total national income coming from abroad.

27.3.2.1 The Indian Perspective

Upon the withdrawal of Britain from Colonial India, Maharaja Hari Singh (who was already the leader of Kashmir, which was one of the semiautonomous "princely state" governed in conjunction with the British) became the ruler of the newly independent state of Jammu and Kashmir in 1947. With the cessation of Britain from the region, the Maharaja had a choice for Kashmir—either join India, join Pakistan, or become fully independent. Logistically, Kashmir had largely dependent upon India under British colonialism for its economic development and political support, so India had fully expected Kashmir to proclaim themselves a member state of India. Kashmir has a predominantly Muslim population, however, which gives them more in common with Pakistan in terms of faith and custom. Despite these two opposing influences on the decision faced by Kashmir, their culture and relationship between the people were extremely peaceful, friendly, and secular. They prided themselves on having little to not social conflict and gave this centuries-old concept of mutual respect of all people the term "Kashmiriyat." This made Kashmir quite like Pakistan, and quite like India, but more than anything the unique mix within the context of Kashmiri culture made the small nation something wholly different than either Pakistan or India. As a result, the Maharaja decided that the nation should remain independent and fully govern itself.

Being small and without much in the way of a way to defend itself, Pakistan invaded in order to expand their borders and take the

majority-Muslim region for itself. Using the pretense of a false rebellion intended to make the invasion look like an attempt by the citizens of the Western state of Kashmir to break free from the Maharaja and join Pakistan, Pakistani soldiers crossed the border into Kashmir, overwhelming the practically undefended nation. The Maharaja petitioned the Indian government for assistance with defense, but with political ambitions of their own (and still being somewhat bitter about being rejected by their once-close ally) India agreed only on the condition that they forego their independence and become a state of India. On October 26, 1947, the Maharaja Hari Singh signed the "Instrument of Accession" in exchange for military protection, on the condition that once the state had pushed back the Pakistani troops that a democratic vote of the people would be held in Kashmir regarding whether or not to remain independent, since "only the people, not the Maharaja, could decide where Kashmiris wanted to live." India accepted these terms and military assistance was immediately supplied.

From that point forward, the Kashmiri people were largely left out of the discussions over its own future, altogether. Wars broke out between India and Pakistan over who had rightful ownership of Kashmir, with only temporary cease-fires agreed to with the help of the UN Security Council. After the war in 1971, the Simla Agreement was reached, creating the "Line of Control" between the Pakistani and Indian regions of Kashmir, with each nation agreeing to the use of bilateral negotiations, but this turned into a matter of informal warfare between the two nations that took two separate forms. Formally and most well known around the world is that during the 1970s both nations acquired nuclear weapons technology, triggering an arms race similar to that between the USA and Soviet Union, in which both nations quickly sought to not only expand their respective stockpiles of nuclear weapons but also advance their nuclear technology. True, the nations stopped their formal warfare, but they worked diligently to outmaneuver the other and create a position of dominance in which they could force the other nation out of Kashmir without the use of combat troops. That is not the form of warfare we are interested in for the sake of this chapter, though.

From the perspective of India, Pakistan never stopped fighting the war, but rather switched to different tactics inspired (of possibly aided) by Islamic insurgents in Afghanistan. Independent Jihadist terrorist groups were originally allowed by the Pakistani government to operate in Pakistan and Kashmir because they were useful in the fight against

India. However, a combination of international pressure against terrorism, a lack of control over these groups, and anti-government sentiment by these groups against the Pakistani government (which was seen as corrupt and not Islamic enough) led them to be banned. The ban on formal militant operations led some organizations to reorganize into political/charitable organizations, but it is a poorly kept secret that they are still funding and supporting militant operations and goals, while well-known militant training camps are allowed to continue operations within Pakistan's borders. Maintaining a respectable image, though, requires them to be the "victims" in the conflict. Baiting the opposition into attack and recording it, then responding in self-defense, or simply using that as propaganda to acquire resources, support, and recruitment to fight against the Indian military forces help them gain political influence and perpetuate the Jihadi goals. The largest and most prominent of these groups operating in Pakistan is Lashkar-e-Taiba, is now formally banned, but their political/charitable operations function under the name Jamat-ud-Dawa and continue operations under a thinly veiled guise of legitimacy while blatantly fund-raising and politically supporting Lashkar-e-Taiba. It is this dynamic which allows for the related organizations to play both the aggressor and the victim, simultaneously.

27.3.3 Lashkar-e-Taiba and Jamat-ud-Dawa

Translated as "Army of the Righteous," Lashkar-e-Taiba is a militant Islamic insurgency operating terrorist activities mainly from Pakistan, but has a significant presence throughout Southern Asia. Originally founded in 1987 using funding from Osama bin Laden, it quickly found purpose in fighting to expand Islamic dominance into Kashmir, headquartering in Punjab province of Pakistan and establishing several training camps in Azad Kashmir. These camps include a three-week religious indoctrination, a three-week basic combat training program, and then finally a three-month advanced combat program. Not only do these camps continue to be tolerated by the Pakistani government, but Pakistani army officers were frequently the ones to guide the training of militants due to their usefulness in the fight against India, particularly in an informal capacity as the Pakistani government formally rejects both militancy and acts of war against India. It is the sole purpose of these camps to prepare militants for jihad in Kashmir, in 1991 militant violence in Indian-Kashmir escalated rapidly as insurgents trained in these camps were

transported over the border from Azad Kashmir to Jammu and Kashmir with the help of the Pakistani intelligence agency.

The formal objective of Lashkar-e-Taiba is to "liberate" Muslims in Kashmir and expand Islam to the rest of India, a mission accomplished using typical terrorist and insurgent-style attacks. They believe that Kashmir, India, and the surrounding countries were all once Muslim nations and must be made to be Muslim once again, though the scope of their activities has been isolated almost exclusively to Indian-Kashmir as a result of limitations of resources, participation, and strong military resistance from the Indian military. The group was formally banned and denounced by the Pakistani government in 2002, though it is well known among the global intelligence community that the Pakistani Inter-Services Intelligence Agency continues to facilitate its activities by cooperating with Jamat-ud-Dawa, helping the legal operations of Jamat-ud-Dawa with full knowledge of how those operations continue to collaborate with Lashkar-e-Taiba (Jamat-ud-Dawa will be discussed in further detail later in this chapter). In response to the 2002 ban, Lashkar-e-Taiba became less cooperate with the Pakistani government and denounced the government as being hypocritical, though declared that they would not wage jihad against other Muslims. It was not until December 2008 that the Pakistani army, under international pressure to take actions against what the world had now agreed was a terrorist organization, took action. A devastating attack in Mumbai involving 10 trained gunmen the month prior gave Pakistan little choice but to either reign in the rabid group or acknowledge that the Mumbai attack was a sanctioned act of war against India. Pakistan arrested a token number of 20 members of Lashkar-e-Taiba and confiscated a handful of buildings they were using. Hardly the massive operation to eliminate the insurgent presence in Pakistan, it was already known that a mere 20 people would do nothing to prevent future Lasha-e-Taiba operations in Kashmir or India and that Lashkar-e-Taiba had already created a spin-off organization through which many of their operations had been handled since the 2002 ban of Lashkar-e-Taiba. That organization was Jamat-ud-Dawa.

Jamat-ud-Dawa was originally formed in 1985 as a legitimate missionary organization. In fact, their name translates to "Organization for Preaching." It took only one year for them for jihadists to assimilate the organization with the belief that missionary work and Jihadi violence were inseparable from each other—preaching bringing the faith of Islam to the world, and jihad freeing Muslims and converting others so that

they may receive that faith. Especially after the 2002 ban of Lashkar-e-Taiba, the result was that Jamat-ud-Dawa functioned as the legitimate face of the collective movement, performing charity work, producing publications, and getting politically involved; all of which supported the militants by funneling donation money to their activities, producing pro-militant propaganda in their publications, and functioning to advocate on their behalf in more formal circles of government.

The extreme 2008 Mumbai attacks drew a lot of attention to the role Jamat-ud-Dawa played in facilitating the activities of Lashkar-e-Taiba, and so following the Pakistani raids that arrested 20 people, Jamat-ud-Dawa was also declared a terrorist organization, and the Pakistani government froze all their assets and shut down all their publications in December 2008. That did not stop them from operating, though, as they simply reorganized themselves under a new name in January 2009, publicly declaring that they do not associate with Lashkar-e-Taiba and want a peaceful end to the conflict over Kashmir. In 2017, a new political party was formed in Pakistan called the Milli Muslim League, through which a member of Jamat-e-Dawa now operates its political activities, including issuing their own candidates for elections. As of 2018, Lashkar-e-Taiba still operates training camps, recruiting Pakistani and Kashmiri Muslims to fight over territory in Jammu and Kashmir and perform insurgent attacks such as shootings and bombings in public places occupied by India. India still accuses the Pakistani government, particularly the military and intelligence agencies, for facilitating the operations and expanding political legitimacy of globally declared terrorist organizations, with validation from French intelligence.

27.3.4 Jaish-e-Mohammed

The other primary Islamic insurgent group operating in Kashmir is Jaish-e-Mohammed, which translates to "The Army of Mohammed." If the name did not already tell you enough about the organization, this group is completely volatile, unpredictable, and aimlessly violent. By contrast to Jaish-e-Taiba or Jamat-ud-Dawa, both of which maintained close coordination and worked to maintain an image of legitimacy, especially in the later years, Jaish-e-Mohammed is a completely disorganized series of small and loosely related sects fighting between themselves and thriving on bold acts of extreme violence on anyone and everyone.

Jaish-e-Mohammed, like the other groups, it is believed, was originally organized with the support of the Pakistani intelligence agency, with the sole objective of taking control over Kashmir and expanding Islam into India. Unlike the other organizations, when Jaish-e-Mohammed lost control, they changed their objective to the elimination of all non-Muslims from the entire South Asian region, split into at least 3 distinct groups with contrasting ideals, and all the groups began a long series of acts of extreme violence, killing Muslims and non-Muslims, alike, even going as far as to bomb the Indian consulate, committing suicide attacks on just about anyone across Pakistan, and twice attempting to assassinate then-Pakistani President Pervez Musharraf. The extreme actions of Jaish-e-Mohammed became recognized by both India and Pakistan to be completely out of control, so although India still blames Pakistan for their formation, it is acknowledged that a true effort to stop most factions has been made by the Pakistani government, arresting hundreds of members and actively fighting them to enforce a ban on the existence and operations of their organization. Despite these efforts, though, violence among members of Jaish-e-Mohammed in Kashmir did not end, forcing India to increase both the volume of military presence as well as the severity of the security measures taken in order to prevent Islamic violence in Jammu and Kashmir. One faction of Jaish-e-Mohammed in particular was allowed to rebuild, free from interference by the Pakistani government, as its leader, Masood Azhar, was the only among the splinter sects that remained loyal to their original relationship with the Pakistani military.

Even more unfortunate for the people of Jammu and Kashmir, as noted before, the majority of them are Muslim, though not members of terrorist organizations, leading to the civilian population being perceived by the Indian military stationed in Kashmir as the enemy. Confusing matters worse, some civilians, though not enemy combatants, do assist in providing food and lodging for militants (sometimes willingly, other times by force), so that the line between who is an enemy to India or not is blurred even further. Indian officials in Kashmir are aware of their own human rights abuses, even if most Indians are shielded from the reality. Those who openly acknowledge the problem state that much of it is the result of the complex relationship between militants and Muslim civilians, leaving the Indian army to see everyone as potential enemies. With the lack of control officials in Kashmir have over the Army operations, corruption, chaos, and anarchy seem to take control, though as of

writing this there are no official statements from India on the nature of these abuses, how frequently they occur, or what steps are being taken to stop them.

On a larger strategic scale, for India it is important to prevent Pakistan and China from taking control over their respective claims on Kashmiri territories because that would give Pakistan a border with China. The two nations already have a degree of alliance and mutual cooperation with each other, and they also have a mutual frictional relationship with India, giving them reason to cooperate and put pressure on the Indian government. China does not like religion at all, though, and is especially distrustful of Islam, so while the two nations have mutual goals, China will never view Pakistan as a true friend or ally.

27.3.4.1 The Pakistani Perspective

The need to break free from India was felt long before Pakistan existed as a nation. In Kashmir, since the early 1800s, a small elite class of Hindu landowners had put the population of the nation, mostly Muslims, into a position of indentured servitude, keeping them indebted to landlords and lenders and ensuring that the Muslim population remained exceedingly poor and uneducated. Even the formal government system placed heavy taxes on what little money they earned (if any), and systematic legal discrimination allowed for placing Muslims into labor without pay. India's traditional caste system at the time inherently placed these people in the bottom classes, from which there was no escape given the rigid social structure. In 1941, shortly before Britain gave up their colonial claims to the region, Kashmir's population was 77% Muslim, 20% Hindu, and the remaining 3% consisted of a combination of Buddhists and Sikhs. It was during that year that a Kashmiri journalist wrote: "The poverty of the Muslim masses is appalling. Most are landless laborers, working as serfs for absentee Hindu landlords. Almost the whole brunt of official corruption is borne by the Muslim masses."

In 1947, Britain finally left the Indian subcontinent divided, with Kashmir having the choice of whether to join India, Pakistan, or remain independent. The Maharaja proclaimed independence, but with a majority Muslim population, especially those who lived in the western region along the border of Pakistan, this decision led to unrest and eventually an uprising against the Maharaja, demanding that Kashmir join Pakistan. Using an increase in punitive taxation as a pretense for the rebellion, the western districts of Mirpur, Muzaffarabad, and Poonch formally ceded

and joined Pakistan, forming Azad Kashmir at the end of 1947. As the rebellion grew, they expanded eastward in order to liberate the rest of Kashmir and its Muslim population from the rule of the Maharaja, who was outnumbered and outgunned. In response, the Maharaja signed over control of the nation's operations to India in exchange for military aid, and the next day a strong force of Indian military were airlifted to the city of Srinagar. In order to defend their newly gained territory and help their fellow Muslims, Pakistan sent their own military to aid the rebellion against India.

From 1947 until 1972, India and Pakistan fought against each other in a war that would start and stop and then restart again (formally considered a series of separate wars, but the reality is that the fighting between the two nations never really stopped—only the violence had temporary cease-fires). In 1972, the two nations signed the Simla Agreement which established the "Line of Control" in which both India and Pakistan were to maintain their respective territories (roughly the exact division of territories that resulted from the original conflict that created Azad Kashmir) and obligated the nations to resolve their dispute peacefully. While both nations have formally maintained the agreement and have not gone to war against each other, but at about the same time both nations also began programs for acquiring and enriching uranium to develop nuclear weapons, triggering an arms race. Both nations completed their first successful nuclear weapons tests in the 1990s, escalating their arms race into something of global concern. Given the concern regarding a nuclear war between the USA and Soviet Union a generation earlier, the world had come to a consensus by then, however, that the use of nuclear weapons would be banned—it had become understood that any nation that was the first to resort to attacking another using nuclear weapons would immediately be targeted by the majority of the nations in the world given that a nuclear war will almost certainly spread harm well beyond the borders of the warring nations, with the potential to end life on planet earth as we currently know it. So, the arms race eventually cooled with the assistance of the United Nations, but an informal war continued.

Pakistan categorically denies any involvement in those terrorist organizations intent on liberating Muslims under the rule of India, and spreading Islam across the Indian subcontinent, but it is well known that these groups maintain training camps within Pakistan's borders. Pakistan has been known to largely turn a blind eye to this due to the human rights

abuses committed in Kashmir by the Indian army. Elections for government officials in Kashmir were seen as rigged by the Indian government to ensure Indian/Hindu officials unfavorable to Pakistan were maintained in office. There have been constant reports by Muslim citizens of Kashmir of murder, torture, rape, and other abuses. Of particular note was the massacre on the Gawkadal Bridge, in which up to 300 people protesting for independence were killed and roughly another 300 people killed in the days following in response to increased calls for an end to the violence. Finally, in 2011, the Indian government, itself, acknowledged the existence and locations of over 2000 unmarked graves containing dead civilians, yet did not implement any changes to their policy.

As a result, Pakistan allowed the terrorist organizations mentioned previously in this chapter (among other, small groups) to maintain operations within their borders in preparation to defend against the abuses of India in Kashmir. The problem is that many of these groups, and many of the protestors, became just as bad as the abuses of India. Militants of all sorts would occupy the houses of civilians, oftentimes by force, putting civilians clearly in the cross fire of the violence. If an insurgent gets killed in a particular place, then others will arrive and torment innocent locals until a scapegoat is found that can be accused of being an informant for Indian security forces and is subsequently tortured and killed. Besides that, they systematically harass civilians, create ad hoc barricades, enforce arbitrary curfews, and many would participate in the carnage just because they got swept up in the excitement and were given opportunities to express some aggression by committing property damage or harming innocent people. This includes even small children and teenagers, who oftentimes seem unaware of what they are even protesting. Both the Indian security forces and the Muslim militants are simply composed of very angry young males looking for a reason to act out their aggressions, or otherwise pay local people of a similar mind-set to do the same.

Looking at these organizations from the Pakistani point of view is complex. Although Lashkar-e-Taiba views Pakistan's government as traitorous to the Muslim cause, it does not attack other Muslims because they believe that jihad "is not a struggle between Islam and disbelief." In a publication entitled "Why do we do Jihad?" they say, "If we declare war against those who have faith, we cannot declare war with those who do not." In fact, Lashkar-e-Taiba and their sister organization, Jamat-ud-Dawa, had a variety of legitimate, positive contributions to make, as well.

They funded businesses and created jobs, donated to charities, provided humanitarian support, and so forth. They were among the first to assist victims after the 2005 Kashmir earthquake and 2008 Ziarat earthquake. Across Pakistan, the organization runs 16 Islamic institutions, 160 primary schools, 135 secondary schools, an ambulance service, mobile clinics, and blood banks.

However, Pakistan had to face the hard reality that even organizations that provide some services to the community, at their core, sometimes do more harm than good. Particularly after the terror attacks on the USA on September 11, 2001, many militant groups in Pakistan became emboldened and increased their violence. In October 2001, Jaish-e-Mohammed bombed the legislative assembly in Indian-Kashmir, killing 38 people. Just two months later, combined Jaish-e-Mohammed and Lashkar-e-Taiba insurgents attacked the Indian Parliament, killing eight security guards and some civilians in the process, but failing to harm any government leaders. It was known among all relevant organizations that killing someone within the Indian government would force India to retaliate with military force, but the failed attack instead simply triggered India to conduct one of the nation's ever largest series of war games along the Pakistan border. Pakistan responded by doing the same, but they were having their own problems, internally. Knowing the severe consequences that these uncontrolled attacks could have, large volumes of insurgents were arrested, organizations were banned, and a declaration was made that nobody will conduct unsanctioned attacks. This created a backlash against the government, which was now being seen as a puppet of the USA and a traitor to the Muslim cause, and attacks against Pakistan, itself, escalated to extremes.

The response by militant groups to the actions of the Pakistani government was not consistent. There was a great degree of infighting within and between these organizations, and schisms formed between internal factions, each fighting for scarce resources. Suicide missions on Pakistani officials were conducted across the nation, and there were attacks on foreign diplomats in Pakistan, Christian temples, and even mosques. In December 2003, there were two assassination attempts on the President of Pakistan, leading to swift reprisals, with the exception of those members of Jaish-e-Mohammed led by Masood Azhar, who had remained true to the idea of supporting Pakistan while attacking India. Subsequently, Jaish-e-Mohammed was among the only remaining groups participating in the 2016 skirmishes in Indian-Kashmir, participating

both in the conflicts as well as raising funds for jihad. Those funds were then used on September 2016 when militants attacked an Indian military headquarters, killing more than 20 people.

In response to the attack, India called Pakistan a terrorist state and worked to create political and economic sanctions against Pakistan for its role in supporting terror. Pakistan denied any involvement in the attacks or the unrest in Kashmir. As of 2018, the conflict continues as an informal cycle of violence within Kashmir as Indian security forces and Muslim insurgencies clash, putting the Kashmiri population in the middle.

In regard to the Pakistani perspective on China's involvement in Kashmir, there is no animosity. In 1963, Pakistan ceded a small region of their Northeastern claim in Kashmir to China in what is now the Xinjiang Uygur Autonomous Region. Pakistan formally supports China's claim to Aksai Chin, but very few people actually know anything about that conflict, and fewer still have the slightest care about it. It is merely the government who supports it for strategic relations with China, but it is not seen as a big deal, and they have no intention of getting involved.

27.3.4.2 The Chinese Perspective

China's interest in Kashmir is limited to a region they call Aksai Chin, which composes only about 10% of the entire Kashmiri region. While 10% may seem like quite a lot, and certainly worthy of fighting for claim, Aksai Chin is universally recognized as having no resource or strategic value, at all. It is a desert high in the mountains that is completely uninhabitable on a permanent basis, and is only intermittently populated by a small group of indigenous nomads who do not stay in the area for any extended period of time. So ignored was this plot of land that it was considered unclaimed by any nation until India (governed as a colony of Britain at the time) became concerned about putting a buffer between British-India and the spread of the Soviet Union, and they could think of no better candidate than China. Viceroy Lord Lansdowne wrote on September 28, 1889: "The country between the Karakoram and Kuen Lun ranges is, I understand, of no value, very inaccessible and not likely to be coveted by Russia. We might, I should think, encourage the Chinese to take it, if they showed any inclination to do so. This would be better than leaving a no-man's land between our frontier and that of China."

That is a story to come later, though. Before all that, British-India hired a civil servant named William Johnson to perform a survey of the Aksai Chin region in order to determine the best location for a north-eastern border to Kashmir. Johnson, apparently being a bumbling fool, did a poor job of it and was forced to resign his position. The result was that the Maharaja of Kashmir declared rule over 18,000 square kilometers of land, leading up to what is now called the "Johnson Line." The Chinese were not informed of any of this because they were not in control of any of this land at the time, and so it was deemed to be none of their business where the border was drawn. Still, British-India sent more competent individuals to redo the work and suggest a more appropriate border. Called the Macartney–Macdonald Line, after Claude Macartney (the British consul in Kashgar, a city north of Kashmir in what is now the western-most region of China called Xinjiang) and Claude MacDonald (the Indian government's envoy to China), this boundary ceded a great deal of land to the Chinese, making the Karakorum mountain range the border (with the exact details being somewhat tedious and not necessary to include in this book). Besides the increased interest by the Chinese in the Aksai Chin region now that was being given foreign attention for the establishment of borders, the British saw this as an opportunity to use China as a buffer that the Soviets would have to face if they were ever to try and expand south into Kashmir. In addition, this line represented a sort of natural boundary, given that it includes some of the highest and most treacherous mountains in the world, and that it divided the Indus River watershed on the British side while leaving the Tarim River watershed on the Chinese side. The Aksai Chin region was almost wholly impossible for India to occupy with their military because it was almost wholly impossible to traverse the mountains to bring military forces there. By contrast, approaching the region from Tibet was much simpler, so the Chinese had a massively dominant strategic position purely from a terrain perspective. The British formally proposed this border to the Chinese government who… did not respond, at all. That is the point where things get complicated.

Although there are now Chinese maps from the time discovered showing the Macartney–Macdonald line as the border, indicating that the Chinese accepted the British proposal, the silence left the British in a somewhat convenient state. At first, they simply accepted the silence as an agreement, since there was no challenge to the proposal. However, in 1941, when British intelligence discovered Soviet encampments in

Northern Xinjiang, they decided to push the border back to the Johnson line further north in order to prevent the Soviets from coming closer than necessary, while not technically violating any Chinese borders, since no borders had formally been negotiated. Still, the only border proposal presented to the Chinese had now been breached by the same British government that developed it, causing an international border dispute that continues even today.

The word "dispute" in that last sentence is used a bit loosely. More of a disagreement, really, the Sino-Indian border dispute did not really even begin until 1958, roughly 10 years after China built a road through Aksai Chin, connecting Xinjiang to Tibet. The primary motivation for this road was to help validate Chinese control over Tibet by connecting the two through infrastructure and improving access to Tibet from different parts of China. Secondarily, control over Aksai Chin gives China a very small border with Pakistan. Although Pakistan and China had a brief disagreement about borders in Kashmir, they quickly settled their dispute peacefully, putting the northern part of India and their claims over Kashmir between Pakistan and China, who were not allies, but who both maintain frictional relationships with India. China uses this as a negotiating chip with India. The Chinese government is distrustful of religion because they maintain that the government is the highest authority, whereas people of faith often hold their religion over the government. In fact, China is quite oppressive of the small population of Muslims currently living within their borders, so combined with their fiercely independent approach to international relations, it is unlikely to see an alliance between highly Islamic Pakistan and highly secular China. Still, giving the two nations a border over land that India disputes as their own puts China in a position to validate Pakistan's claims over Kashmir through agreements that leave India out of the negotiations. It is an easy position for China to take, since Aksai Chin has little other value (the road from Xinjiang to Tibet is at the furthest edge of the region, leaving the vast majority completely unimportant to China). In fact, China has indirectly offered to "settle" matters over western border disputes if India cedes the region of Arunachal Pradesh in the far east of India—another territorial dispute with much more strategic significance for both China and India.

So, India did not even discover this road that China built (China National Highway 219) through Aksai Chin until roughly 10 years after it was finished. That is how isolated Aksai Chin really is, and how

difficult it is to reach from India. The Chinese minister Zhou Enlai argued that the western border had never been formally delimited and that the Macartney–Macdonald Line was the only line ever proposed to the Chinese government, leaving Aksai Chin under Chinese jurisdiction. India disagreed, and the two have been hostile toward each other over the matter ever since. Attempts to repave the road were met with mild conflicts, with fights breaking out, and sometimes stones being thrown (as will be discussed later in this chapter), but the conflict has been very limited because neither side sees the region worth starting a full war over. For either side to simply give up territory claimed as their own without resistance from the other side, though, would be considered a sign of weakness and a matter of political folly. So, since both India and China have entered this territory without resistance, and both claim it as their own, neither wants to give it up, despite neither nation having any strategic reason to care (in this author's opinion, it makes the most sense for India to give China 1/3 of Aksai Chin in the east that contains Highway 219, and for China to give up claims to the remaining 2/3 in the west as a sign of good faith between the nations as they attempt to address the matter of Arunachal Pradesh).

27.3.4.3 The Kashmiri Perspective

Despite claims by India and Pakistan, the vast bulk of Kashmiri people want independence. Even those who at one point held favorable views of one side or the other have been left disenchanted by the ongoing violence that leaves too many civilians in the cross fire. They are the ones who see the cycle of violence and retribution perpetuated between Islamic insurgents and the Indian military, each feeding off the other to further validate their respective perceptions which seep beyond enemy combatants until the general population is considered the enemy by all. Increasingly, the Kashmiri people call for the withdrawal of all foreign forces, the honoring of a vote of independence by the Kashmiri people as promised by the Indian government during the original agreement with the Maharaja, and an emphasis placed on the secular value of Kashmiriyat. More than anything, that term—Kashmiriyat—is perpetuating the public discourse in Kashmir, including obligatory descriptions of what it means on everything from documentaries to cooking and travel shows, and increased optimism for the spread of this ideal among the general populace. Even those from Pakistan and India have declared the people of Kashmir to be friendly and welcoming, yet those who fight

over the region cannot seem to make the distinction between friend and foe.

Besides the violence the Kashmiri people experience, there are checkpoints to deal with, strict curfews, raids, and corruption. It is very common for protests to occur and for the public to call for strikes in which all operations are shutdown in demonstration against the violence. The Indian government, in particular, refers to these people as "separatists"—those who want independence from India. Yet, the ongoing occupation of Indian military forces and the hardship they cause, along with the violence mirrored by Islamic insurgents from Pakistan, have led the Kashmiri people to feel as though they are the victims of war crimes on both sides, most certainly resulting in a vote for independence, if such a vote were granted. This leads to conspiracy theories that India intentionally stopped short of pushing out Pakistani-aligned insurgents in the initial fight, leaving a small portion of Kashmir for Pakistan to occupy, so that India would not have to honor the directive allowing for a public vote of Kashmiri people regarding the state of their independence once foreign invaders were removed from the nation. More recent joint efforts by India and Pakistan to eliminate the uncontrolled, volatile splinter factions of Jaish-e-Mohammed in order to sustain the line of control between Azad Kashmir and Jammu and Kashmir help to fuel the ideas of political conspiracy to divide Kashmir between the nations in a manner that never gives the Kashmiri people an actual vote on the matter.

Despite the desire for independence, there is still concern about being exploited by India, or increased insurgent violence once all formally military forces are removed. Lashkar-e-Taiba activities lately have heavily emphasized drawing the Pakistani military's attention and resources toward the borders with Kashmir and India and away from the border along Afghanistan. Activities also clearly aim to exacerbate mistrust between the Muslim and Hindu communities of Kashmir and India. While violence is still prevalent, the anti-mercenary paradigm of warfare is ensuring that Lashkar-e-Taiba and the other groups discussed in this chapter remain relevant by intentionally creating the perception of escalated violence and risk which makes people believe a fight continues in which such groups are needed to liberate the Muslim population, though formal friction between India and Pakistan would otherwise have been de-escalating. As Pakistan and India each become satisfied with the status quo, withdrawal from Kashmir, or otherwise decide to stop fighting, groups like Lashkar-e-Taiba, who now represent a confounding factor

whose intention is purely to escalate the conflict again in order to remain relevant, will cease to have purpose and therefore cease to maintain resources and influence.

In regard to China, most Kashmiri people do not seem to have a strong opinion one way or another on the matter. They are not happy that the friction between China and India gives India yet further reason to stay in Kashmir, nor are they happy that there is yet another border dispute within their territory. Aksai Chin is so remote and isolated, however, that while talking to people from Kashmir, they do not even think to mention it unless asked about it. The outcome of the Aksai Chin region does not appear to be of much concern to anyone, just so long as the conflicts end and foreign occupiers leave. The focus on everyone's mind is entirely on the conflict between Pakistan and India, and yet China's role in both the conflict in the region and the strategic value of Aksai Chin as a border region with Pakistan as a negotiating tool over other border disputes cannot be ignored.

27.4 A Strange Game

Now that the new type of strategy in economic warfare has been described, and the conflict in which it is being used constructed from a variety of perspectives in order to find some consistent, central truths, it is now time to finally apply it to a model of game theory so that the implications of this new type of economic warfare can be explained. Briefly, Kashmir represents a novel form of 3-player game in which a confounding intervention prevents the nations from successfully achieving a state of Nash Equilibrium necessary to resolve the conflict, and even during those rare times when this equilibrium is achieved under temporary and unstable conditions, it is not at a point which optimizes the players' utility. This empirically demonstrates the applied reality of a new type of theoretical game, and a new dimension to game theory that emphasizes influences beyond that of the players in the game. That's getting ahead of things, though. In order to fully explain how this works, we need to look at the individual components.

27.4.1 The Board

The board of the game, in this case, is Kashmir and the manner in which it is divided up among those fighting over it. As noted previously in

this chapter, the opinion of the Kashmiri people stopped mattering the instant that the Maharaja signed over a "temporary" allegiance to India in order to defend against Pakistani invaders. The board is thus 3-dimensional, given that there are 3 players, and the exact value is a little more complicated than simply selecting among finite decisions. Since political borders can be placed anywhere, each player in the game has the potential to gain value ranging from 0 to 100% of Kashmir, depending on how the game progresses.

27.4.2 The Players

The 3 players in this game are India, Pakistan, and China. The action that each one takes will significantly impact the other two, and they are each attempting to maximize the value they obtain in this game. Since attempting to achieve 100% of Kashmir will result in the other two players responding with hostility, the best the players can hope for is maximizing the value they obtain within what the other two determine to be acceptable bounds, until they all achieve equilibrium—a balance which they come to accept as sufficient. That is a matter that will be discussed later in this chapter, though. For now, enough has been explained about the players in this game earlier in the chapter, so there is no need to elaborate any further.

27.4.3 The Confounding Intervention

The confounding intervention is something new and strange, both to conflict studies and to game theory. This is an entity that is not a part of the board, and it has no intention of maximizing value by obtaining portions of Kashmir, but instead they continue to accumulate value just so long as the game does not reach a state of stable equilibrium, so they take actions to ensure that the players of the game are consistently in a state of shifting strategies and in perpetual conflict. In the case of Kashmir, we are referring to the anti-mercenary paradigm described earlier in this chapter. Figure 27.2 illustrates a very simple example of a 3-player game with confounding intervention. Granted, this is not perfectly representative of the actual Kashmir conflict. Instead, it is a binary game in which each player must decide whether or not to participate in the conflict over Kashmir. As more players enter the game, there are increasing amounts of friction simply as a result of new conflicts. If the

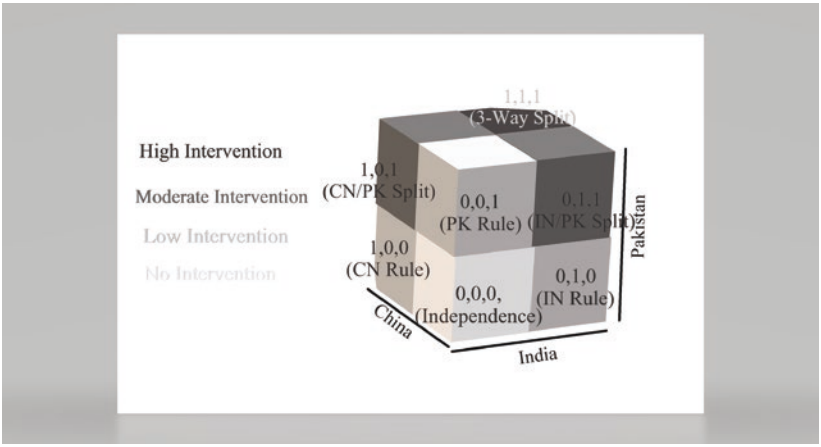


Fig. 27.2 3-Player binary game with confounding intervention

game was merely between India and Pakistan, then there would be only 1 conflict to exploit; but with China entering the game, the number of conflicts actually increases exponentially due to the number of permutations of conflicts between 3 players: India/Pakistan, India/China, and Pakistan/China—for a total of conflicts playing out at the same time, interacting together. This provides more opportunities to exploit existing frictions. By contrast, if nobody lays claim over Kashmir, giving them independence, then there are no players in the game and no conflicts to exploit for profit.

This has been empirically observed in that as either a single player such as India or Pakistan plays the game over Kashmir, independent bodies did take advantage of the situation, but while both are fighting, the amount of intervention did increase. This is where organizations like Lashkar-e-Taiba, Jamat-ud-Dawa, and Jaish-e-Mohammed come into play, as groups profiting from the intervention but who have no intention of actually playing the game. They merely benefit from the game being played by others and work to ensure that a stable equilibrium is never reached.

Indian security forces have also been accused of participating in fake shoot-outs in peoples' homes and filming the footage from outside so that all that can be seen is that there is some conflict taking place and

then security forces arresting the people inside. The validity of these claims is unknown, but there are multiple separate accounts of it occurring as an excuse for security forces to search and arrest people when it would otherwise not be legal.

In another example involving China and India, on August 15, 2017, an event took place next to Pangong Lake in which troops from either side were brawling and throwing rocks at each other. The event was recorded from a precise angle to capture the moment of fighting, in full. It was first distributed through Indian news outlet The Print, and then widely distributed throughout India, which claimed the fight began when Chinese soldiers crossed the line into an Indian-occupied part of the disputed lake territory and began throwing rocks, forcing Indian military to fight them off. The video clearly shows a battle, though the exact location along the lake or the events leading up to it are unknown, and both sides are clearly shown throwing stones. Somebody had clear intention to make it appear as though the Chinese were starting a conflict, despite the fact that the skirmish lasted less than 5 minutes, consisted primarily of taunting and shouting, and resolved peacefully. With the recording being done, the situation was obviously staged or planned to some degree, with the biggest benefactor being media outlets, since the soldiers, themselves, would have been obligated to engage instead of record.

27.4.4 The 3-Player Nash Equilibrium

Nash Equilibrium refers to a state in which the players in a game cannot unilaterally change strategy and achieve a better position. Even if none of the players have achieved their maximum potential benefits, each of them is achieving the best that is possible within the context of strategically positioning themselves relative to the other players. As a result, all players are achieving the maximum benefits possible within the game, even if it does not represent the maximum possible if there were no other players. In the case of Kashmir, no player is going to achieve 100%, nor is it likely that nay nation will achieve 0%. Nash Equilibrium will occur when each player has acquired as much value as possible, and should any player change their position, then it will only result in lost value as the other players change their own positions on the board.

27.4.5 The Instability and Loss

Due to the confounding intervention, perception of strategies being utilized by each player in the game is altered, making it appear as though the equilibrium level of risk is higher than it truly is. This causes the nations to position their strategies in a manner that deviates from the 3-player Nash Equilibrium, and even during those times when an unstable equilibrium is reached, this intervention reduces the value of the equilibrium for all players so that none of them are maximizing either the amount of utility theoretically possible, or the utility possible within the context of the game.

27.4.6 The Potential End of Conflict

Collaborative efforts against the confounding intervention are necessary first. It is agreed that Jaish-e-Mohammed is a hazard to all players in the game, which is a good start. Working together to remove the confounding intervention will improve clarity of the actual degree of risk and reward associated with the position each player is taking within the game. Once the board is free of confounding intervention, then any stable equilibrium achieved will remain stable.



CHAPTER 28

Limitations and Problems with Market Manipulation

Used in combination, supply, trade, and market manipulations compliment each other very effectively, each resolving the problems of the next. Like the others, market manipulation is not without its limitation. Also like the others, many of these limitations are resolved by resorting to tactics outside of those discussed in Part III. Generally speaking, the strategies available through market manipulation have been so infrequently studied that the exact limitations are, themselves, not well defined. A few problems ready present themselves, however.

Since a majority of market manipulation is indirect in nature, influencing natural market forces rather than directly influencing opposition forces, they can sometimes take a very long time to become effective. The intended goal of an action may not necessarily be the first reaction to occur, or even the second in some cases. While an extended conflict is rarely, if ever, preferred, when used alone many market manipulation strategies would be useful only over the course of multiple months or years. Used on conjunction with the more direct strategies of supply and trade manipulation, market manipulation strategies can be expedited to a great extent. By directly forcing enemy soldiers into positions wherein market manipulation is most effective, the full influence of the strategy can be exerted without waiting for natural market forces to play their role.

The indirect nature of market manipulation also means that the effects tend to be generalized in nature, rather than properly targeted toward a single group. While there are some approaches that can help mitigate

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this, such as described in Chapter 25, any alteration to market forces will inherently effect all people who deal in that market. Should the price of corn increase as a result of increased demand, there is not much that can be done to ensure that neutral parties are able to purchase corn at the old prices unless some cooperation from those who grow and sell corn can be acquired. Further research may yield methods to mitigate the collateral damage that results as well as focus the effects on the targeted groups.

Despite the shortcomings of methods in economic warfare, even when these three subcategories of methods are used in conjunction with each other, they are easily supplemented by methods in psychology and quantitative analytics, as described in the other two books in the Modern Warfare trilogy. As a result, there are no gaps left unfilled, and no weaknesses to strategies implementing these methods which are not the direct result of personal oversight. In the end, these tools offer us the opportunity to win a conflict before opposition forces are even aware they are going to organize themselves.



CHAPTER 29

Suggestions for Future Research

Market manipulation, probably more than any other use of economics in warfare, holds the potential to greatly benefit from further research. With vast amounts of economic information available about warfare, and new information made available every day, the potential for intelligence gathering is great, yet it is not currency being used. Unlike many forms of intelligence, economics can be directly manipulated; if one can see the strings, then they can become the puppeteer. This book has only begun to explain some of the most basic strategies, though.

Further study is required into the interpretation of enemy behaviors. While some behaviors such as Sun Tzu's horse example from Chapter 20 have obvious implications, further research is likely to yield breakthroughs on how to derive useful information about incentive and economic operations of the enemy from mere observations of changes in their movements and actions. If specific relationships or patterns can be systematically recorded, then the exact intentions of the enemy could be understood well in advance of any execution of their plans. No one can escape natural human behavior, so since economics seeks to explain human behavior related to resource distribution, applied to warfare it should become apparent that specific behaviors or resource levels should be correlated with future intentions.

Once better parameters for economic intelligence related to military tactics have been set and behaviors are better understood, it becomes possible to develop a larger body of complex strategies to control enemy actions by exploiting natural human behavior. Of the entire breadth of

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possible knowledge about economics, particularly related to military applications, the vast majority has yet to be explored. As we build on our understanding of how people react to external stimulus, make decisions, meet their needs, and behave in general, our ability to control the enemy's actions through external stimulus dramatically improves.

In addition to expanding our basic understanding of market manipulation, a better understanding of the progression of warfare in general must be better understood. That every war follows the same basic equation, with only one variable factor, means that there is a method to the development that occurs over the course of the war. Further exploration into the determinants of the value of $-b$, in order to enable more accurate predictions of attacks as well as more effective management of the war's progression, must be pursued. Although the exact variables that influence the value of $-b$ could be very numerous and the amount of correlation that each has might be low, since there is only one value to be considered, a basic multivariate linear statistical model should work fine. Given the importance of being able to predict deadly attacks (the fact that human lives are at stake), determining how to measure $-b$ should be a top priority.

Finally, market manipulation is filled with complex economic concepts and mathematical analysis. Economics, in general, tends to appear incomprehensible for those who have not studied it at length or have at least read this book. Particularly in a warfare situation where stakes are high and decisions must often be made quickly, it can be difficult to apply economic manipulation strategies effectively. Breaking down each strategy into a set of actions in response to specific enemy movements, even if the person implementing the strategy doesn't fully understand why, can speed up this process. The use of logic graphs such as "If – Then" can also simplify the logistics of strategizing. A greater emphasis on becoming familiar with statistical analysis and Game Theory will most certainly offer dramatic improvements to the decisions made, and since many of these analytical methods already have standardized models, they can be applied quickly to adapt to a dynamic environment in which the incentives of each party to a particular "game" can change on an ongoing basis. With the increased use of mobile technology, smart phone-based applications that utilize databases and mathematical software would also be helpful. No matter what method is chose, some method of being able to collect and quickly assess information must be developed. Research into exactly how to make this happen would be essential in order to effectively integrate economics into the broader military.

A Bit of Fun

This has been a very serious book about a very serious topic. Warfare effects the lives of everyone; ending many, destroying more, and generally limiting the quality of life for everyone on the planet. When addressing this matter, it should be given the focus and respect that it is due so that we may find ways to resolve this issue which has plagued our species since the advent of humanity. That being said, something comes to our attention that excites or amuses us, even if it is related to a dark subject. In this case, it was something quite dark, indeed, that relates to this dark topic of economic warfare: The Dark Knight.

Ok, so enough of the academic tone. That's not what this chapter is about. In fact, this chapter departs from the rest of the book in a great number of ways, except for the fact that it is still entirely related to economic warfare. You see, literally one year after I finished writing the 1st edition of Economics and Modern Warfare a movie was released called The Dark Knight Rises, a Batman film directed by Chris Nolan. I'm not usually a fan of comic books or their associated movies, but there are rare exceptions and the Chris Nolan incarnation of three Batman movies are included among those exceptions. The Dark Knight Rises was something very special, though, and I could barely believe my eyes as I watched it, because the entire film is based on principles of economic warfare I had written about just a year before!

Ok, yes, the movie is fictional, and some exaggerations were used that require just a slight suspension of disbelief at time. Allow me to explain. The primary antagonist (the main bad guy) is this brute named Bane,

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played by Tom Hardy. Throughout the course of the film, the full extent of Bane's plan is slowly revealed, with a multitude of specific methods employed, and every single one of them is related to economic warfare. A lot of them are completely valid in every way, as if the writers of the movie had read the 1st edition of this book. Some of them are valid in theory, but the logistics of how they are accomplished as nothing more than movie magic (in other words, the end result could be achieved successfully, but the method by which it is accomplished in the movie is total fantasy). Finally, some of the methods used exemplify the spirit and principles of economic warfare, but the tactics actually depicted would never actually work.

So, for just a bit of fun, we're going to take this chapter to breakdown the different types of economic attacks implemented throughout the film, categorized by their degree of feasibility, describing exactly what happened, how it relates to the book, and the significance of what is being depicted.

Not at All Feasible But Contains Proper Principles

1. The stock exchange hack. Yes, it is possible to hack a stock exchange, and it is theoretically even possible to do so in a manner that creates fraudulent transactions, though that has yet to be seen so it must be quite difficult. What they do not take into account is the speed and volume with which transactions occur, allowing exchanges to reverse any fraudulent transactions or even freeze all transactions to prevent a hack from occurring. That being said, reducing the value of the assets held by the opposition makes them less capable of sustaining their operations. By decimating the value of Wayne Enterprises, it eliminates Bruce Wayne's ability to fight back against Bane. For those that say that stock manipulations occur, so that this could be accomplished using other means, note that a company the size of Wayne Enterprises would require a manipulation of stock value so extreme that it would be logistically impossible to accomplish such dramatic results.
2. The entire matter surrounding the acquisition and activation of the nuclear device. Since Bruce Wayne is kicked-off the board of directors of Wayne Enterprises due to alleged reckless financial transactions (which were actually the result of the stock market hack), he tells Miranda Tate to take control of Wayne Enterprises and,

if necessary, flood the reactor to prevent it from being destroyed. Miranda Tate is secretly working with Bane, so this position becomes important, as it is discovered that Bane needs a quorum approval to activate the nuclear device. Completely ignoring that nuclear reactors are strictly monitored and controlled at the federal level rather than some individual corporation, Miranda acts as the final vote to approve activation (the movie has some pretty severe plot holes when you really look at it). This manipulation of corporate resources is impossible in the sense that it is entirely unnecessary. Bane, already having access to the device, would have no need for board approval to activate it—only an individual to do so (which he had already obtained in the beginning of the film by kidnapping a nuclear physicist). Such a high-profile action would draw clear attention to what was occurring before Bane even had time to wait around for Miranda to arrive and get "board approval". The entire place would be flooded not with water, but with FBI, Homeland Security, CIA, National Guard, and just about everyone else within a 2 hour vicinity; putting that thing on lock-down. Since Bane already had access, a covert mission would have been necessary to acquire it, making the manipulation of company management in this manner a total failure. That being said, infiltrating company management is a very advantageous position to have, as it does provide varying degrees of control over their actions, and when such a company functions in an industry related to national security then that is a very beneficial asset, indeed. Just not for blatantly obvious, high-profile thefts of the company's own resources through unnecessary channels.

Feasible If Accomplished Using Alternate Means

1. Bane sets-up their operating headquarters under the armory/"applied sciences" division of Wayne Enterprises in order to gain access to Batman's high-tech arsenal. It is absolutely true that raiding the weapons caches of the opposition is a direct transfer of resources with great strategic benefit. That the sewers of the city are large enough to give free access to large-scale operations and just happen to have a point where they run directly underneath the armory is not likely, and even less likely is that operating a headquarters from that spot would be left unnoticed. More likely, a tunneling mission

would be required, which is also a very large undertaking and would not go unnoticed in a large city. Given that there is no reason to maintain long-term operations in that exact spot simply for the sake of extracting resources, this would better be accomplished using a fast penetration mission which, realistically, would have to be performed from the surface. This makes it necessary to perform this operation after trapping/incapacitating law enforcement in the city.

2. There is a scene in which police are lured into the tunnels underneath a stadium. The tunnels are then collapsed with an explosion, trapping them. Yes, limiting access to human resources through a mass-trap of this nature has some validity to it, as it would severely limit the potential of law enforcement to stop Bane and his mercenaries. The method by which this is accomplished is quite literally impossible, though, revealing a major plot hole in the story. It is stated that Bane had, by one method or another, acquired a construction company (which is discussed in more detail in the "Completely Feasible" category), and that they were mixing explosives into the concrete used to build the tunnels. This makes no sense at all, seeing as how the stadium had already been built quite some time ago, leaving the access tunnels underneath already completed. This could have been accomplished just as easily by some other means of attracting a large-scale law enforcement response to, for example, the bridge and then blowing-up the bridge with dynamite (something that any major construction company would have permits to acquire for demolition purposes).
3. The further emphasize the focus of the importance of human resources in conflict throughout this movie, the first thing that Batman and law enforcement do once they are able to coordinate a response is to clear the debris from the tunnel thereby releasing the trapped police. Special operations soldiers also enter the city to assist, but it is implied that they accomplish little or nothing. Sure, this is all very valid, but the problem lies with the manner in which it is accomplished. If you've ever seen miners being rescued from a mine collapse, they are lifted through a newly-created access point away from the collapse. Simply blowing-up the rubble blocking tunnel access not only runs the risk of making the collapse worse, crushing the people inside, or the debris in the air from the resulting explosion would surely suffocate them, or at the very least cause severe lung damage.

Completely Feasible

1. On the matter of acquiring a construction company and operating it under the guise of legitimate business, this is something that is completely feasible. Buying the company outright may draw attention, so replacing the employees with agents may be a better option, although acquiring the company with the cooperation of someone known to have the resources to do such a thing (an average person suddenly having the money to buy a large company, outright, would draw attention) would increase the amount of control to be had. Then, any buildings or roads or other infrastructure being built could be done so using faulty materials, or explosives planted within materials in one manner or another, would be a simple matter that allows for the destruction of points of strategic importance.
2. The film actually begins with a great example of promising the opposition a resource they want very badly, so that they bring that resource across their defenses, only to realize that it is a "Trojan Horse". When the CIA agents learn that the kidnapped individuals in the opening scene work for Bane and have information about him, they gladly let them on the airplane in order to interrogate them. What they don't realize is that one of the people being brought aboard is Bane, himself. Now, although the scene from that point would not likely go as depicted, given that Bane is surrounded by armed guards who, in all likelihood, would shoot him before his preposterous escape strategy could take place, the actual act of getting on board the plane under false pretenses is 100% valid.
3. During the scene in which Catwoman is giving Bruce Wayne's fingerprints to some character played by Burn Gorman (who is a fantastically underrated actor), as a means of protecting the exchange she leaves the thumb print in the hands of a friend outside, who is to be texted by mobile phone only once she is given what she wants in exchange for the prints. Rather than play along, Gorman's character threatens her life, so she hands him the cell phone to text her friend. The part of all this related to economic warfare is that the cell phone is a trapped resource. It actually belonged to a Congressman who had recently been kidnapped, and its use allows law enforcement to quickly triangulate their location and target them.

4. During the so very unfortunate hacking of the stock exchange which was previously discussed under the "Not at all feasible" category, there is a single thing which occurs that demonstrates completely valid economic principles. Rather than staying in a single point where they would be completely exposed and easily attacked while waiting for the hack to finish, they ran away on motorcycles in opposite directions. Now, let's assume for a moment that the object of value was something less preposterous—by dispersing, they are diversifying the potential location of that object so that law enforcement and the Batman do not know exactly who to target, thereby increasing the odds of success. This strategy is later repeated with Bane puts the nuclear bomb in a truck that drives around the city, and then deploys several other truck as decoys, while moving the bomb between trucks from time to time.
5. In order to increase his own access to human resources, and increase the amount of crime being committed in the city thereby overwhelming any attempts by law enforcement to regain control, Bane releases everyone in prison. Having already greatly reduced the amount of law enforcement available, there was little the guards could do to stop him. With a motivational speech about empowering the common people, Bane attracts some prisoners and some civilians to his cause. Those prisoners who do not join his cause become a distraction, hindrance, or even critical threat to the remaining law enforcement, so that there is a barrier of anarchy helping to prevent Bane from being targeted. This is something that has been seen many times throughout history in political coups.

To conclude this chapter, thank you for allowing this small bit of indulgence. As an author, watching many of the things contained in the very first book you've ever had published appear in a major movie was extremely exciting. As a reader, I hope you take this chapter with the full understanding that we have been talking about a completely fictional movie, but in a manner that helps put some of the more abstract or complicated topics of this book into a context that is easy to understand, and which you can see happen right before your very eyes, even if it is only a bit of fun.

Afterword

The content of this book began as an attempt to find a method of assessing and managing risk that was simple enough for Army soldiers to use quickly and without advanced training yet more effective than the current military method (a graph called Composite Risk Management, which is not very useful). As an economist, naturally I applied my knowledge of the mathematics of risk management and statistical analysis to the task at hand. While collecting data on military risk, however, it became apparent that if one could accurately and quickly calculate risk then the variables that are inherent to the risk of any situation could be managed to alter that risk. Those variables were almost always related to the resources available to one's own soldiers or, in combat scenarios, the resources available to the enemy's soldiers. I came to call the resulting revelation the "Resource-Based View of Composite Risk Management". That name was terrible, though, as it was simply far too long. So as my studies expanded to not just risk but to the nature of warfare itself, I dubbed it simply the "Resource-Based View of Warfare", upon which all economic combat is derived.

The resulting research was turned into a 3-part lecture (hence the 3-part structure of the book) that was presented to United States Strategic Command, from which a single commander took particularly strong interest. This new approach to military strategy was hailed as extremely innovative and ingenious in its use of assessing and anticipating normal human behavior. Economics, after all, is the study of how humans distribute scarce resources, making it a behavioral science at its

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heart. So, it grew and expanded to include the psychological methods available to influence the mind, and the quantitative analytics necessary to properly measure, predict, and manage the combat environment.

This research started out as an attempt to save the lives of US soldiers by more accurately managing risk. It has, since then, turned into an attempt to save the lives of all people for future generations to come, as alternatives to physical combat are sought. As we refine our tools and our understanding of the sciences, both physical and social, we may utilize them to improve the lives of people, military and civilian, from every nation. This means not only improving on our virtues but also minimizing the harm associated with our vices. It was originally my hope that others will expand on my research to not just explore potential applications for its use but actually implement the Resource-Based View of Warfare at an operational level. Since that time, we have most definitely seen a trend in that direction, which is extremely encouraging.

Not all conflict turns into warfare, though, nor can all conflicts be resolved through combat. This book works exclusively by breaking down old strategies into their theoretical economic components. The next step must be to learn how to apply these components to the specifics of real conflicts as they are occurring. It is methodology, not ideology, which will bring salvation. Innovate not to find new ways to destroy, as we've quite perfected that to our own chagrin, but to find new ways to win without destruction. A single soldier, regardless of rank can change the large and often overly complicated military bureaucratic infrastructure, just as the Army's approach to hand-to-hand combat, labeled Modern Army Combatives (MAC) was developed by a single soldier bringing the attention of his superior officers to the fact that Brazilian Jujitsu was more effective than the previous methods of combat. In a similar fashion, this book has contributed to the changing dynamic of global conflict, shifting it away from combat tactics and more toward true strategies. Bringing innovation to organizations of all sizes is possible if you simply have the audacity to ask those with authority to listen. Human resources are the greatest assets a military has so it is important to never underestimate them and always ensure they are allocated in the best possible manner.

That is the ultimate purpose of the Modern Warfare trilogy: To bring an end to warfare. Each of the 3 books thoroughly details the methods that work, and those which do not work, functioning as a massive instruction manual for winning conflicts in a manner that does not

require physical conflict. History has conclusively demonstrated that there are tools available to us which can win conflicts, prevent conflicts, and even predict conflicts so that the influences which would lead to their formation can be dismantled before taking shape. While such occurrences have been relatively infrequent throughout history, well-documented examples are common enough that in recent years, and especially after publication of the 1st edition of this book, there has been a much greater emphasis on utilizing these tools. Conflicts result from differences in ideas about the way things should be, and ideas have a tendency to spread and be reinforced when it is observed that people who hold that idea are losing a conflict. As a result, you can never hope to kill an idea through combat. You can, however, predict and analyze the idea, alter the idea or prevent people from accepting that idea, or (as discussed in this book) starve the idea of the resources it needs to spread while providing ample resources to those ideas which contradict the malicious one. These tools will never kill an enemy combatant because they are not intended to fight conflicts, but rather they are intended to win conflicts so that fighting is unnecessary. These tools are already proving themselves to be more effective.

As people have found with Sun Tzu's *The Art of War*, though, these books are equally beneficial for professional and business purposes as they are for combat purposes. I have personally utilized much of what is found within the Modern Warfare trilogy to help clients in my role as a consultant; or perhaps these books incorporate much of the strategic tools I use during consulting. In either case, they offer a practical and empirical look at highly aggressive strategies that are proven to work. By simply applying it to the conflict between your company (or your job) and your competition, these things can most definitely be of great use—just make sure you also take into consideration the law. There are things which are allowable during international conflict which are deemed unethical or illegal when applied to domestic business practices.

Conclusion

Economic combat is a study still in its infancy but with potential to have dramatic results. There is currently no formal study of the military application for economics; military strategists treating many of these events as anomalies, while economists tend to avoid the subject entirely. Through this neglected overlap, however, there is born the possibility to submit enemy combatants while reducing the risk of harm to one's own soldiers, neutral civilians, and even the opposition's soldiers. Any progress made to further this cause would be a boon to both efforts for peaceful resolution as well as the militaristic goals of submitting the enemy.

Although attempts have been made in the past on a macro or political scale to utilize economics as a form of warfare, few attempts have been made to recreate those strategies that have been successful. This had led to misdirection in how economic warfare is approached, as nations attempt to influence others by withholding economic benefits in a manner that is rarely useful, rather than exerting economic force. As a result, economics has been almost entirely rejected by modern military forces, leaving such strategies the exclusive tool of politicians. By reevaluating the application of economics, deriving principles both from the successes as well as the failures, a more effective military strategy becomes available.

The manipulation of those supplies available to enemy forces as well as to other 3rd parties related to a conflict is the most direct and invasive economic combat procedure available. This elementary approach, including the alteration of supplies and supply routes, the alteration of

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capital and human resources, and the exploitation of common transaction points by search for systempunkt targets involves physical force to alter economic conditions. As a result, it is often the most directly manageable but is the most difficult to effectively maintain over time while also exposing one to the greatest degree of risk. Whether one is altering the amount of assets available or forcing the wasteful use of the assets that remain, supply manipulation will do direct harm to the enemy's ability to functionally operate but will be easily recognized.

The manipulation of trade and other forms of economic transactions is not only an effective approach to economic combat in itself, but also helps to maintain the effectiveness of supply manipulation over time. By altering the terms of trade either friendly or hostile forces in order to manage the ability of a group to source supplies, determine their level of operational efficiency, and even manage the availability of supplies to control how they are acquired, one is removing themselves further from direct intervention than with supply manipulation. The underlying goal is not to physically change the distribution of supplies but, rather, to maintain control over the quantity and quality of supply distributions by changing how transactions take place. The removed nature of trade manipulation makes it more difficult to manage, however, in that it requires a much greater degree of military intelligence to determine which transactions are relevant and how to affect them.

The manipulation of the economic forces of supply, demand, and price is easily the most technically intricate approach to economic combat but also holds the greatest potential for future application. The ability to accurately predict enemy movements, both current and future, becomes possible by monitoring and properly interpreting economic data, and once these economic forces are put into context it becomes possible to engineer not only the operations of organizations in the theater (any geographic area in which important military events are taking place), but also the progression of the war itself. The far removed nature of market manipulation can be somewhat like navigating a large ship, however, in that it can be a slow and cumbersome process that requires the assistance of a more direct approach such as supply or trade manipulation, each of which would play the role of tug-boats in the metaphor.

Despite the fact that such matters are still largely experimental for formal military entities, it has been demonstrated that innovations continue to develop even today among smaller entities who must rely on

innovative means to combat larger, dominant forces; or by unofficial "black ops" missions within the intelligence community, particularly with regard to information technology and computer warfare. Not only are methods continuing to evolve and become more sophisticated, but so are the incentives behind using those methods, creating a layer of complexity in international conflict which previously did not exist.

It is my hope that you will walk away from this book with a new understanding of applied economics and new inspiration to explore alternatives to direct conflict in a manner that may enhance our overall military effectiveness while reducing the devastation that is typically associated with conflicts of this sort. Economics is a study of human behavior and once that behavior is understood it becomes possible to anticipate and manipulate. By applying our understanding of economics toward finding ways to circumvent warfare, conflicts on the world stage can be played out while minimizing or even entirely avoiding the risk of injury, death, and generalized destruction. All nations, without exception, are subject to economic influence, so even when confronting those irrational individuals and groups that dedicate themselves to dominance through violence and intimidation, economics allows one to submit an enemy in a manner that is not always possible through information warfare, nor will always be politically feasible through physical warfare.

It is no longer necessary that one should have to kill the enemy to defeat them in combat. Military technology has shifted from biological viruses to computer viruses and from engineering weapons to engineering weapons manufacturers. To force another into submission without harming them and without risk to one's self has now become the hallmark of a truly advanced military superpower.

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