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Case Study: International Burden Sharing in Alliances & Coalitions

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Abstract

There are several normative theories for how the costs of running a coalition military operation or sustaining an alliance should be distributed among the members. The reality is that this becomes a matter of diplomacy and negotiation. This case study has students allocate the burden of a five-member military coalition using three approaches: ability to pay, capacity to contribute, and a complex qualitative approach based on a risk-sharing theory and incorporating descriptions of the member nations and their leaders. The case could be used in courses in national security policy, public budgeting, international affairs, or political science. It illustrates theories of alliances, conceptions of fairness, monetary and non-monetary costs of participation in such endeavors, and the effects of political ideologies on such decisions.

Keywords: alliance, burden sharing, military expenditure



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Resources

Please contact the authors for a teaching note with guides for using the case, learning objectives, summary of the relevant literature on theories of burden sharing, and the author's experiences with using the case. The authors will also share the Microsoft Excel workbook for the students to compute and record their allocations.



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Introduction

Since the American revolution, the United States has allied with other nations during periods of peace and armed conflict. Whether part of a permanent alliance or temporary coalition, each member must decide on a suitable contribution to the whole. And while each member seeks to serve its own interests, the whole needs to ensure that its objectives are met. This usually means that some members pay more than what they consider to be a fair share. International “burden sharing is the distribution of costs and risks among members of a group in the process of accomplishing a common goal” (Cimbala & Forster, 2010, p. 150).

Burden sharing involves diplomatic engagement, military planning, conducting the operations, and deciding who provides what resources or capabilities, when, and to and for whom. Alliances are typically governed by formal treaties, permanent organizations, frequent training, coordinated acquisition, and constant communication. They usually exist for mutual defense. Imagine NATO, for example. In other cases, a temporary “coalition of the willing” is formed around a lead nation on an ad hoc basis with participants joining for a variety of reasons. Such coalitions will have more narrowly focused objectives and less formal coordination.

Nations assume both financial and non-financial burdens when joining others (Haesebrouck, 2018) and politicians often discuss each participant paying their “fair share” (see, for example, Singh 2024). The concept of a fair share has both international and domestic implications. It can define the relationships among nations, and it can also be a catchphrase for domestic political support. In addition to the costs of military participation, a nation may bear other financial costs for things like refugee assistance or food security, and non-financial costs in the form of damage to third party relationships or intrusion on the sovereignty by allowing overflights of military aircraft.

Your task in this case study is to explore appropriate levels of burden-sharing among different nations in a scenario involving a coalition military operation of limited scope. You should not look at this case as a military strategy or tactics exercise; it is about the individual nations’ ability, capacity, and willingness to provide resources. And it



is about what constitutes a “fair share” among the nations. The case study has three parts with distinct methodologies for allocating the burden of the operation. The first part is simple, and the later parts add complexity.



Part A – Ability to Pay

Five nations agree to join forces to conduct a military operation. The nature of the operation is not important. Planning by the military leaders finds that the cost of the operation will be approximately \$4 billion. They decide to assign the burden based on each nation's ability to pay. Your task is to choose a specific basis for allocation given data about the five countries in a spreadsheet (next page). You may use a single measure or a weighted average of 2 or more measures. Question: *What share of the \$4 billion cost should each nation bear and why?*



Nation	Ability to Pay Measures								
	GDP (\$M)	Annual Military Expenditures (Mil Exp) (\$M)	Mil Exp as % GDP	Equipment as % of Mil Exp	Total Annual Government Spending (\$M)	Mil Exp as % of Total Govt Spending	Population (thousands of people)	Size of Active Duty Force Per 1000 Population	Mil Exp per capita
A	\$21,439,441	\$731,751	3.41%	26.8%	\$7,759,301	9.43%	329,065	4.17	\$2,224
B	\$2,698,603	\$50,119	1.86%	23.7%	\$1,501,778	3.34%	65,130	3.15	\$770
C	\$415,825	\$7,003	1.68%	26.8%	\$199,919	3.50%	5,379	4.28	\$1,302
D	\$752,217	\$20,448	2.72%	31.6%	\$261,865	7.81%	83,431	6.41	\$245
E	\$53,485	\$1,084	2.03%	28.9%	\$18,464	5.87%	2,760	6.52	\$393
Meaning:	Total \$ in society	Total \$ in military	Relative importance of military to society	Strength of military	Government spending as share of \$ in society	Relative importance of military to the government	Size of country	Military share of Population	Military spending per person



Part B – Capacity to Contribute

The military planners arrived at the \$4 billion figure by estimating the cost to provide sufficient troops and equipment to conduct the operation. A successful operation will require 100 main battle tanks, 300 pieces of artillery, 60 combat aircraft, 15 naval and coastal patrol boats, and an additional 10,000 troops beyond those needed to operate and maintain the equipment. Furthermore, they estimate \$480 million for logistics support such as food, fuel, spare parts, airport and seaport operations.

The size of each nation's military is provided in a spreadsheet (next page), and you are to assume each nation's equipment is equally capable and readily available. However, no nation can contribute more than 60% of any category on the assumption that some people are still in training, at headquarters assignments, lack requisite skills, deployed elsewhere, or medically unfit. Similarly, some equipment is in a repair status, held in reserve, used for training, or deployed elsewhere. The task now is to allocate the people and equipment across the five countries, providing enough of each. You are to approach this problem from the perspective of each nation's capacity to contribute to the operation. The cost of logistics support can be allocated in any way you think is logical. Question: *What share of the people, equipment, and logistics cost should each nation provide and why?*

Further discussion questions: *Compare your allocations in Part A to the dollar value of the allocations in Part B. What has changed? Why?*



Nation	Capacity to Contribute Measures				
	Military Size (# active forces)	Main Battle Tanks	Artillery	Combat Aircraft	Naval and Coastal Patrol Craft
A	1,372,000	2,384	5,393	1,478	410
B	205,000	200	262	294	82
C	23,000	36	212	87	40
D	535,000	2,485	7,795	233	42
E	18,000	0	52	20	6
Estimated forces required to successfully conduct the operation	10,000	100	300	60	15
Estimated cost to provide each unit of capability (\$M)	\$0.2	\$3.5	\$2.0	\$6.0	\$14.0
Total estimated cost of that capability (\$M)	\$2,000	\$350	\$600	\$360	\$210
Estimated additional financial cost of logistics support (\$M)					\$480
Total Cost					\$4,000



Part C – Risk-Adjusted Allocation

There are many cases of one nation invading a neighbor. For example, Iraq invading Kuwait in 1990, the Sinai war of 1967 followed by the Yom Kippur War in 1973, and Russia's invasions of Ukraine in 2014 and 2022. Sometimes, a coalition of other nations helped expel the invader. This is your scenario.

Nation X is hostile to and shares a border with Nation E. Nation X crossed by land into Nation E, seizing an important natural resource, and troops are still inside the territorial boundary of Nation E. Nation X has also amassed a small naval force off the coast. The invaders were unprovoked and the world views this as unjust. The coalition is being formed to only Nation X's forces back out of Nation E and out of E's territorial waters.

Profiles of the countries are provided below:

Nation A is a global superpower about 5000 miles from Nation E and can reach the conflict by sea or air with forces already stationed nearby. The government is led by an idealist interventionist president and the government views the invasion of Nation E as a critical national security interest. They are unwilling to allow it to stand. In addition to their willingness to support the coalition financially and militarily, they have led the world in the imposition of economic and diplomatic sanctions against Nation X and are sharing intelligence with coalition partners. Nation A is the de facto leader of the coalition but defers to Nation E's judgment about their needs.

Nation B is a longstanding and dependable ally of Nation A. They are about 1000 miles from the action and can reach it by sea or air. They are led by a realist interventionist prime minister and view the situation as a critical national security interest. They are committed to helping as they can, but the conservative prime minister is soon up for reelection and her political opponents will use this action against her if it is not quickly successful. They have joined in the economic sanctions and are sharing intelligence with Nations A and E.



Nation C is also an ally of Nation A and is about 1400 miles away by sea or air. They are led by a realist isolationist monarch. They view this as only a serious national security threat and wish to provide only token help. They have taken diplomatic sanctions against Nation X and have offered to mediate negotiations among the parties.

Nation D is a weak ally to Nation A. They border Nation E and can provide forces via land, air, or sea. They are a stronger ally to Nation E, but fear they will annoy Nation X. They are led by a realist isolationist regime and the tenets of the nation's primary religion impact government decision-making. They view this as a vital national security interest because the conflict could spill over to them. They are providing intelligence to Nations A and E, and they are willing to allow coalition overflight of their territory and the use of their airports and seaports.

Nation E is an emerging ally to Nation A and a stronger ally to Nation D. This is obviously a vital national security interest, and they need to repel the invasion and restore territorial integrity. The leader is an idealist isolationist and a leader of the country's major religion (same religion as Nation D). They have imposed economic and diplomatic sanctions against Nation X and are sharing intelligence with Nations A and D.

Nation X is approximately the size and strength of Nation B. It is ideologically opposed to Nation A and its allies. It has a secular authoritarian government, led by an idealist interventionist. While they have given no formal reason for the invasion, it is widely believed that it is to possess the natural resources it seized for its own benefit. (You may assume the resource is a waterway, a mine of strategic rare earth minerals, an oil field, or something else.)

To add a further sense of realism to the problem, the assumption that everyone's troops and equipment are equivalent is relaxed. The coalition still needs to provide the equivalent of \$2 billion worth of troops, but that can be done with more of some countries' or fewer of another's, depending on the quality of the training and discipline of the soldiers. Similarly, tanks, artillery, aircraft, and ships have different capabilities. The task, as before, is to use the spreadsheet to allocate \$4 billion worth of military power in



the right proportions across people and equipment, taking into consideration the risks, costs and benefits, ideologies, relationships, and interests of each nation. Question: *What share of the people, equipment, and logistics cost should each nation provide and why?*

Further discussion questions:

1. *Compare your allocations here to those in Parts A & B. What has changed?*
2. *How did the characterization of national security interests (serious, critical, vital) affect your choices?*
3. *How did the characterization of the nations' leaders (idealist or realist, interventionist or isolationist, and other traits) affect your choices?*
4. *How did the existing relationships among nations affect your choices?*
5. *What burdens besides those on the spreadsheet did you consider when making your allocations?*



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Variation on Part C – Risk-Adjusted Allocation

The class will form five small groups of equal size. Each group is assigned to a nation. The task is the same – determining an allocation for the coalition partners that will meet the military objective – but each group is to determine an allocation that best serves the interests of their assigned country. Question: *What share of the people, equipment, and logistics cost should each nation provide to best address our nation's security interests?*

Once the groups have determined their proposed allocations, they send a representative to meet with representatives from the other four groups to negotiate an ultimate allocation. Nation E will start the negotiation and request support from the other four. Nation A is expected to take a leadership role. The rest of the class observes the negotiation. Any representative can ask to pause the negotiations to reconvene with their groups to strategize.



Nation	Ability to Pay Measures								Capacity to Contribute Measures				
	GDP (\$M)	Annual Military Expenditures (Mil Exp) (\$M)	Mil Exp as % GDP	Equipment as % of Mil Exp	Total Annual Government Spending (\$M)	Mil Exp as % of Total Govt Spending	Population (in thousands of people)	Mil Exp per capita	Military Size (# active forces)	Main Battle Tanks	Artillery	Combat Aircraft	Naval and Coastal Patrol Craft
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								<i>Value per unit</i>	<i>\$0.3</i>	<i>\$4.5</i>	<i>\$3.5</i>	<i>\$12.0</i>	<i>\$18.0</i>
B	\$2,698,603	\$50,119	1.86%	23.7%	\$1,501,778	3.34%	65,130	\$770	205,000	200	262	294	82
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D	\$752,217	\$20,448	2.72%	31.6%	\$261,865	7.81%	83,431	\$245	535,000	2,485	7,795	233	42
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E	\$53,485	\$1,084	2.03%	28.9%	\$18,464	5.87%	2,760	\$393	18,000	0	52	20	6
								<i>Value per unit</i>	<i>\$0.1</i>	<i>\$0.0</i>	<i>\$1.0</i>	<i>\$3.0</i>	<i>\$10.0</i>

Estimated forces required at average value	10,000	100	300	60	15
<i>Average value of each unit of capability (\$M)</i>	<i>\$0.2</i>	<i>\$3.5</i>	<i>\$2.0</i>	<i>\$6.0</i>	<i>\$14.0</i>
Total value of that capability	\$2,000	\$350	\$600	\$360	\$210
Estimated additional financial cost of logistics support (\$M)	\$480				\$4,000



Key Terminology

This case uses specific terminology concerning national security interests and the characteristics of national leaders. Those terms are defined as follows.

National Security Interests

- Vital – A situation or condition that requires immediate mobilization of resources to protect the existence and sovereignty of the homeland.
- Critical – A situation or condition that has the potential to grow into a vital interest; it may be a vital interest to allies or adversaries.
- Serious – A situation or condition that has the potential for long-term escalation; the aim is to prevent that by reducing its likelihood or mitigating effects should it occur.

National Leader Foreign Policy Motivation

- Idealist – One who believes that foreign policy must reflect the ethical, moral, and philosophical values of the country.
- Realist – One who focuses on maximizing self-interest in a conflictual and potentially dangerous international environment. Ideas and ideals are often viewed as “noise” interrupting and distorting the prudent pursuit of foreign policy.

National Leader Foreign Policy Engagement

- Interventionist - One who is willing to intervene in a sovereign state's affairs if it advances their own nation's objectives.
- Isolationist - One who prefers to remain separate from the affairs of other nations by declining to enter alliances, foreign economic commitments, or international agreements.



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