

Paper for the Global Business Research Symposium 9th Annual Conference
Krakow, Poland – May 28-30, 2014

“Alliance Economics and US Military Presence Overseas”

March 12, 2014

Cameron M. Weber, PhD student in economics and historical studies, New School for Social Research and Adjunct Faculty, St. John’s University, New York

Email: cameron_weber@hotmail.com

Website: cameroneconomics.com

Phone: 202-531-1281

637 41st Street, 4E, Brooklyn, NY 11232 USA

Abstract

It is well-known by many that the USA has accepted the role of the “world’s policeman” with the end of the cold war, yet with the continued US participation in NATO, with the end of World War II and continued US military presence in Germany and Japan, and with the end of the Korean War and the US’s continued presence there. It is estimated as well that the US military presence in the Persian Gulf alone costs between \$6 billion and \$25 billion annually (Delucchi and Murphy 2008). It is also known that the US spends more on the military per year than the next 10 largest nation’s defense budgets combined and twice as much (5%, or, more than \$2,300 per person) as a percentage of national income than the next largest nation’s military outlays (South Korea at 2.5% of GDP) (Preble 2013). This paper makes the case that the US’s allies are “free-riding” on the American taxpayer and proposes, given the US presence, that the US charges nations with US military presence a “user fee” based on the cost of US military protection in-country. This in turn will create competition for military protection, forcing allied nations to rethink their military expenditures, with US presence as “outsourcing” versus providing their own “in-house” military protection. The paper builds a model to quantify these user fees on a cost-recovery basis derived from actual US military presence costs world-wide.

Alliance Economics and US Military Presence Overseas

Introduction

It is seen by many that the USA has accepted the role of the “world’s policeman” with the end of the cold war, yet with the continued US participation in NATO, with the end of World War II and continued US military presence in Germany and Japan, and with the end of the Korean War and the US’s continued presence there. It is estimated as well that the US military presence in the Persian Gulf alone costs between \$27 billion and \$73 billion annually (Delucchi and Murphy 2008). It is also known that the US spends more on the military per year than the next 10 largest nation’s defense budgets combined and twice as much (5%, or, more than \$2,300 per person) as a percentage of national income than the next largest nation’s military outlays (South Korea at 2.5% of GDP) (Preble 2013).

This paper makes the case that the US’s allies are “free-riding” on the American taxpayer and proposes, given the US presence, that the US charges nations with US military presence a “user fee” based on the cost of US military protection in-country. This in turn will create competition for military protection, forcing allied nations to rethink their military expenditures, with US presence as “outsourcing” versus providing their own “in-house” military protection. The paper explores the economics of alliances and builds a model to quantify these user fees on a cost-recovery basis derived from actual US military presence costs world-wide. The paper introduces a way to introduce allocative efficiency (economics) into the provision of national defense.

Theoretical Underpinnings and Literature Review

This paper attempts to present an alternative to the United States as the “world’s policeman” or at least to present a thought experiment (Gedankenexperiment) as to a rational way to introduce economics and allocative efficiency into the provisioning of national defense for the US and its allies. I begin by providing some background facts and theoretical underpinnings to frame the argument that the US should introduce cost-sharing for its troops located overseas. I then in the next section apply these concepts to the data. In the course of this paper we are not questioning the *ends* of US foreign policy, only the *means*.

In their paradigmatic 1966 article on the economics of alliances, Olson and Zeckhauser find that national defense is a public good, and, that the larger members of an alliance pay an untoward larger portion of a shared deterrence, this larger share has become known as the “exploitation hypothesis” (Sandler and Hartley 2001). Recently Gupta (2012) proposes that nation-state ‘preferences’ for shared deterrence are heterogeneous. Duncombe (2011) finds that the militarization of culture in the West (read the ‘War on Poverty’, the ‘War on Drugs’, and the ‘War on Terror’) foretells an increasingly opposed Other against which violence is facilitated. These findings I believe imply that free-riding can be reduced, preferences revealed, allocative efficiency improved and aggression reduced, through introducing competition into our historically contingent status-quo defense in the allied West.

It is well known that the US runs a consistent budget deficit and it is also known that the approximately \$500 billion annual non-combat military spending is one-half the discretionary spending of the United States government (OMB 2013, Table S-11, pg. 222). Additionally, and as is also known, the US dollar and thus US borrowing costs, have had a historically contingent “exorbitant privilege” as the world’s reserve currency, something which may not be permanent (Eichengreen 2011). This monetary privilege too has allowed US deficit spending at reduced cost (which we might call a fiscal privilege), something again perhaps not permanent due to the rise of the “East” and alternative currency agreements in the works.

There is a vast and unresolved body of work on the economics of defense (see the survey, Sandler and Hartley 2001, and the more recent Engerer 2011). It is generally agreed that national defense is a public good and that nation-state defense alliances are also some type of a public good which can take on the characteristics of a club good (meaning some type of excludability in the provision of defense). The most commonly-used empirics in applying these models has been to NATO, which is indeed a constructed contractual alliance with club good attributes. However a weakness in these models for use beyond NATO is that they are generally ahistorical and discount the fact of US hegemony in both military (the world’s policeman) and economic (exorbitant privilege) affairs.

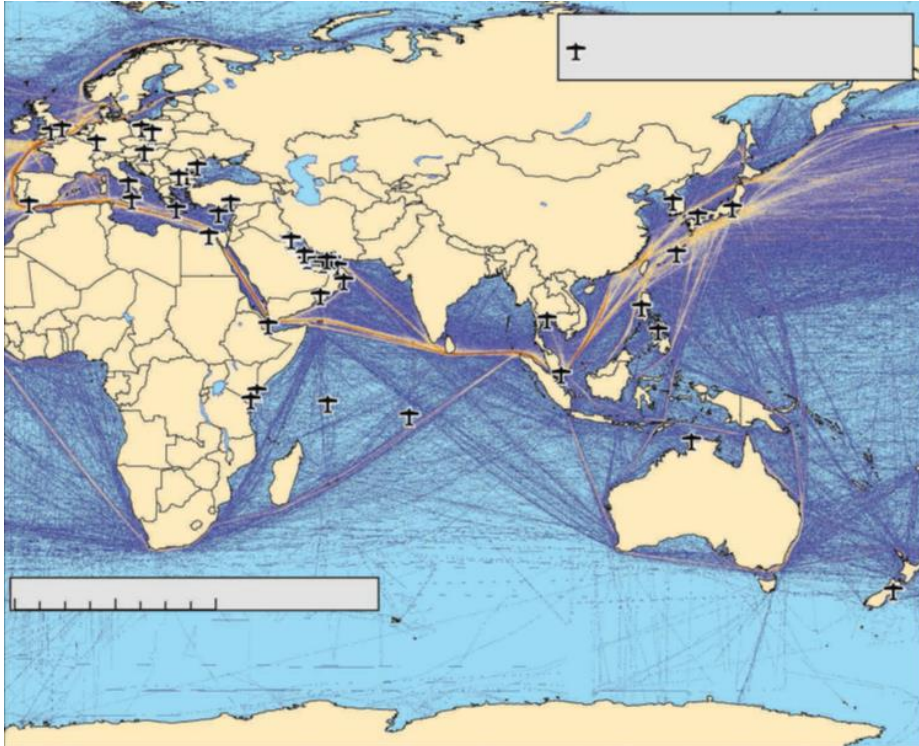
This paper adds to, and is unique in, the literature by evaluating the actually-existing state of US *global* military presence and offering an economic proposal for reform. I propose that US military presence is more like a “commons good” in that the security provided (deterrence as insurance) might be considered non-excludible.¹ The global (global “commons”) reach of US strategy is seen below from a report prepared for the US Department of Defense by the RAND Corporation (2012) as part of a cost-cutting measure. It should be noted that RAND’s options for cost-cutting would require changing US defense strategies (and thus introducing politics into the equation), as opposed to accepting these strategies as given as does this paper.

¹ In that US military alliances are fluid and contingent (witness US support for Osama Bin Laden against the USSR in Afghanistan and an alliance with Pakistan in the war on terror), to define those as excluded from any club good would perhaps not hold over the long-term.

US Military Presence as Global Commons

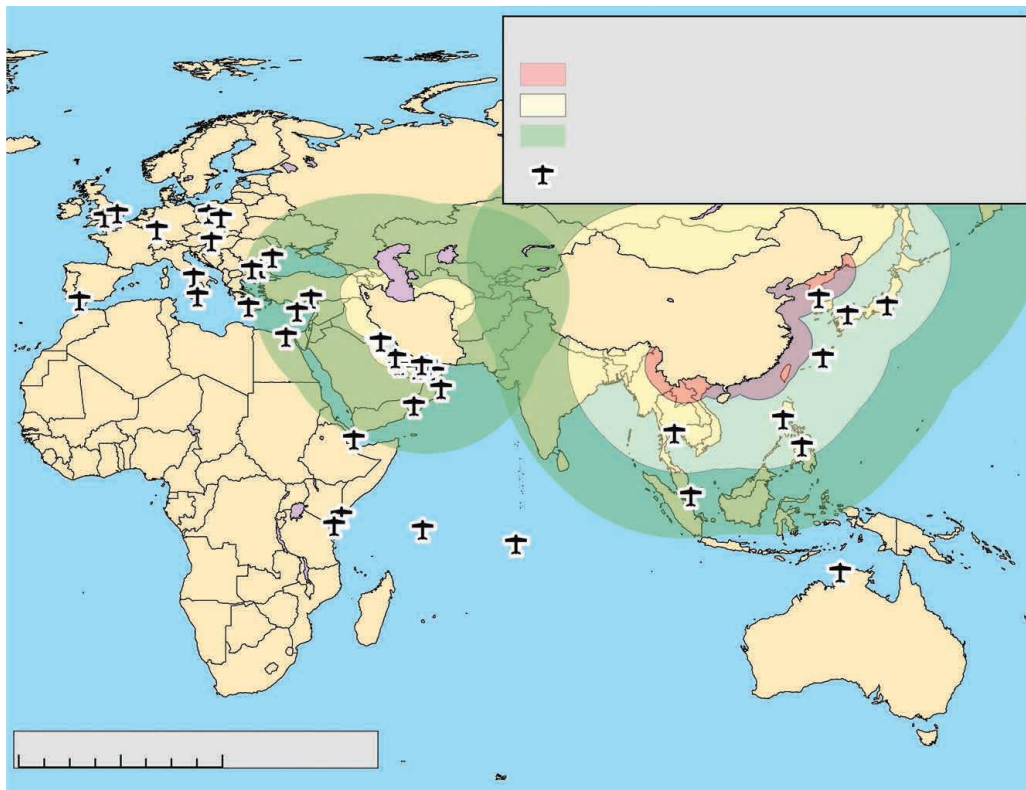
We can see below how the US military presence overseas provides common insurance against disruption of global trade, against missile threats, and helps to mitigate natural disasters. The maps show US overseas military presence as aligning spatially with the coincidence of these threats.

Figure 1. Global Shipping Routes by Traffic Volume



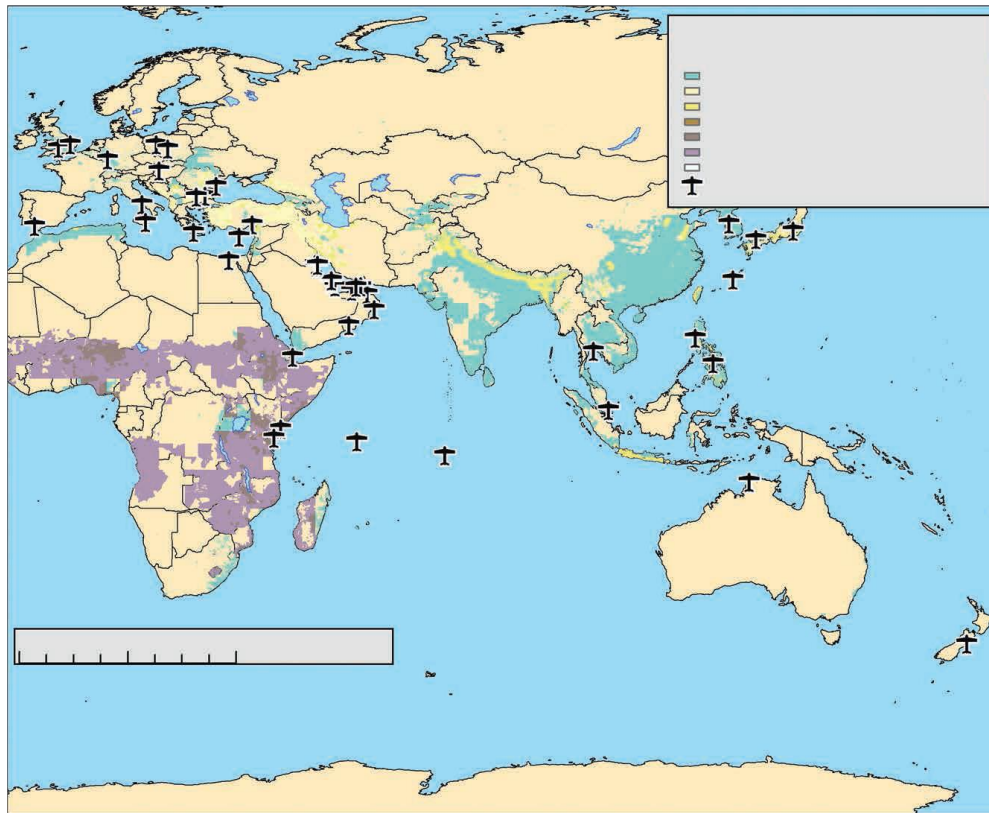
From RAND 2012: 24. Note captions did not duplicate. In the box at top right should read “Current operating locations included in all global postures” and in the bottom left should read at the last hatch-mark on the right “2,500 Nautical miles”.

Figure 2. Iranian and Chinese Missile Threats



From RAND 2012: 21. Note captions did not duplicate. In the box at top right should read “Legend”, with the red, yellow, and green icons labelled “1,000s of missiles”, “100s of missiles”, “10s of missiles”. The black plane is labeled as above, “Current operating locations included in all global postures” and in the bottom left should read at the last hatch-mark on the right “2,500 Nautical miles”.

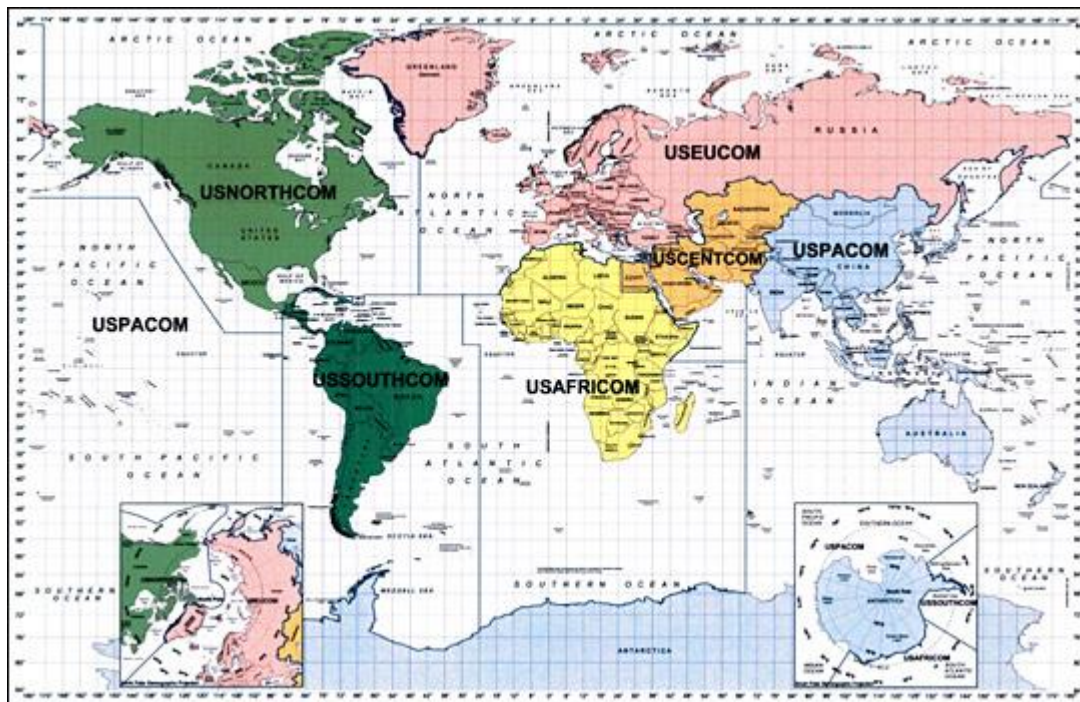
Figure 3. Risk of Mortality by Natural Disaster Type



From RAND 2012: 21. Note captions did not duplicate. In the box at top right should read "Legend", with the icons labelled from top to bottom, "Hydrologic disasters", "Seismic disasters", "Seismic and hydrologic disasters", "Drought, hydro, seismic disasters", "Drought and hydrological disasters", "Drought, Drought and seismic disasters". The black plane is labeled as above, "Current operating locations included in all global postures" and in the bottom left should read at the last hatch-mark on the right "2,500 Nautical miles".

We can also see in Figure 4 how the US military plans globally in providing this “commons good”. In the next section we apply this concept of a global commons as protected by the US military to the actual costs of this overseas presence and follow the logical conclusion towards reform which would encourage allocative efficiency in the provision of common insurance.

Figure 4. US Department of Defense’s View of the World



Source: http://www.defense.gov/home/features/2009/0109_unifiedcommand/

Methodology, Analysis and Results

In the economic theory of commonly-held resources without the ability to assign property rights (and thus lacking the ability to exchange – and thus price - these resources in the market to maximize the efficient use of these resources), incentives are present to over-use these resources. The most common example of this of course is over-fishing in the oceans. Hella Engerer however proposes a solution.

This is also circumscribed by the notion of ‘the tragedy of the commons’. One solution to overcome this situation is a regulation that determines the volume that an individual can withdraw from the common-pool resource within a certain period of time. A regulatory authority must ensure that regulation is really enforced (Engerer 2011:138).

I propose that the US government has the incentive to act as Engerer's "regulatory authority" because the US's allies have the incentive to over-use the US military presence overseas.² As stated (responsible) members of Congress have the incentive to reduce US discretionary spending in that it is well known that non-discretionary spending is projected to be unsustainable and to consume an ever larger part of the US budget (Walker 2010).

Next we analyze the defense budget of the United States to make a determination on how costs should be allocated to the US military presence overseas. Earl Ravenal describes the politics of the US military budget process.

When attempting to justify its entire defense budget request, or when demonstrating to our allies that we are paying a disproportionate share of the costs of an alliance, the Pentagon prefers to state its costs fully. But when defending against proposed cuts, it claims that deleting this or that unit or program from the force structure or the budget would save only the tip of its marginal costs (Ravenal 1991:19).

Therefore we are faced with two extremes, one is that all costs are fixed, or, that all costs are variable. Given that we are not attempting to cut any specific programs (and therefore do not have the need to allocate costs to any specific goal or region) I am assuming that all costs are variable. In this instance I am using a form of 'labor theory of value'. What brings value to our allies in the common pool is the presence of US troops overseas, it is the *troops themselves* which bring value. Therefore I allocate US military costs on a per soldier basis.

The current US budget process divides military expenditures into non-combat forces (regular discretionary spending, see OMB 2013) and combat forces (a supplemental appropriation, see DoD 2013a). The most recent actual expenditure data for the US government is from Fiscal Year 2012 (OMB 2013, Table S-11:222). Actual non-combat expenditures for the years 2010, 2011, 2012, were \$530.1 billion, \$528.3 billion, and \$530.4 billion. The budget request for 2013 was \$525.4 billion and 2014 \$526.6 billion. Given that our analysis here is for "defense" and not "war", again following Delucchi and Murphy (2008), we are only concerned with the non-combat data.³

Table 1 lists the number of US troops located in each country which has a US troop presence of more than 200 people. Around 70 percent of non-combat overseas military spending is for Japan, Germany and Korea (US Senate 2013). Table 2 divides the 2012 non-combat expenditures into personnel costs for the non-combat troops and for "overhead", those costs which are allocated equally per non-combat troop no matter where based. We find that it costs around a half-million dollars (\$518,212) to locate a US non-combat soldier.

² Delucchi and Murphy (2008) address their paper specifically to the appropriators in the US Congress when discussing the "US government", this paper intends the same.

³ The supplemental combat troop expenditures were \$115 billion in FY2012 and are expected to be \$79.4 billion in 2014 (DoD 2013a:2).

Table 1. Non-Combat Active US Military Personnel (FY2012)

A.	Total Troops Worldwide	1,399,622	
B.	Total Troops in USA	1,214,099	
C.	Total Troops Overseas (A minus B)	185,523	
D.	Overseas Troop Locations (Countries with greater than 200 soldiers)		
	Japan	50,937	
	Germany	47,761	
	Korea	28,500	
	Italy	10,922	
	United Kingdom	9,317	
	Bahrain	2,713	
	Spain	1,727	
	Turkey	1,505	
	Belgium	1,174	
	Cuba	996	
	Qatar	806	
	Portugal	743	
	British Indian Ocean Territory	529	
	Honduras	408	
	Netherlands	374	
	Greece	351	
	Australia	346	
	Saudi Arabia	284	
	Egypt	280	
E.	Total	159,673	
F.	Unallocated (C minus E)	25,850	

Notes: All troop data from US DMDC as of September 30, 2012 (the last day of Fiscal Year 2012), except for (South) Korea which is classified as “undistributed” in US DMDC. Korea data from US Senate 2013:18.

Table 2. Cost Allocation (FY2012)

A.	Total Non-Combat Active Personnel (From Table 1, Line A)	1,399,622
		<u>\$US Billions</u>
B.	Total Non-Combat Military Expenditures	\$530.4
C.	Total Non-Combat Military Personnel Expenditures	\$195.0
D.	Total "Overhead" (B minus C)	\$335.4
		<u>\$US</u>
E.	Personnel Costs per Active Troop (B divided by A)	\$139,323
F.	"Overhead" Costs per Active Troop (C divided by A)	\$378,959
G.	Total Allocative Costs per Active Troop (E plus F)	<u>\$518,282</u>

Notes: Total Non-Combat Military Expenditures from OMB 2013:222, Total Non-Combat Military Personnel Expenditures from US DoD 2013b:17. Calculations by author as noted in table, see text for methodological assumptions.⁴

In their survey in the *Journal of Economic Literature*, Sandler and Hartley (2001) describe the concept of burden-sharing, which of course can help us test the exploitation hypothesis of the larger alliance members paying a greater than proportional share. The example used (and others described) to measure relative burden is the percentage of GDP spent on national defense (Table 3 shows this data for the countries listed in Table 1 above). Sandler and Hartley (2001), using NATO as an example, also factor in other variables such as the population of one country in proportion to all of those in NATO, the length of a country's borders along non-NATO countries as a percentage of total non-NATO borders, and, the relative purchasing power of those in the coalition. These additional variables are not applicable for our method here because we are assuming a non-divisible "global" alliance and any "user fees" for US troop presence would be based on the fiat US dollar.

We find when calculating the alliance burden that indeed the US pays disproportionately a greater percentage of national income for defense (3.3%) than do US allies, barring Saudi Arabia (8%), proving correct the "exploitation hypothesis", see Table 3. I then allocate the per-troop

⁴ There are also 800,000 civilian employees of the Department of Defense, both overseas and in the US (US DoD 2013b), and there are more than 2 million "dependents" of the around 1.4 million US non-combat troops shown in Table 2 (US DMDC).

costs (“user fee”) to the defense budget of each ally (assuming no troop presence changes, but we do hope to see a change in the composition of the troops – allocative efficiency – if and when reform is made).

I then re-determine the defense burden. We find that equity is improved as other countries increase their defense spending to fund the US troop presence in-country. Now Korea and Bahrain join Saudi Arabia with burdens larger than the US (perhaps providing the incentive to reduce defense costs in these countries either through a reduction in US troop presence, and/or in-sourcing with their own domestic forces). Of note is that the five countries with the largest troop presence (Japan, Germany, Korea, Italy and the U.K.) would contribute in total almost \$77 billion, or around 15% of the US non-combat defense expenditures in 2012.

Also of note is that Germany, Italy and Portugal are now spending 2% of national income on national defense, joining the U.K. and Greece, which is the agreed-upon percentage amongst members of the European Union (*Economist* 2013). Spain, Belgium and the Netherlands are the largest free-riders in the “Western alliance”, with new defense burdens of only 1%, 1.2% and 1.3% respectively.

Table 3: Data and Cost Allocation, Allied Nations (2012)

						New	
			Military		User	Military	New
		GDP	Expenditures	% GDP on	Fee	Spending	% GDP
	US Troops	(\$US billion)	(\$US b's)	Defence	(\$US m's)	(\$US b's)	Defence
United States	1,214,099	16,245	530.4	3.3	-82,329	448.2	2.8
Japan	50,937	5,960	59.6	1.0	26,400	86.0	1.4
Germany	47,761	3,428	44.6	1.3	24,754	69.3	2.0
Korea	28,500	1,120	31.4	2.8	14,771	46.4	4.1
Italy	10,922	2,015	34.3	1.7	5,661	39.9	2.0
United Kingdom	9,846	2,472	61.8	2.5	5,103	66.9	2.7
Bahrain*	2,713	29	0.9	3.1	1,406	2.3	7.9
Spain	1,727	1,323	11.9	0.9	895	12.8	1.0
Turkey	1,505	789	18.1	2.3	780	18.9	2.4
Belgium	1,174	483	5.3	1.1	608	5.9	1.2
Qatar*	806	171	2.6	1.5	418	3.0	1.7
Portugal	743	212	3.8	1.8	385	4.2	2.0
Honduras	408	18	0.2	1.1	211	0.4	2.2
Netherlands	374	771	10.0	1.3	194	10.2	1.3
Greece	351	249	6.5	2.6	182	6.7	2.7
Australia	346	1,532	26.0	1.7	179	26.2	1.7
Saudi Arabia	284	711	56.9	8.0	147	57.0	8.0
Egypt	280	263	4.5	1.7	145	4.6	1.8
Total User Fees (\$US billions)					82,239		

Notes: US Troop data from Table 1; however Cuba is excluded as not allied and troops assigned to British Indian Ocean Territory are added to United Kingdom. Data on GDP and % GDP on Defense from the World Bank; data on Bahrain and Qatar from 2011 (the most recent). Military Expenditures calculated by author (GDP * % GDP on Defense). For the US, the Military Expenditures are based on the non-combat budget figures from OMB 2013 and % GDP on Defense calculated by author (Military Expenditures / GDP). The User Fee is calculated using the Total Allocative Costs per Active Troop as determined in Table 2 multiplied by US Troop presence in-country.

Conclusion

Vested interests of course are in place to reduce opportunities for reform. In his 1961 farewell address as US President Dwight D. Eisenhower warned of the military-industrial complex.⁵

In the councils of government, we must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. The potential for the disastrous rise of misplaced power exists, and will persist. We must never let the weight of this combination endanger our liberties or democratic processes. We should take nothing for granted. Only an alert and knowledgeable citizenry can compel the proper meshing of the huge industrial and military machinery of defense with our peaceful methods and goals so that security and liberty may prosper together.⁶

⁵ Adams (1981) calls this the “military-industrial-congressional” complex or the Iron Triangle.

⁶ Eisenhower’s speech is available here: <http://mcadams.posc.mu.edu/ike.htm> and here: http://www.youtube.com/watch?v=CWiYW_fBfY

Nonetheless the *Economist* magazine (2014), “Unbundling the Nation State”, speaks of government-to-government (G2G) trade as states outsource goods and services to each other, such as China purchasing services from the US’s Federal Aviation Agency to train pilots and improve China’s domestic travel safety, the Dutch army selling their tanks and then training with the Germans to maintain their skills, Saudi Arabia inviting British attorneys to establish an arbitration court, and the Solomon Islands outsourcing law enforcement to Australia.

This paper has found that actually-existing US military presence overseas is a commons good which is over-consumed by US allies. I have proposed that cost-allocating on a per soldier basis and charging allies this “user fee” in a government-to-government transaction would improve allocative efficiency as host-countries face a “make or buy” decision for their national defense, forcing the revelation of national defense preferences. Reform as proposed might also reduce militaristic rent-seeking and increase value-creating entrepreneurship (Anderson et al. 2012).

References

- Gordon Adams (1981). *The Iron Triangle: The Politics of Defense Contracting*. Piscataway, NJ: Transaction Publishers.
- William J. Anderson, Scott A. Kjar and James D. Yohe (2012). "War and the Austrian School: Modern Austrian Economists Take on Aggressive Wars," *Economics of Peace and Security Journal* 7(1): 30-37.
- Linda Bilmes and Joseph Stiglitz (2006). "The Economic Costs of the Iraq War: An Appraisal Three Years After the Beginning of the Conflict," NBER Working Paper No. 12054, February. Available, <http://www.nber.org/papers/w12054>
- Donna Cassata (2013). "US Footing Greater Bill for Overseas Bases," Associated Press. Available, <http://bigstory.ap.org/article/report-us-footing-greater-bill-overseas-bases> , accessed 2/4/2014.
- Center for American Progress (2012). "Defense in an Age of Austerity", available, <http://www.americanprogress.org/issues/military/report/2012/01/06/10993/defense-in-an-age-of-austerity/> , accessed 2/4/2014.
- Center for American Progress (2010). "Strong and Sustainable: How to Reduce Military Spending While Keeping Our Nation Safe", available, <http://www.americanprogress.org/wp-content/uploads/issues/2010/09/pdf/defensecuts.pdf>, accessed 2/4/2014.
- Mark A. Delucchi and James J. Murphy (2008). "US Military Expenditures to Protect the Use of Persian Gulf Oil for Motor Vehicles," *Energy Policy* 36: 2253-2264.
- Constance Duncombe (2011). "Foreign Policy and the Politics of Representation: the West and its Others," *Global Change, Peace and Security* 23(1): 31-46.
- Economist* (2013). "Charlemagne: Defenceless, Austerity is Hollowing Out Europe's Armies", December 21: 82.
- Economist* (2014). "Unbundling the Nation State; Government-to-Government Trade, Countries Have Started to Outsource Public Services to Each Other", February 8: 58-59.
- Barry Eichengreen (2011). *Exorbitant Privilege: the Rise and Fall of the Dollar and the Future of the International Monetary System*. New York: Oxford University Press.
- Hella Engerer (2011). "Security as a Public, Private or Club: Some Fundamental Considerations," *Defence and Peace Economics* 22(2): 135-145.
- Rupayan Gupta (2012). "Designing Institutions for Global Security," *Economics of Peace and Security Journal* 7(2).
- Garett Jones and Tim Kane (2012). "U.S. Troops and Foreign Economic Growth," *Defence and Peace Economics* 23(3): 225-249.
- Mancur Olson and Richard Zeckhauser (1966). "An Economic Theory of Alliances," *Review of Economics and Statistics* 48: 266-279.

Christopher A. Preble (2013). "The Costs of Our Overseas Military Presence," Cato Institute, April 17. Available, <http://www.cato.org/blog/costs-our-overseas-military-presence> , accessed 2/4/14.

RAND Corporation (2012). "US Overseas Military Presence: What Are the Strategic Choices?" Available, http://www.rand.org/content/dam/rand/pubs/monographs/2012/RAND_MG1211.pdf , accessed 2/4/2014.

Earl Ravenal (1991). *Designing Defense for a New World Order: The Military Budget in 1992 and Beyond*. Washington, DC: Cato Institute.

Todd Sandler and Keith Hartley (2001). "Economics of Alliances: the Lessons of Collective Action," *Journal of Economic Literature* 34: 869-896

US President's Office of Management and Budget (2013). *Fiscal Year 2014 Budget of the U.S. Government*. Available, <http://www.whitehouse.gov/sites/default/files/omb/budget/fy2014/assets/budget.pdf>, accessed 2/4/2014.

US Senate (2013). "Inquiry into US Costs and Allied Contributions to Support the US Military Presence Overseas," available, www.levin.senate.gov/download/sasc-overseas-basing-report , accessed 2/4/2014.

US Department of Defense (2013a). "Addendum to FY2014 Budget Request: Overseas Contingent Operations," available, http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2014/amendment/FY2014_Budget_Request_Overview_Book_Amended.pdf , accessed 2/4/2014.

US Department of Defense (2013b). "Defense Budget Priorities and Choices Fiscal Year 2014," available, <http://www.defense.gov/pubs/DefenseBudgetPrioritiesChoicesFiscalYear2014.pdf> , accessed 3/7/14.

US Defense Manpower Data Center (US DMDC). www.dmdc.osd.mil/appj/dwp/reports.do?category=reports&subCat=milActDutReg , accessed 2/8/14.

David Walker (2010). *Comeback America: Turning the Country Around and Restoring Fiscal Responsibility*. New York: Random House.

World Bank, Military expenditures (% of GDP), available, <http://data.worldbank.org/indicator/MS.MIL.XPND.GD.ZS> , accessed 2/9/14.