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ADDING RIGOR TO STABILITY AND RECONSTRUCTION OPERATIONS

The Case for Evidence-Based 'Tactical Economics'

ABSTRACT

Economic interventions are a key component of stability operations. But they have proven challenging for the U.S. military to both implement and evaluate under conditions of state fragility and conflict. As a shaping operation, so-called 'tactical economics' can enable military units to shape security environments and consolidate gains in pursuit of sustainable outcomes, but require careful targeting, design, implementation, and evaluation.

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Executive Summary

After more than a decade of combat operations in Iraq and Afghanistan, the U.S. military faces a world that is more volatile and unpredictable than ever before. This fact presents a strategic challenge to the U.S. Army, which must be prepared to employ stability operations to counter violent extremism within fragile and conflict-affected regions across the globe. Economic interventions are a key component of stability operations, but have proven challenging to both implement and evaluate under conditions of state fragility and conflict.

The term "tactical economics" describes an array of potentially powerful economic interventions that have evolved for use at the tactical level during the Global War on Terrorism (GWOT). As a shaping operation, tactical economics can enable military units to shape security environments and consolidate gains in pursuit of sustainable outcomes, but to be effective requires careful targeting, design, implementation, and evaluation. Based on original and on-the-ground research, this report draws lessons from recent U.S. stabilization and reconstruction operations, evaluates the Army's current tactical economic capabilities, and makes recommendations for improving the Army's tactical economic capabilities in the areas of doctrine, education, and expertise.

Key Findings

1. The U.S. military's economic interventions in Iraq and Afghanistan exposed three "implementation gaps."

Application Gap
- Fundamental mismatch between problems and solutions
- Failure to address local needs
- Failure to "step back" to build local capacity

Accountability Gap
- Lack of central oversight in a complex, interagency environment
- Lack of proficiency in project and money management

Evaluation Gap
- Failure to record expenditure data
- Emphasis on inputs versus outcomes
- Lack of an outcome metric

2. Tactical economics has documented effects in reducing levels of violence.
- Commander's Emergency Response Program (CERP) is a tactical stabilization program with empirically documented effectiveness.

- CERP projects were most effective in reducing violence when small, secured, and informed by community needs.
- The Sons of Iraq (SOI) program was an innovative use of CERP that contributed to stability by successfully harnessing economics to move closer to a political settlement.
- These kinds of efforts are generalizable to other stabilization missions and conflict zones.

3. The U.S. Army's current tactical economic capabilities are deficient in three categories: doctrine, education, and expertise.

Recommendations

To enable effective use of tactical economics in the future, the Army must make changes in the areas of doctrine, education, and expertise. Best practices in international development and recent insights in empirical social science research can help generate solutions.

1.) Revise U.S. Army stability doctrine.

a) Reduce scope of economic doctrine to focus on measurable tactical effects, with an emphasis on violence reduction and achievement of local political settlements.
b) Narrow the scope of CERP to focus on small, conditional projects informed by local needs.
c) Clarify guidelines to minimize counterproductive economic interventions.
d) Ensure that doctrine is connected to current social science research.

2.) Increase the U.S. Army's economics expertise through internal and external education.

a) Incorporate development economics and program evaluation into professional military education (PME).
b) Increase economics and evaluation expertise through external education of Army personnel (executive education and Advanced Civil Schooling (ACS)).

3.) Gain access to external economics expertise by strengthening ties with the social science community.

a) Increase research grants and working partnerships with social scientists.
b) Establish a "Tactical Economics Center of Excellence" to provide an intellectual hub for collecting best practices and diffusing knowledge.

1. Introduction

After more than a decade of operations in Iraq and Afghanistan, the U.S. military faces a world that is more volatile and unpredictable than ever before, a strategic challenge recognized by the U.S. Department of Defense (DOD) in the 2014 Quadrennial Defense Review (QDR). In a shift away from conventional conflict, the U.S. military expects more to more frequently conduct population-centric operations within unstable regions such as the Middle East and South Asia. The QDR therefore highlights the dual challenge of addressing dynamic conditions of "unrest and violence" in fragile states during a "period of increasing fiscal constraint."[1] To reduce the threat of violent extremism, which often springs from such conditions, the U.S. military must be prepared to conduct stability operations worldwide using a limited allocation of funds and forces.[2]

Since 2005, DOD has recognized stability operations as a "core U.S military mission" with precedence equal to combat operations.[3] While the U.S. military's technological overmatch in conventional combat operations has produced frequent battlefield successes, stability operations in the wake of major combat operations have often proven troublesome. Success in modern warfare requires that the U.S. military not only defeat an enemy's combat forces, but also be able to consolidate gains in order to lay the foundation for a "sustainable political outcome."[4] Achieving a sustainable outcome usually requires the application of elements of national power traditionally outside the scope of military operations, particularly economic power.[5]

Economic interventions are a core component of stability operations, but one which the U.S. military, along with many other government agencies, has struggled to employ effectively. The Commander's Emergency Response Program (CERP) in Iraq and Afghanistan, for example, provided over $7 billion in funding for tactical units to address sources of instability at the local level. Despite this level of funding, the program produced mixed results, depending on implementation and local conditions.[6] Reconstruction programs also produced many questionable outcomes, as U.S. forces spent many millions of dollars to build schools that went unused in Afghanistan, while an estimated $8 billion reconstruction funds were wasted due to mismanagement in Iraq.[7] Despite

[1] Fragility, as defined by risk indicators in "Fragile States Index 2015," Fund for Peace; Department of Defense, "Quadrennial Defense Review 2014," March 2014, p. iii.
[2] Department of Defense, "Quadrennial Defense Review 2014," March 2014, p. iv-v.
[3] Department of Defense, "Military Support for Stability, Security, Transition, and Reconstruction (SSTR) Operations (DOD Directive 3000.05)," November 28, 2005; Reissued September 16, 2009 as DOD Instruction 3000.05, "Stability Operations."
[4] U.S. Army Training and Doctrine Command (TRADOC), "The U.S. Army Operating Concept," October 2014.
[5] Elements of national power employed by the military include diplomatic, information, military, economic, financial, intelligence, and law enforcement. TRADOC, "The U.S. Army Operating Concept," October 2014, p. 23.
[6] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, p. 9; SIGAR, "Quarterly Report to the United States Congress," April 30, 2016, p. 75.
[7] Rachel Martin, "Revisiting Afghanistan's Reconstruction Teams," National Public Radio, April 17, 2013.; SIGIR, "Learning From Iraq: A Final Report," March 2013, p. x.

the inherent difficulties in implementation, economic interventions have the power to provide scarce resources and change incentives in ways that can dramatically alter both individual and societal behaviors. Such interventions thus offer a range of potentially powerful nonlethal tools capable of shaping security conditions in contexts where lethal force is ineffective, inappropriate, or simply not ideal.[8]

The U.S. military is not alone in the challenge of implementing economic programs successfully. Over the past several decades, the international development community has also discovered that conducting economic interventions in fragile and conflict-affected regions is much more complicated than previously thought.[9] Despite the hundreds of billions of dollars that nongovernmental organizations (NGOs) have spent over the past several decades on programs intended to improve outcomes such as literacy, health, and employment, little is known about the actual effects of such programs.[10] The international development community thus discovered the need to conduct "impact evaluations" to measure progress and tailor its programs in order to achieve desired outcomes within specific localities.[11]

Over the past decade, the number of empirically rigorous impact evaluations has exploded, although significant technical, bureaucratic, and political obstacles remain.[12] Overcoming these challenges can allow organizations to both reduce costs and achieve greater impact through an evidence-based approach.[13]

The 2014 U.S. Army Operating Concept (AOC) highlights the fact that the predictable Cold War security environment has been replaced with the uncertainty of a "complex world." The Army must therefore be capable of shaping security in environments that are "not only unknown, but unknowable and constantly changing."[14] To keep pace, the Army needs to incorporate new analytical tools capable of managing the complexity inherent in employing nontraditional forms of military power. Applying economic interventions successfully requires that tactical military units be able to measure their impact on local populations and adjust their approach in response to indicators of effectiveness across a broad spectrum of threats and regions, ranging from Russian-backed irregular forces in eastern Ukraine to Islamic State militants in Iraq and Syria.[15]

Defining Tactical Economics

The term "tactical economics" first appeared in the literature in a 2012 U.S. Army Command and General Staff College

[8] The percentage of the world's population living in urban areas is expected to rise from 50 percent to 60 percent by 2030, a trend which further limit the military's ability to target enemy forces, as they operated within the protection of densely-populated urban areas; National Intelligence Council, "Global Trends 2030: Alternative Worlds," December 2012.
[8] TRADOC, "The U.S. Army Operating Concept," October 2014, p. 23.
[9] Abhijit Banerjee and Esther Duflo, *Poor Economics*, 2011.
[10] Evaluation Gap Working Group, "When Will We Ever Learn? Improving Lives Through Impact Evaluation" Center for Global Development, May 2006, p.1.
[11] Ibid, p. 3.
[12] Paul Gertler, Sebastian Martinez, Patrick Premand, Laura Rawlings, and Christel Vermeersch, "Impact Evaluation in Practice," The World Bank, 2011.
[13] Ibid.
[14] TRADOC, "The U.S. Army Operating Concept," October 2014.
[15] Department of Defense, "Quadrennial Defense Review 2014," March 2014, p. 19.

thesis by Iven Sugai.[16] In this paper, Sugai developed a framework through which Army units can contribute to economic development during stability operations, despite their lack of economics expertise. While neither a doctrinal nor a commonly used term, tactical economics encompasses many of the innovative programs the U.S. military developed during stabilization and reconstruction operations in Iraq and Afghanistan. Tactical economics naturally falls under the Army's Decisive Action (DA) core competency of wide area security, which seeks to protect populations and consolidate gains using stability mechanisms. Tactical economics can be viewed as a stability mechanism in that it aims to "affect civilians in order to attain conditions that support establishing a lasting, stable peace" primarily by means of supporting and influencing the local people.[17] In Iraq and Afghanistan, such efforts generally took the form of development projects focused on rebuilding infrastructure and restoring essential services.[18]

Tactical economics differs from economic reconstruction and development programs that have a long-term macroeconomic focus. Reconstruction and development programs aim to create favorable conditions within the macroeconomic policy realm (e.g. trade policy, monetary policy, government expenditures, banking regulations, etc.). By contrast, tactical economics includes programs designed to be used by tactical-level units (brigade and below, including Provincial Reconstruction Teams (PRTs)) to achieve tactical effects.[19] Organizations including the Department of State (DOS), the U.S. Agency for International Development (USAID), and DOD's Task Force for Business and Stability Operations (TFBSO), for example, are well-suited to promote such macroeconomic objectives such as GDP growth. In contrast, military units employing tactical economics harness microeconomic principles to influence the short-term behavior of individual businesses and households under conditions of scarcity, instability, and uncertainty. While not inconsistent with long-term economic development, tactical economics does not focus on development goals as an outcome due to deviating objectives, misaligned incentives, and mismatched timeframes.

To succeed, tactical economics must rely on evidence collected at the ground level. The "economic intelligence"—detailed information about local economies that tactical units collect and analyze—can help build an understanding of the local environment and inform which types of interventions are most appropriate in each specific context, rather than relying on previous assumptions or applying a "one-size-fits-all" solution.[20] This approach represents a shift in the way the Army has

[16] MAJ Ivan T. Sugai, "Tactical Economics: The U.S. Army's Tactical Contribution to Economic Development," U.S. Army Command and General Staff College, 2012.
[17] ADRP 3-0, p. 2-10.
[18] Gregory Johnson, Vijaya Ramachandran, and Julie Walz,"The Commander's Emergency Relief Program in Afghanistan: Refining U.S. Military Capabilities in Stability and In-Conflict Development Activities," Center for Global Development. September 2011, p. 6.
[19] Tactical-level operations are measured by their "contribution to achieving the end state conditions" determined at the operational level of war. Department of the Army, "Operations (FM 3-0)", February 2008, p. 6-4.
[20] LTC (Ret.) David A. Anderson and LTC Andrew Wallen, "Preparing for Economics in Stability Operations," *Military Review*, March-April 2008.

generally viewed and applied economic interventions in the recent past. To effectively use "money as a weapon system" (MAAWS), the Army needs better mechanisms with which to target, identify, and adjust the money's effects.[21] This requires an evidence-driven approach powered by empirical analysis.[22]

While the U.S. joint military doctrine clearly defines the U.S. Army's role in stability operations, its role in reconstruction operations has been the subject of much debate.[23] The most prominent position, proposed in a 2010 *Foreign Affairs* article by Ewing Marion Kauffman Foundation former President and CEO, Carl Schramm, is a framework of "expeditionary economics."[24] This three-phase model of invasion, stabilization, and economic reconstruction seeks to achieve social stability by spurring widespread economic development by means of free market entrepreneurialism. Schramm argues that the military must abandon the "central-planning mindset" that has prevailed in both the international development community and U.S. stability doctrine.[25] Instead, the military should work to lay the conditions for the "messy capitalism" which has historically fueled economic growth within the U.S.[26] He points out that the U.S. military is well-placed to promote economic growth and further notes that a doctrine for expeditionary economics must begin with "a clear notion of what works."[27]

While empirical research has linked economic well-being to drivers of conflict in certain contexts, to date there is no empirical evidence demonstrating that the military is able to contribute to economic growth in a measurable way.[28] The major challenge is that the outcome variable (economic growth) is largely beyond the grasp of what tactical level units can expect to accomplish during relatively short deployments. To date, no techniques have emerged that are capable of adequately evaluating tactical-level units on measures of effectiveness (MOE) for economic growth. Economic development is no doubt a worthy long-run pursuit, but cannot occur without stabilization. Tactical commanders possess limited amounts of financial resources and organizational energy, so they must prioritize the lines of effort that will result in the greatest payoff. Since there is evidence that tactical economics can improve stability in the short-term–if executed appropriately–then commanders should first devote their scarce resources to establishing security before pursuing reconstruction or economic development objectives.[29] Tactical economics therefore falls primarily

[21] Center for Army Lessons Learned," Commander's Guide to Money as a Weapons System," April 2009.
[22] Air Land Sea Application Center, "Multi-Service Tactics, Techniques, and Procedures for Integrated Monetary Shaping Operations (IMSO)," April 2013.
[23] Department of Defense, "Stability Operations (Joint Publication 3-07)," 29 September 2011; Carl Schramm, "Proceedings from the Summit on Entrepreneurship and Expeditionary Economics," Ewing Marion Kauffman Foundation May 2010, p. 6.
[24] Carl J. Schramm, "Expeditionary Economics: Spurring Growth After Conflicts and Disasters," *Foreign Affairs,* May/June 2010.
[25] Ibid.
[26] Ibid.
[27] Ibid.
[28] Oeindrila Dube and Juan Vargas, "Commodity Shocks and Civil Conflict: Evidence from Colombia," *Review of Economic Studies*, February 2013.
[29] Eli Berman, Joseph H. Felter, Jacob N. Shapiro, and Erin Troland. "Modest, Secure, and Informed: Successful Development in Conflict Zones," *American Economic Review*, 2013.

within the second phase of the expeditionary economics framework—stabilization, which can set the conditions for future economic growth.[30]

By focusing on tactical economics, this report defines a space within current stability doctrine in order to enable further research into economics as a tactical shaping operation. When viewed as such, tactical economics can provide an organic, nonlethal stability mechanism that ground force commanders can use to shape the security environment during future decisive action operations around the globe.[31] This report thus seeks to clarify what tactical economics is, what it can accomplish, and what the Army must change to employ it successfully.

Methodology

During stability and reconstruction operations, the U.S. military frequently operates in a space similar to that occupied by international development agencies.[32] While the Army should not attempt to become USAID or the World Bank (whose missions focus on long-term political and economic development rather than winning wars), it should leverage every tool at its disposal to quickly achieve the security and stability that can set the conditions for development. Since this task often involves use of economic interventions in developing regions, best practices from the international development community have applicability when considering improvements to the Army's stability capabilities. New analytical tools, such as impact evaluations and "natural" experiments, have emerged within empirical social science and need to be incorporated to measure progress.[33] To generate insights, this report looks to the explosion of empirical research that occurred due to the "credibility revolution" in empirical economics over the past decade.[34]

Using U.S. Army stability doctrine and theories of conflict as a starting point, this report analyzes the U.S. military's experiences with stability and reconstruction operations in Iraq and Afghanistan. By comparing desired results with actual outcomes, it then identifies gaps in implementation. The report evaluates whether these gaps are due to deficiencies in the Army's current capabilities (along the DOTMLPF framework).[35] Finally, using results from this analysis, the report then generates recommendations to improve the Army's capacity to employ tactical economics.

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[30] Schramm.
[31] A shaping operation is "an operation that establishes conditions for the decisive operation through effects on the enemy, other actors, and the terrain." Department of the Army, "ADRP 3-0," p. 1-12.
[32] Gregory Johnson, Vijaya Ramachandran, and Julie Walz, "The Commander's Emergency Relief Program in Afghanistan: Refining U.S. Military Capabilities in Stability and In-Conflict Development Activities, Center for Global Development," September 2011.
[33] A natural experiment is an empirical study that uses forces outside the control of researchers (such as weather) to simulate random assignment of treatment and control groups. It therefore provides grounds for claims of causality regarding the treatment effect under consideration; Howard White, Shampa Sinha, and Ann Flanagan, "A Review of the State of Impact Evaluation," Independent Evaluation Group, World Bank, 2006, p. 8.
[34] Joshua Angrist and Jörn-Steffen Pischke, "The Credibility Revolution in Empirical Economics: How Better Research Design is Taking the Con Out of Econometrics," NBER, March 2010.
[35] Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel, and Facilities

Questions

What are the key lessons from the U.S. military's use of economic interventions during stability and reconstruction operations in Iraq and Afghanistan?

Are the U.S. Army's current tactical economic capabilities adequate to address gaps identified during recent stability operations?

What institutional changes are required for the U.S. Army to more effectively employ tactical economics during future stability operations?

2. Economic Lessons from Iraq and Afghanistan

The U.S. military has a long history of engaging in post-conflict stabilization and reconstruction operations.[36] Since the end of World War II, the U.S. military has often found itself operating as a *de facto* economic development agency composed of "reluctant economists."[37] In many cases, U.S. ground forces are the only effective government presence within a combat zone, which usually brings responsibility for initial efforts to rebuild infrastructure and restore a functioning economy.[38] The most prominent successful example was the U.S.-led reconstruction of West Germany and Japan in the aftermath of World War II. From 1946-1952, the United States spent $29.6 billion and $15.2 billion on reconstruction efforts in West Germany and Japan, respectively.[39] Indeed, the rapid pace of post-conflict stabilization and reconstruction of the two former Axis powers set a standard for "post-conflict transformation" which has yet to be surpassed.[40] The U.S. military subsequently played varying roles during interventions in South Korea, Vietnam, Somalia, Haiti, Bosnia-Herzegovina, and Kosovo, but largely focused on combating enemy forces and providing security.[41]

The U.S.-led invasions of Iraq and Afghanistan once again brought the military's role in post-major conflict operations to the forefront. The top-down

[36] Stability operations include establishing security, restoring essential services, and supporting economics and infrastructure development. Department of the Army, "Stability Operations." (ADRP 3-07), August 2012.
[37] COL(Ret.) Jeffrey Peterson, "Towards a Post-Conflict Economic Development Doctrine," in Summit on Entrepreneurship and Expeditionary Economics, Kauffman Foundation, 2010.
[38] Carl Schramm, "Proceedings from the Summit on Entrepreneurship and Expeditionary Economics," Ewing Marion Kauffman Foundation May 2010, p. 7.
[39] 2005 Dollars; Nina Serafino, Curt Tarnoff, and Dick K. Nanto, U.S. Occupation Assistance: Iraq, Germany and Japan Compared," Congressional Research Service, March 23, 2006; SIGIR, "Learning From Iraq: A Final Report," March 2013; SIGAR, "Quarterly Report to the United States Congress," July 2015.
[40] Dobbins, et al., *America's Role in Nationbuilding: From Germany to Iraq,* 2003, Rand Corporation, p. xix.
[41] Ibid.

"whole-of-government" approach to reconstruction quickly backfired. Despite the infusion of reconstruction funds exceeding $60 billion in Iraq and $113 billion in Afghanistan, both states remain fragile and suffer from major security vacuums.[42] In contrast to the detailed planning that preceded the Marshall Plan in postwar Europe and the occupation of Japan, the U.S. expected to "liberate and leave" Iraq, rather than conduct what became a nine-year occupation.[43] The situation was similar in Afghanistan, prompting the Special Investigator General for Afghanistan Reconstruction (SIGAR) to deem over a decade's worth of reconstruction efforts to have been "an abysmal failure."[44] In contrast to the loan-based reconstruction of West Germany and Japan, who both ultimately repaid U.S. reconstruction funds, economic aid was often a destabilizing influence in Iraq and Afghanistan due to pre-existing problems such as corruption and tribal conflict.[45] The two countries simply did not have the institutional capacity to absorb the magnitude of funds that flowed from the U.S, a problem similar to that faced in Bosnia and Kosovo during the late 1990s and early 2000s.[46]

Why did the Marshall Plan reconstruction work so well after World War II? Pre-war Western Europe possessed three common attributes: extensive experience with democracy, previously high levels of economic development, and within-country homogeneity.[47] The situation in Japan was similar, though strong political and economic institutions compensated for a lack of democratic experience.[48] Thus, applying massive funding allowed Germany and Japan to return to conditions resembling previous economic conditions – the solution addressed the problem.

However, in the current security environment, the U.S. military usually operates in fragile or failed states, rather than defeated industrialized nations. A top-down Marshall Plan-style approach is no longer suitable when the underlying problems include ethnic conflict, widespread poverty, and lack of education, rather than the destruction of a sophisticated pre-war society. Isomorphic mimicry is a particular danger within developing regions, as importing sophisticated, westernized institutions often fails to effectively address core local issues.[49]

Despite lackluster economic results, the wars in Iraq and Afghanistan spurred major innovations in the way that the military uses money during stability operations. Unprecedented decentrali-

[42] SIGIR, "Learning From Iraq: A Final Report," March 2013; SIGAR, "Quarterly Report to the United States Congress," April 30, 2016.
[43] SIGIR, p. 72.
[44] Joe Gould, "SIGAR: Pentagon's Economic Development in Afghanistan 'Accomplished Nothing,'" *Military Times,* 2014.
[45] Paul Fishtein and Andrew Wilder, "Winning Hearts and Minds? Examining the Security Between Aid and Security in Afghanistan," Feinstein International Center, January 2012.
[46] Patrice McMahon and Jon Wester, "Out of Sight, Out of Mind: Post-Economic Planning in the Balkans," in "Proceedings from the Summit on Entrepreneurship and Expeditionary Economics," Ewing Marion Kauffman Foundation May 2010, p. 90-91.
[47] Dobbins, p. xxv.
[48] Louis DiMarco, "The Occupation and Economic Policy in Japan 1945-52," in "Proceedings from the Summit on Entrepreneurship and Expeditionary Economics," Ewing Marion Kauffman Foundation May 2010, p. 27.
[49] Lant Pritchett, Michael Woolcock, and Matt Andrews, "Capability Traps? The Mechanisms of Persistent Implementation Failure," Center for Global Development, December 2010.

zation pushed decisions and funds down to the lowest levels, allowing tactical commanders to view money as a "weapon system" and "ammunition" in tactical efforts to stabilize individual communities.[50] U.S. forces developed numerous programs within an interagency context to address a broad set of issues including humanitarian assistance, security, government services, infrastructure, and economic development. Since programs both differed and overlapped in many respects, including mission intent, scope, and magnitude, it is difficult to clearly delineate the particulars of each program in execution at the tactical level. For example, U.S. forces used CERP funds to build road networks and develop security forces, either of which could arguably have operational or strategic-level impacts.[51] Thus, it is helpful to view tactical economics along a continuum bounded by stability and development, as Appendix A (The Spectrum of Tactical Economic Interventions) discusses.[52]

Gaps Between Desired and Actual Results

After reviewing U.S. experiences in Iraq and Afghanistan, it is possible to group major issues into several broad categories. These problematic areas were by no means limited to military stabilization efforts, but can be applied to improve the military's tactical economic capabilities. When comparing actual results to the desired outcome, implementation gaps emerge in the areas of application, accountability, and evaluation.

Three Core "Gaps" in Implementing Tactical Economics

1. Application Gap
Fundamental mismatch between problems and solutions
Failure to address local needs
Failure to "step back" to build local capacity

2. Accountability Gap
Lack of oversight in a complex, interagency environment
Lack of proficiency in project and money management

3. Evaluation Gap
Failure to record expenditure data]
Emphasis on inputs versus outcomes
Lack of an outcome metric

[50] Center for Army Lessons Learned, "Commander's Guide to Money as a Weapons System," U.S. Army Combined Arms Center, April 2009, p. 1.
[51] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, p. 55.
[52] MAJ Thomas J. Archer-Burton in "Entrepreneurial Expeditionary Economics and the U.S. Military, Right Task, Wrong Tool," in "Stability Economics," School of Advanced Military Studies, 2012, p. 7.

The "Application Gap"

To be effective, military units must apply tactical economic programs to the right problems, just as a physician must prescribe the correct treatment to cure an illness. "First, do no harm" is a vital mantra in development, as in medicine, since administering the incorrect treatment can make conditions worse.[53] When misapplied, economic interventions can create more problems than they solve.[54] This fact is particularly concerning given the small size of current empirical research documenting the effects of aid on conflict, while the evidence that does exist indicates that the effects of aid are mixed.[55]

Fundamental mismatch between problems and solutions

Not every conflict is economic in nature, although poverty and negative income shocks increase the statistical likelihood of civil conflict within a country.[56] In attempting to address non-economic problems with economic solutions, stabilization programs not only waste scarce resources, but may even exacerbate a conflict, as has been documented with community-driven development (CDD) infrastructure projects in the Philippines.[57] Whereas providing food and shelter can help mitigate a humanitarian crisis in the short term, deep-seated issues such as tribal or ethnic conflict resulting from lack of an adequate political settlement often persist.[58] Introducing development projects and contracting funds to such conditions can fuel conflict by altering the power dynamics among preexisting actors.[59]

To justify the application of scarce resources in a combat zone, military units must design economic interventions to address the true sources of conflict within an area.[60] Units must also be mindful of the need to balance the competing interests among elites that underlie a political settlement.[61] The Sons of Iraq (SOI) program is an example of a success story along these lines. SOI used CERP funds to address the pressing need for employment within Sunni communities, while creating an institution that aligned incentives and interests of Sunni leaders with those of

[53] Rebecca Patterson and Dane Stangler, "Building Expeditionary Economics: Understanding the Field and Setting Forth a Research Agenda," Kauffman Foundation, February 2011, p. 12.
[54] Gregory Johnson, Vijaya Ramachandran, and Julie Walz, "The Commander's Emergency Relief Program in Afghanistan: Refining U.S. Military Capabilities in Stability and In-Conflict Development Activities, Center for Global Development," September 2011, p. 28.
[55] Benjamin Crost, Joseph Felter, and Patrick Johnston, "Aid under Fire: Development Projects and Civil Conflict," *American Economic Review*, 104(6), 2014, p. 1834.
[56] Christopher Blattman and Edward Miguel, "Civil War," National Bureau of Economic Research, March 2009, p. 31.
[57] Benjamin Crost, Joseph Felter, and Patrick Johnston, "Aid under Fire: Development Projects and Civil Conflict," *American Economic Review*, 104(6): 1833-56. 2014.
[58] A "political settlement" refers to the "social order" that results from informal power arrangements, consisting of actors, interests, and institutions. Thomas Parks and William Cole, "Political Settlements: Implications for International Development Policy and Practice," The Asia Foundation, July 2010.
[59] Paul Fishtein and Andrew Wilder, "Winning Hearts and Minds? Examining the Security Between Aid and Security in Afghanistan," Feinstein International Center, January 2012.
[60] Ibid.
[61] DOD, "Stability Operations (Joint Publication 3-07), 29 September 2011, p. I-12.

Coalition forces and the government of Iraq.[62] It is therefore vital to recognize opportunities in which specific tactical economic programs can achieve a local political settlement, as well as situations in which interventions may not only prove ineffective, but potentially counter-productive.

A growing body of empirical literature has begun to document the critical role of economics in driving conflict. As noted by Christopher Blattman and Edward Miguel, economic factors such as low income levels and slow growth rates can contribute to the onset of civil wars.[63] A research team from UC Berkeley and New York University found that, within a panel of 41 African countries, a 5 percent drop in economic growth increased the likelihood of a civil conflict the following year by nearly 50 percent.[64] Similarly, economists Oeindrila Dube and Juan Vargas examined the effects of exogenous commodity price shocks (to coffee and oil) on micro-level civil violence in Colombia, and found that higher household incomes reduced the likelihood of participating in armed conflict by increasing the opportunity cost of fighting.[65] While research into methods of employing economic interventions to reduce conflict is nascent (largely due to lack of reliable data), understanding economic issues as a driver of conflict is the first step toward more accurately targeting tactical economic interventions.

Failure to address local needs

"Stability is in the eyes of the local."[66] To improve local stability, economic programs must improve the social welfare of the communities they affect, which is accomplished by meeting the specific needs of individuals. While perfect knowledge of individualized local needs is impossible, a basic understanding is necessary. Thus, it is disturbing that a common complaint echoed by numerous U.S. and Iraqi officials in SIGIR's final report was the lack of consultation with Iraqis at all levels regarding reconstruction projects.[67] According to James Jeffrey, U.S. Ambassador to Iraq in 2004, "There was

A soldier faces severe disciplinary consequences for losing accountability of a piece of "sensitive" equipment, but virtually no cases have been documented where an individual has faced similar consequences for losing accountability of funds.

[62] Mark Wilbanks and Efraim Karsh, "How the 'Sons of Iraq' Stabilized Iraq, *Middle East Quarterly*, Fall 2010, p. 62.
[63] Christopher Blattman and Edward Miguel, "Civil War," National Bureau of Economic Research, March 2009, p. 69.
[64] Edward Miguel, Satyanath Shanker, and Sergenti Ernest, "Economic Shocks and Civil Conflict: An Instrumental Variables Approach," *Journal of Political Economy* 112.4 (2004): 725-53.
[65] Oeindrila Dube and Juan Vargas, "Commodity Shocks and Civil Conflict: Evidence from Colombia," *Review of Economic Studies*, February 2013.
[66] Howard Clark, "The Future of Stability Operations: Lessons From Afghanistan," American Security Project, June 17, 2013; Clark is a senior intelligence officer at the Department of Homeland security and a former Marine officer with multiple deployments to Iraq, Afghanistan, and the Philippines.
[67] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013.

never an impression that the Iraqis were included in any decision process."[68]

Much of this problem was due to a faulty core assumption–likely rooted in the resounding success of the Marshall Plan–that if U.S. forces simply rebuilt the local infrastructure, then stability would inevitably result. U.S. agencies quickly discovered this top-down process did not work as planned, as insurgencies continued to rage in both Iraq and Afghanistan, while hundreds of schools and many of miles of roads went unused or were destroyed sooner after being built. In fact, economists have shown that building physical infrastructure generally does very little to promote economic development or improve local livelihoods.[69] Had U.S. forces better consulted with local communities, reconstruction spending priorities might have more closely approximated local needs. From 2003-2010, U.S. agencies in Iraq spent almost one-third of reconstruction funds on infrastructure projects. [70] Ideally, this allocation of funds should roughly approximate the economic needs of Iraqis. If Iraqi communities valued the use of such projects at least as highly as alternative uses of their limited resources, they likely would have chosen to use and maintain the projects, or at least petitioned for funds to do so. Without including the local population in the economic decision-making process, it is nearly impossible to understand its actual needs or to foster an adequate sense of ownership for local projects.[71] Further research is necessary to determine whether cases of neglected infrastructure are examples of the "revealed preferences" of communities, in which consumer choices demonstrate the use of resources that maximizes utility, or are instead part of a more complex interaction within an insurgency. [72]

David Kilcullen's theory of "opposed development" adds another layer of complexity by highlighting how meeting local needs can actually become a competitive process in the presence of an insurgency.[73] Competing aid programs administered by enemy organizations can lead to additional violence, as opponents attempt to discredit government efforts to provide services. Thus, traditional development approaches, such as infrastructure projects and providing essential services, may have fueled a destabilizing cycle of violence, as has been observed in both Iraq and the Philippines.[74]

As Andrew Natsios, former administrator of USAID pointed out, the U.S. Army is dominated by an engineering mindset, which has created a bias toward physical reconstruction.[75] USAID has found programs such as vouchers or seed

[68] Ibid, p. 29.
[69] Nicholas Riegg, PhD, "Implementing Expeditionary and Entrepreneurial Economics: Iraq and Afghanistan," in in "Proceedings from the Summit on Entrepreneurship and Expeditionary Economics," Ewing Marion Kauffman Foundation May 2010, p. 165.
[70] Patterson and Stangler, "Building Expeditionary Economics: Understanding the Field and Setting Forth a Research Agenda," Ewing Marion Kauffman Foundation, November 2010, p. 9.
[71] Riegg, p. 169.
[72] D. Wade Hands, "Paul Samuelson and Revealed Preference Theory," SSRN Electronic Journal, September 2011.
[73] David Kilcullen, "Opposed Development: Concept and Implications," Remarks at the United States Institute of Peace, September 5, 2014.
[74] Benjamin Crost, Joseph Felter, and Patrick Johnston, "Aid under Fire: Development Projects and Civil Conflict," *American Economic Review*, 104(6): 1833-56. 2014.
[75] Andrew Natsios, "Opposed Development: Concept and Implications," United States Institute of Peace, September 5, 2014.

distribution projects to be successful in developing countries, but the physical effects of these programs quickly become invisible.[76] While a lack of visibility can be an advantage in an opposed development context, this bias helps explain why CERP veered away from small projects, in favor of large projects. Infrastructure projects are highly visible and can provide an illusion of progress, while too often failing to address underlying conditions, as well as enabling corruption and waste, as the next "gap" discusses.

Failure to "step back" to build local capacity

According to the former USAID Mission Director in Iraq, Thomas Staal, the initial U.S. mentality was to "just get everything fixed" rather than develop sustainable local capacity in consultation with Iraqis.[77] Often it is better for the military to step back and allow development to occur through local mechanisms, albeit at a slower pace than desired. This approach aligns with famous advice from T.E. Lawrence: "Do not try to do too much with your own hands. Better the Arabs do it tolerably than that you do it perfectly."[78]

The National Solidarity Program (NSP) in Afghanistan is an excellent example of success in this manner. Funded by international donors and administered by the Ministry of Rural Rehabilitation and Development (MRRD), the NSP pursued rural development programs while seeking to connect citizens to local government. Projects fell within the categories of transportation, water and sanitation, irrigation, power, literacy, and vocational training.[79] The program is widely viewed as one of the most successful development programs in Afghanistan, with an estimated economic rate of return of 20 percent, according to the World Bank.[80] In 2012, researchers from MIT conducted an independent randomized controlled trial (RCT) of the NSP. Their study showed that when controlling for other factors, in areas secured by Coalition forces, the NSP succeeded in improving not only security, but also villager perceptions of well-being and attitudes toward the government.[81] The Afghan government achieved these effects with minimal direct U.S. military involvement.

The "Accountability Gap"

As the special investigators for both Iraq and Afghanistan (SIGIR and SIGAR) have highlighted, DOD has struggled to account for billions of dollars it spent on reconstruction projects. This was due largely to a lack of sufficient oversight and the military's lack of proficiency in managing money.

[76] Ibid.
[77] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, p. 30.
[78] T.E. Lawrence, "The 27 Article of T.E. Lawrence," *The Arab Bulletin*, August 20, 1917.
[79] Andrew Beath, Fotini Christia and Ruben Enikolopov, "The National Solidarity Programme: Assessing the Effects of Community-Driven Development in Afghanistan," *International Peacekeeping*, 22:4, 302-320, 2015.
[80] John Nagl, Andrew Exum, and Ahmed Humayun, "A Pathway to Success in Afghanistan: The National Solidarity Program," Center for a New American Security, March 2009.
[81] Andrew Beath, Fotini Christia, and Ruben Enikolopov, "Winning Hearts and Minds? Evidence from a Field Experiment in Afghanistan," MIT Political Science Department, April 13, 2012.

Lack of central oversight in a complex, interagency environment

The absence of a central oversight authority at the beginning of Iraq's reconstruction set conditions for an "appalling" amount of fraud, waste, and abuse to occur.[82] The whole of government approach collapsed due to "utter, abject failure" of the interagency process, the bureaucracy of which created a "circular firing squad."[83] Since its inception as the CPA inspector general in 2004, SIGIR was the only U.S. government agency with oversight responsibilities spanning multiple federal agencies.[84] Upon investigating the use of Iraq reconstruction funds, the CPA inspector general quickly discovered widespread evidence of fraud, though by far the largest problem was $8 billion in wasted funds.[85] Much of this money simply "went out the door" before SIGIR began providing internal controls.[86]

During its five-year tenure, SIGIR completed a total of 220 audits and 170 inspections, which resulted in 82 convictions and $191 million in recovered funds.[87] Similarly, Congress established SIGAR in 2008 to investigate Afghanistan reconstruction funds. Since then, SIGAR has examined 45 major DOD reconstruction projects in 15 of 34 provinces with a total value of $1.1 billion.[88] To date, its investigations have resulted in the recovery of $946 million and suspension or debarment of 697 companies and individuals for misconduct.[89]

Lack of proficiency in project and money management

A 2015 SIGAR audit found that DOD could not account for $1.3 billion in CERP funds in Afghanistan.[90] In contrast to an accountability failure of such magnitude, it is helpful to consider the military's exceptional level of accountability when it comes to weapons and other "sensitive" pieces of equipment. Military units firmly institutionalize and constantly reinforce equipment accountability systems—for example, commanders will often "lock down" a military base when an individual weapon goes missing. Arguably, losing a rifle has much less of an impact on a military campaign than the loss of millions of dollars in CERP funds, yet the individual repercussions are quite reversed. A soldier faces severe disciplinary consequences for losing accountability of a piece of "sensitive" equipment, but virtually no cases have been documented where an individual has faced similar consequences for losing accountability of funds (in the absence of misconduct).

[82] Senator Susan Collins, in "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, SIGIR, p. 31.
[83] Senator Claire McCaskill, in in "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, SIGIR, p. 32.
[84] Ibid, p. 1.
[85] Ibid, p. xii.
[86] Representative Stephen Lynch, in "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, SIGIR, p. 33.
[87] Ibid, p. xi-x.
[88] John Sopko, "Statement Before the Committee on Oversight and Government Reform U.S. House of Representatives," March 16, 2016.
[89] SIGAR, "Quarterly Report to Congress," April 30, 2016, p. 36
[90] Steve Straehley, "What Happened to $1.3 Billion of Taxpayer Money Sent Directly to U.S. Military Officers in Afghanistan? Pentagon Won't Say," AllGov, April 27, 2015.

The vast majority of the military does not routinely train in the principles of managing money or administering contracts. Additionally, the reconstruction environments in Iraq and Afghanistan were extremely complex, involving many agencies often with overlapping responsibilities. The large numbers of subcontractors that DOD elements hired to work on projects, using few controls or oversight, made financial accountable difficult and contributed to large amounts of waste.[91] To help address the military's lack in capability, in 2007 Congress mandated additional contracting training for personnel not in the acquisitions field, yet this policy affected a relatively small sector within the non-operational military.[92]

When CERP morphed from its intended role as a commander's tool to enable quick-impact projects to funding large infrastructure projects in Iraq, military units in many cases transformed into "USAID in uniform," which led to waste and poor project outcomes.[93] Experiences in Iraq indicate that the U.S. military should be a "limited reconstruction partner," focused on short-term, high-impact projects rather than reconstruction.[94] Although a short-term approach to spending money could increase the "audit risk," caused by errors in accounting for funds during the time constraints of combat operations, such risk could be justified when CERP funds accomplish tactical gains or reduce casualties.[95] Financial oversight responsibility in this case is part of the general supervisory responsibility of tactical commanders, who similarly approve "tactical risk" on a routine basis.[96] Just as every artillery round does not hit its intended target, not every CERP dollar will achieve its desired effects. However, even lack of visible results can provide valuable insights if units record and analyze data, as the following section discusses.

The "Evaluation Gap"

Despite vast sums of money spent on economic interventions during stability operations, the U.S. military has gained very little insight into the effectiveness of those funds. Tragically, despite multibillion-dollar price tags for programs such as CERP, due to insufficient monitoring and evaluation, scarce qualitative and even less quantitative data exists regarding what types of economic interventions worked and why. The largely anecdotal evidence we do possess has low levels of credibility, since it falls near the bottom of the "hierarchy of evidence" (see Appendix C).[97] This mirrors a similar problem in the domestic U.S. government, as less than one

[91] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, p. 23.
[92] Ibid, p. 7.
[93] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, p. 23.
[94] Ibid.
[95] U.S. Representative Jim Marshall in "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," SIGIR, March 2013, p. 36.
[96] Units face tactical risk due to hazards resulting from the presence of an enemy. Commanders weigh the benefits of unit missions against risks posed by these hazards to lives and equipment. Department of the Army, "The Infantry Battalion (FM 3-21.20)," December 2006, Appendix A.
[97] Todd Harrison and John Speed Meyers, "Contracting Under Fire," Center for Strategic and Budgetary Assessments, 2012.

percent of federal spending is supported by even basic levels of evidence.[98]

If money is a "weapon system," then the effects of this weapon system and the proper tactics, techniques, and procedures for its employment are not adequately understood. Every weapon system in the U.S. military arsenal has a technical manual that explains how to adjust fire and achieve desired effects on a given target. Yet the complexity of economic interventions makes this a particularly difficult measurement problem.

Failure to record expenditure data

The first step in evaluating a weapon is capturing data regarding the targets that the weapon system engaged. Despite detailed reporting requirements (see Appendix D), Army units did not consistently update CERP databases and the Army Budget Office tracked CERP projects in aggregate, not on an individual basis. As a result, DOD lacks a "comprehensive picture" of what the program actually accomplished in Iraq.[99] The fact that CERP data is, at best, a "rough approximation" of input, casts doubt on conclusions drawn from that data.[100] A 2011 U.S. Inspector General report similarly found inadequate reporting of CERP payments, as between 2008 and 2010, CENTCOM and U.S. Forces Afghanistan (USFOR-A) failed to record data on 6,157 of 8,509 CERP payments totaling in excess of $1 billion.[101] As Empirical Studies of Conflict (ESOC) directors, Eli Berman, Joseph Felter, and Ethan Kapstein, have highlighted, a major challenge in applying an evidence-based approach is the difficulty of obtaining data, an effort which requires conscious effort and resourcing by management.[102] Blattman and Miguel echo the fact that data collection in conflict zones is "inherently difficult," but necessary to make progress in understanding conflict.[103]

Emphasis on inputs over outcomes

When employing money as a weapon system, the military has largely focused on number of "rounds" fired versus their effects on a given target. USAID and DOS continue to experience a similar problem of measuring the number of schools constructed or miles of road built rather than the impact of such projects on the population. "Performance does not matter in many of the situations," John Sopko, SIGAR chief, said, summing up an incentive problem related to outcomes. "I've had a number of contracting officers in all of the agencies … say, 'I get my promotion on how much money I put on contract, period.'"[104]

In discussing his PRT experience in Paktia Province, Afghanistan, the diplomat Kael Weston noted that "There was pressure early on to do a lot of building of

[98] Jim Nussle and Peter Orszag (eds.), *Moneyball for Government*, 2014, p. 3.
[99] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, p. 66.
[100] Ibid.
[101] U.S. Inspector General, "Management Improvements Needed in Commander's Emergency Response Program in Afghanistan," November 21, 2011, p. i.
[102] Eli Berman, Joseph Felter, Ethan B. Kapstein, and Jake Shapiro, "How Empirical Studies of Violence (Can) Help Policymakers," *The Washington Post*, March 16, 2015.
[103] Christopher Blattman and Edward Miguel, "Civil War," National Bureau of Economic Research, March 2009, p. 71.
[104] Sheila MacVicar, "SIGAR: We Built an Afghanistan they Can't Afford," Aljazeera America, June 17, 2015.

things: to build roads and projects and to spend money." His PRT spent $53 million during 2007 to build 50 to 60 schools, less than half of which remained functional several years later.[105] Similarly, numerous reports have documented little effort within the U.S. military to assess measures of effectiveness.[106] A 2008 Princeton study found that there has been no large-scale evaluation of PRT outcomes in Iraq or Afghanistan.[107]

A decade ago, the international development community faced a similar "evaluation gap," meaning that it lacked significant evidence regarding program effectiveness. A 2006 report by the Center for Global Development's Evaluation Gap Working Group highlighted this problem, stating that the community was "bemoaning the lack of knowledge about what really works."[108] During the past ten years, international development organizations have addressed the evaluation gap through an explosion in the number and quality of impact evaluations. As a result, empirical economics enjoyed a "credibility revolution" in the development field, achieved through an evidence-based approach, which incorporated hypothesis-based interventions which were subsequently statistically evaluated using statistical methods.[109] As MIT political scientist, Fotini Christia, recently pointed out, there has been a surge in social science research focused understanding the causal factors driving the dynamics of intrastate conflict.[110]

Despite the increase in evaluations, many challenges remain in understanding causality in economic development due to the inherent difficulty of conducting impact evaluations and applying lessons learned to economic interventions. The number of impact evaluations is still small compared to the number of open research questions.[111] The evaluation gap is even more severe for development during conflict. According to an 2012 Organization for Economic Cooperation and Development (OECD) report, there has been "little to no evaluation activity in settings of violent conflict," which makes it very difficult to understand the impact of interventions.[112] While some of this data can be collected remotely (through satellite imagery of city lights at night, for example), it is difficult to accurately interpret data without the human element, which creates a need for combining "technology with shoe-leather."[113] The U.S. Army has a comparative advantage in the latter, as security capabilities provide access to violent areas.

[105] Rachel Martin, "Revisiting Afghanistan's Reconstruction Teams," National Public Radio, April 17, 2013.
[106] Save the Children, "Provincial Reconstruction Teams and Humanitarian - Military Relations in Afghanistan," 2004, p. 44.
[107] Abbaszadeh, et. al, "Provincial Reconstruction Teams: Lessons and Recommendations," Woodrow Wilson School of Public and International Affairs, January 2008, p. 14.
[108] Evaluation Gap Working Group. "When Will We Ever Learn? Improving Lives Through Impact Evaluation," Center for Global Development, May 2006, p. 8.
[109] Joshua Angrist and Jörn-Steffen Pischke, "The Credibility Revolution in Empirical Economics: How Better Research Design is Taking the Con Out of Econometrics," NBER, March 2010.
[110] Fotini Christia, remarks at the Future of War Conference, Washington DC, March 10, 2016.
[111] William D. Savedoff, "The Evaluation Gap is Closing, But Not Closed," Center for Global Development, March 24, 2015.
[112] OECD, "Evaluating Peacebuilding Activities in Settings of Conflict and Fragility," 2012, p. 7.
[113] Christia.

Lack of an outcome metric

Measuring nation-building efforts is notoriously difficult, and no consensus currently exists on a system of unifying metrics.[114] Although military doctrine explicitly mandates the use of performance indicators, such as measures of effectiveness (MOE), the Army lacks proficiency in managing and analyzing economic data on a large scale. This often resembles the clichéd U.S. government tendency to confuse the importance of a program with dollar value spent, which creates an incentive problem.[115] The political need to demonstrate "quick impact" and pressure to spend money quickly have continually undercut initiatives to improve monitoring and evaluation.[116] The misalignment in timeframes between relatively short deployments and long-term development objectives exacerbates the problem, which is similar to problems faced in the international development community.[117] It is not realistic to expect sustainable economic transformation within six to twelve months, which is the typical time constraint faced by tactical units.[118]

The effect of the lack of a system of metrics has manifested in high profile examples of lost political support for reconstruction funding. Regarding CERP expenditures, U.S. Senator Claire McCaskill stated in 2011 that "[t]here is a disconnect between what the commanders in the field want to have happen and what actually happens."[119] As mentioned above, CERP spending can have positive tactical effects, but the U.S. military was unable to measure or clearly communicate these effects, a major reason in Congress's decision to end CERP funding for Iraq. The solution, as ARCIC director, Lieutenant General H.R. McMaster, has highlighted, is to better analyze the effects of military operations—often in partnership with social scientists—so that we do not "confuse activity for progress toward objectives."[120]

3. Analyzing Gaps in Tactical Economic Capabilities

As noted in the previous section, three implementation gaps emerged in the U.S. military's employment of tactical economics over the past fifteen years: the application gap, the accountability gap, and the evaluation gap. The next step is to use an informal capability needs analysis (CNA) to analyze whether any of these gaps are due to deficiencies within the Army's DOTMLPF capabilities.[121] Although this report considers capabilities from the standpoint of the U.S. Army, long-term solutions will fall within the larger DOD

[114] Christiaan Davids, Sebastiaan Ritjens, and Joseph Soeters, "Measuring Progress in Reconstructing Afghanistan," *Baltic Security and Defence Review,* Vol. 12, Issue 1. 2010.
[115] Andrew Natsios, "Opposed Development: Concept and Implications," United States Institute of Peace, September 5, 2014.
[116] Fishtein and Wilder, p. 6.
[117] Evaluation Gap Working Group, "When Will We Ever Learn? Improving Lives Through Impact Evaluation," Center for Global Development, May 2006.
[118] Natsios.
[119] Michelle M. Stein, "Lawmakers question CERP funds in Afghanistan," Medill DC, August 8, 2011.
[120] LTG H.R. McMaster, panel remarks, "The Ivory Tower goes to War: What Lessons Does Social Science Hold for the Future of War?" Future of War Conference, Washington, DC, March 10, 2016.
[121] Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities

context and apply to ground forces of other branches of service involved in land operations (most notably the Marine Corps).

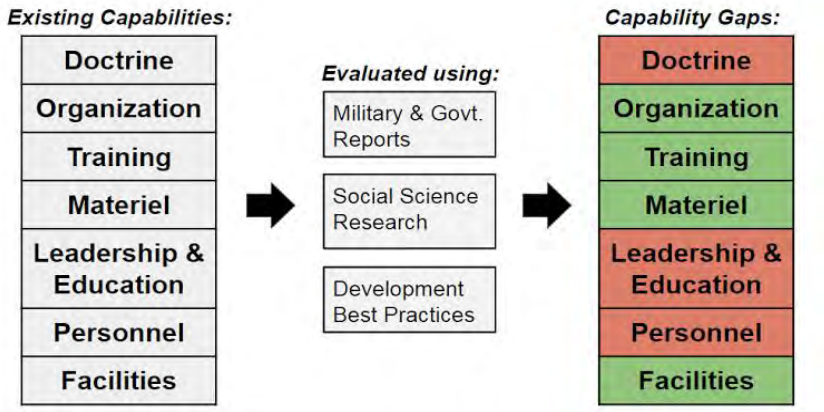
When conducting a CNA, it is necessary to ask four questions:

> What must the Army be able to do?
> What are current Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities, and Policy (DOTMLPF) capability solutions to meet those requirements?
> What are the capability gaps?
> What are potential ways to close the gaps?[122]

Capability Needs Analysis

Assessing the Army's economic stabilization capabilities using a DOTMLPF framework (Doctrine, Organizations, Training, Materiel, Leadership & Education, Personnel, and Facilities) enables a more detailed understanding of areas in which the Army's capabilities are lacking. Appendix B discusses the Army's required tactical economic capabilities. In comparing required to current capabilities, gaps emerge in three primary categories: doctrine, education, and personnel. Figure 2 summarizes this finding:

Figure 2: Research Design/Capability Gaps



Doctrine

In order to evaluate current doctrine, this report examines the primary manuals governing military economic interventions: the Army's counterinsurgency field manual (FM 3-24) and the publication for stability operations (ADRP 3-07). This report includes

[122] Matthew DiGiosaffatte, "Capability Needs Analysis," ARCIC, September 27, 2013.

in the analysis the "Commander's Guide to Money as a Weapons System" published by the Center for Army Lessons Learned (CALL), which provides an important resource describing current tactics, techniques, and procedures (TTPs) for commanders and staff. A review of the preceding publications shows that Army doctrine recognizes the importance of economics in population-centric warfare and provides a valuable interagency framework for stability operations, but has two major deficiencies: lack of specificity and contradictions with empirical data.

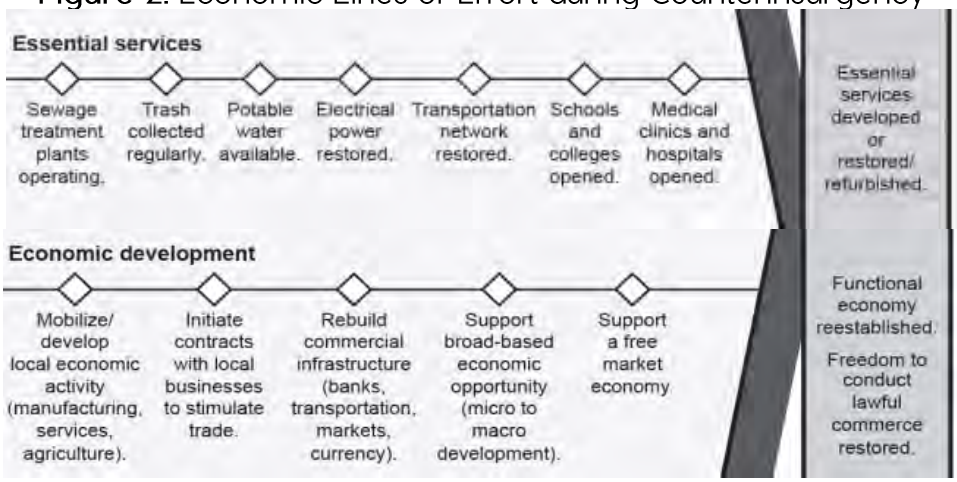
Lack of specificity within doctrine limits effective implementation.

Current doctrine instructs commanders to use economic tools, such as employment programs and infrastructure projects, but does not provide sufficient information regarding how to use them. The amount of assumed economic knowledge is vast—almost to the point where doctrinal guidance is impossible to execute given current levels of training. The lack of detail creates a danger that commanders will default to more familiar—and much better trained—combined arms tactics at the expense of effectively targeted economic interventions. For example, FM 3-24 discusses the use of integrated monetary shaping operations (IMSO) and provides a list of broad potential uses ranging from battle damage repair, agricultural projects, to education initiatives.

The manual provides a list of seven principles for using money effectively during COIN: host-nation ownership, capacity building, sustainability, selectivity, partnership, flexibility, and accountability.[123] In discussing each, the manual references best practices of the development community and recommends a close working relationship with civilian agencies. The problem is that the extremely wide swathe of development initiatives included in infrastructure, education, and agriculture have vexed the international development community for decades, particularly when conducted under conditions of conflict. In discussing "lines of effort" into which commanders can organize resources, the two lines below illustrate the generalized guidance issued to the tactical leaders:

[123] Department of the Army, "Insurgencies and Countering Insurgencies," (FM 3-24), May 2014, p. 10-12.

Figure 2: Economic Lines of Effort during Counterinsurgency



Source: Department of the Army. "Insurgencies and Countering Insurgencies." (FM 3-24, MCWP 3-33.5) May 2014, p. 7-9.

Arguably, these are extremely difficult tasks, even in the absence of conflict. As with monetary operations, restoring essential services is highly complex, whereas the economic development line of effort is almost impossible even to highly trained experts. Thus, it is questionable whether there is any value in telling an infantry captain with no formal economic training other than possibly an undergraduate economics course to "support broad-based economic opportunity." Not only is this objective infeasible for someone leading troops under combat conditions, but it is highly challenging for a development economist. Incorrectly conducted economic development efforts could not only divert scarce resources from more impactful efforts but even increase instability and diminish trust with local communities.

Economic stabilization tools are not limited to counterinsurgencies. ADRP 3-07 lays out the Army's five primary stability tasks: (1) establish civil security, (2) establish civil control, (3) restore essential services, (4) support governance, and (5) support economic and infrastructure development.[124] Restoring essential services and supporting economic and infrastructure development fall firmly in the realm of economic interventions. Restoration of essential services is a task in which military forces are fairly well experienced, using the SWEAT-MS diagnostic.[125] In regard to supporting economic and infrastructure development the publication states that local units should adopt a "recovery and development focus on generating employment opportunities, infusing monetary resources into the local economy, stimulating market activity, fostering recovery through micro economics, and supporting the restoration of physical infrastructure."[126] No further guidance follows except for a discussion of employment generation.

[124] Department of the Army, "Stability Operations." (ADRP 3-07), August 2012, p. 2-10.

[125] Military acronym representing essential services (Sewer, Water, Electricity, Academics, Trash, Medical, Safety)

[126] ADRP 3-0, p. 2-19.

Doctrine conflicts with empirical social science research in key areas.

When Army doctrine discusses topics such as infrastructure reconstruction, employment generation, and economic growth, it enters a highly complex space. While initiatives in these areas may appear unambiguously positive, the data does not provide justification. The development community has faced a similar experience. In *Poor Economics,* MIT economics professors Abhijit Banerjee and Esther Duflo describe a central challenge faced by the international development community: "More often than not, the weight of the evidence forced us to reassess or even abandon the theories that we brought with us. But we tried not to do so before we understood exactly why they were failing and how to adapt them to better describe the world."[127]

Similarly, it is vital for the U.S. military to assess the assumptions contained within its doctrine. Numerous case studies exist in which tactical commanders claimed highly successful impacts of economic development efforts.[128] While these commanders may very well have been correct, determining causality is extremely difficult. While it is often the only evidence available under combat conditions, anecdotal evidence is the least credible within the hierarchy of evidence and runs the risk of mistaking correlation for causality. This is particularly dangerous, as in many cases, the wrong type of economic intervention can be worse than doing nothing.[129]

Two areas in which doctrine conflicts with empirical research are infrastructure reconstruction and employment generation. The 2009 "Commander's Guide to Money as a Weapons System (MAAWS)" focuses on job creation and infrastructure reconstruction.[130] Similarly, the top economic development recommendation in a 2011 CALL handbook was development of infrastructure.[131] However, several studies have shown that while spending on small projects can reduce violence, large projects have no effect. Most notably, social scientists Eli Berman, Jacob Shapiro and Joseph Felter examined the effects of CERP spending, using the 2007 troop surge in Iraq (which brought with it higher levels of security and projects) as a natural experiment. [132] They found that the vast majority of reconstruction spending in Iraq had no violence-reducing effect.[133] However, the research team found that CERP projects were five times more effective in reducing violence when they were small (below $50,000), informed by the community, and secured by troops. Conversely, large CERP projects (primarily infrastructure reconstruction) increased conflict, a finding consistent with Kilcullen's theory of opposed development, whereby

[127] Abhijit Banerjee and Esther Duflo, *Poor Economics,* 2011.
[128] U.S. Joint Forces Command, "Military Support to Economic Normalization Handbook." July 2009, p. II-11.
[129] Jake Shapiro, personal interview, September 25, 2015.
[130] Center for Army Lessons Learned," Commander's Guide to Money as a Weapons System," April 2009, p. i.
[131] Center for Army Lessons Learned, "Afghanistan Provincial Reconstruction Team: Observations, Insights, and Lessons," June 2011, p. 49.
[132] Eli Berman Jacob N. Shapiro and Joseph H. Felter, "Can Hearts and Minds Be Bought? The Economics of Counterinsurgency in Iraq," *Journal of Political Economy,* August 2011.
[133] Eli Berman, Joseph H. Felter, Jacob N. Shapiro, and Erin Troland. "Modest, Secure, and Informed: Successful Development in Conflict Zones," *American Economic Review,* 2013.

insurgents attempt to disrupt projects in order to discredit the government.[134] This finding is consistent with both development research and lessons highlighted by SIGIR: "Focus first on small programs and projects."[135]

The adverse effects of flawed doctrine can be far-reaching. While the overall situation in Iraq was extremely challenging, the focus was often on large projects, often scattered, and not integrated. The majority of the $20.86 billion Iraqi Relief and Reconstruction Fund (IRRF), for example, was spent on large infrastructure projects, which is concerning given the results of previously cited empirical research.[136] CERP projects often led to duplication of effort with other U.S. agencies such as USAID and DOS. SIGIR found evidence of strategic drift away from the program's core mandate to meet urgent, low-level needs toward large-scale infrastructure projects. Projects such as a $4.2 million hotel at the Baghdad International Airport built using CERP funds contributed to Congress mandating the end of the program in Iraq in 2011.[137]

The MAAWS handbook recommends economic initiatives that include hiring military aged males for projects.[138] Research by Radha Iyengar, Jonathan Monten, and Matthew Hanson, of the London School of Economics, found that labor-intensive CERP projects reduced insurgent violence in Iraq, but that the causal relationship is complex.[139] The opportunity cost model underlying this study may not hold, as shown when Berman, et al. tested the prediction that reduced unemployment would decrease violence in three conflict-affected countries (Afghanistan, Iraq, and the Philippines).[140] Their data failed to show a positive correlation between unemployment and violence. In fact, higher unemployment may actually increase effectiveness of counterinsurgency efforts through lower information costs (price of anti-insurgent tips to security forces). Thus, low unemployment could hinder COIN efforts, which makes the prudence of blanket efforts to increase employment questionable, particularly given a commander's limited financial resources. The fact that the study by Berman, et. al, spanned three countries increases its external validity relative to the Iyengar, et al. study.

Empirical social science can provide valuable new insights to population-centric military operations.

The "credibility revolution" that occurred in empirical social science over the past decade, enabled by increasing use of

[134] Gregory Johnson, Vijaya Ramachandran, and Julie Walz, "The Commander's Emergency Relief Program in Afghanistan: Refining U.S. Military Capabilities in Stability and In-Conflict Development Activities, Center for Global Development," September 2011.
[135] SIGIR, "Learning From Iraq: A Final Report," March 2013, p. xii.
[136] Ibid, p. 58.
[137] Ibid, p. 65.
[138] Center for Army Lessons Learned, "Commander's Guide to Money as a Weapons System," U.S. Army Combined Arms Center, April 2009, p. 164.
[139] Radha Iyengar, Jonathan Monten, and Matthew Hanson, "Building Peace: The Impact of Aid on the Labor Market for Insurgents," NBER, August 2011.
[140] Eli Berman, Michael Callen, Joseph H. Felter, and Jacob N. Shapiro, "Do Working Men Rebel? Insurgency and Unemployment in Afghanistan, Iraq, and the Philippines," *The Journal of Conflict Resolution*, Vol. 55, No 4, August 2011.

impact evaluations, has begun to shed light on the causal factors behind the effects of interventions.[141] Such findings are particularly important because economic programs have often been found not only to have been ineffective, but had adverse effects. These advancing analytical tools are increasing our understanding of the linkages between economics and conflict, though much remains to be learned. Due to the complexity of conducting such studies, a limited community of researchers drives much of this research.

It is important to note that not all studies are created equal. As Todd Harrison and John Meyers of the Center for Strategic and Budgetary Assessments point out, a "hierarchy of evidence" exists due to varying levels of randomization (Appendix C).[142] Randomized controlled trials (RCTs) provide the "gold standard" of studies since randomization allows the study to identify causality, not just correlation. The drawback to randomization is that it increases the difficulty and expense of any study, and in many cases creating an untreated control group can violate ethical codes. Fortunately, quasi-experimental techniques have advanced significantly, which allows researchers to derive randomization passively through natural experiments.[143] Appendix E lists key empirical studies of conflict and their insights. The knowledge frontier for studies focused on conflict is not far, as the body of literature is still small, with the majority of these papers have been published within the past few years.

Empirical studies have demonstrated that tactical economics can work (with limitations).

Using CERP records across 104 Iraqi districts from 2004-2008, Berman, et al. documented a link between CERP spending and reduced violence, as measured by SIGACT data.[144] However, the effect was only observed with small projects (below $50,000). Beath, et al. found that the National Solidarity Program (NSP) improved local security and improved villager perceptions of the government, but only above a minimum threshold of security.[145] Crost, et al. found that in the Philippines, distribution of conditional cash transfers (CCTs) through the government's *Pantawid Pamilya* program reduced conflict and insurgent influence.[146] Various mechanisms were likely at work, including "winning hearts and minds" of insurgents, increasing the opportunity cost of fighting, and increasing household income.[147] Lastly, Iyengar, et al. demonstrated that increased spending on labor-intensive programs in Iraq reduced

[141] Angrist and Pischke.
[142] Todd Harrison and John Speed Meyers, "Contracting Under Fire: Lessons Learned in Wartime Contracting and Expeditionary Economics," Center for Strategic and Budgetary Assessments, 2012.
[143] Examples include use of instrumental variables, regression discontinuity, and difference-in-differences.
[144] Eli Berman, Jacob N. Shapiro and Joseph H. Felter, "Can Hearts and Minds Be Bought? The Economics of Counterinsurgency in Iraq," *Journal of Political Economy*, Vol. 119, No. 4, August 2011, pp. 766-819.
[145] Andrew Beath, Fotini Christia and Ruben Enikolopov, "Winning Hearts and Minds Through Development: Evidence from a Field Experiment in Afghanistan," Working Paper No. 2011-14, Massachusetts Institute of Technology Political Science Department, April 13, 2012.
[146] Benjamin Crost, Joseph Felter, and Patrick Johnston, "Aid under Fire: Development Projects and Civil Conflict," *American Economic Review*, 104(6): 1833-56, 2014.
[147] Ibid.

insurgent violence.[148] (Table 3 in Appendix E lists several key empirical studies of conflict.)

Significant caveats exist when approaching statistical studies along the lines of both internal and external validity concerns. For example, even if a study possesses high internal validity, there is no guarantee that a study conducted in one region will have external validity in another region.[149] Thus, while it is tempting to apply the results of studies conducted in Iraq to Afghanistan, the causal relationships may not hold, which has significant implications for whether a finding should influence only local TTPs or generalized doctrine. Despite such limitations, the conclusions of empirical studies can provide actionable evidence to commanders influencing how to allocate limited stability, reconstruction, and development resources.

Security is an essential precondition for successful reconstruction and development.

Post-conflict reconstruction is not possible unless an area is actually *post-conflict*.[150] U.S. experience with the Strategic Hamlet Program in Vietnam bore this fact out.[151] Similarly, one of SIGIR's main conclusions in its final report on Iraq was that reconstruction should begin only after security is established.[152] Unfortunately, Iraq has yet to become "post-conflict."[153] Similarly, Beath, et al. used an RCT to determine that that the National Solidarity Program, Afghanistan's largest development program, had positive effects on villager perceptions of well-being, attitudes toward the government, and levels of security.[154] The latter two effects were only observed in relatively secure areas, which suggests that there is a security threshold required for public goods and services to have an effect on winning over the trust and confidence of the people.

It is important to note that the highly successful reconstruction efforts in Germany and Japan occurred against the backdrop of largely peaceful populations. Conversely, reconstruction in Iraq and Afghanistan occurred in the middle of raging insurgencies. Large infrastructure projects thus occurred prematurely.

Conditionality is a crucial ingredient for program success.

SIGAR has strongly recommended conditionality as a "smart condition for aid." Afghan president Ashraf Ghani has even incorporated this approach within his

[148] Radha Iyengar, Jonathan Monten, and Matthew Hanson, "Building Peace: The Impact of Aid on the Labor Market for Insurgents," (Working Paper No. 17297), National Bureau of Economic Research, August 2011.
[149] Internal validity refers to how well an experiment is conducted, particularly in avoiding "confounding" factors, which cast doubt on the causal relationship in question. External validity refers to the study's applicability to other contexts. "Internal Validity," Web Center for Social Research Methods, accessed June 24, 2016.
[150] "Post-conflict" is difficult to define, but generally relies upon the achievement of "peace milestones" such as cessation of violence, signing of peace agreements, and economic recovery. Graham Brown, Arnim Langer & Frances Stewart, "A Typology of Post-Conflict Environments," Centre for Research on Peace and Development (CPRD), September 2011.
[151] Rufus Phillips in "Proceedings from the Summit on Entrepreneurship and Expeditionary Economics," May 2010.
[152] SIGIR, "Learning From Iraq: A Final Report," March 2013, p. xii.
[153] SIGIR, *Hard Lessons: The Iraq Reconstruction Experience*, 2009, p. 331.
[154] Andrew Beath, Fotini Christia, and Ruben Enikolopov, "Winning Hearts and Minds? Evidence from a Field Experiment in Afghanistan," MIT Political Science Department, April 13, 2012.

administration to better reach performance targets.[155] Even providing for basic needs can have adverse effects in fragile or conflict-affected environments. For example, Nathan Nunn and Nancy Qian, economists at Harvard and Yale, respectively, constructed a natural experiment that exploited time variations in U.S. wheat production caused by weather patterns to simulate randomization. The study determined that unconditional food aid is a causal factor in the likelihood and duration of civil conflict in recipient countries.[156] A similar phenomenon was observed anecdotally during the UN's 1991 intervention in Somalia as warlords used food aid to increase their power and prolong the conflict.[157] Experience in the south of Sudan provides a valuable lesson on military economic efforts. From 2005-2010, donor emphasis on providing basic services at the expense of security led to increased violence.[158]

Much of the military's efforts in restoring essential services is grounded in the assumption that doing so will win the support of the population and contribute to stability. However, the experience of the 1st Cavalry Division in Baghdad in 2004 highlighted the difficulty in restoring essential services, as well as the tenuous link between essential services and reduced violence. In 2005, the security situation began to deteriorate, despite over $700 million, along with significant technical expertise, invested in infrastructure.[159] The majority of this aid lacked conditionality, fueled local corruption, and "missed many critical requirements requested by the people."[160]

Crost, et al. studied the effect of the Philippines largest development program (KALAHI-CIDSS) on civilian conflict deaths during the period from 2003-2008.[161] They found that the program's infrastructure projects increased violent activity because insurgent groups attempted to sabotage the program to prevent the government from increasing popular support. While the program exacerbated violence in the short term it had no long term effects. In a later study, the same authors found that conditional cash transfers (CCTs)—programs which transfer cash to households contingent on some predetermined behavior—were an effective means of reducing violence in the Philippines.[162] This study reinforces previous findings that targeted, low level economic interventions can decrease violence and weaken an insurgency.

Education

Reports detailing the lack of effectiveness in much of CERP spending along with

[155] SIGAR, "Quarterly Report to the United States Congress," July 30, 2015, p. 5.
[156] Nathan Nunn and Nancy Qian, "US Food Aid and Civil Conflict," *American Economic Review*, 2014.
[157] James, Dobbins, John G. McGinn, Keith Crane, Seth G. Jones, Rollie Lal, Andrew Rathmell, Rachel M. Swanger, Anga R. Timilsi,. *America's Role in Nationbuilding: From Germany to Iraq*, RAND Corporation, 2003.
[158] OECD, "Evaluating Peacebuilding Activities in Settings of Conflict and Fragility," 2012, p. 22.
[159] MAJ Anthony P. Barbina, "Comparing Models for the Restoration of Essential Services During Counterinsurgency Operations," in "Stability Economics: The Economic Foundations of Security in Post-Conflict Environments," 2012, p. 129.
[160] Ibid.
[161] Benjamin Crost, Joseph Felter, and Patrick Johnston, "Aid Under Fire: Development Projects and Civil Conflict," *American Economic Review*, June 2014.
[162] Benjamin Crost, Joseph H. Felter, and Patrick B. Johnston. "Conditional Cash Transfers, Civil Conflict and Insurgent Influence: Experimental Evidence from the Philippines," *Journal of Development Economics*, January 2016,

statements from senior commanders make it clear that Army leadership recognizes this capability gap.[163] However, it is not clear that the specific reasons for failure are understood. Additionally, current leader education programs do not provide the resources to address this gap.

Professional military education (PME) relies on current military doctrine.

To maintain "agile and adaptive leaders," the Army requires its commissioned and noncommissioned officers to attend PME at predetermined point in their careers.[164] The curricula for the various courses are derived from current doctrine, which compounds the deficiencies in doctrine previously discussed. The effects of this compounded deficiency of doctrine and education emerged when tactical commanders ineffectively pursued economic development as part of COIN operations.

For example, the "morphing" of CERP from its designed role of enabling quick-impact projects to funding large infrastructure projects became a major issue brought upon by well-meaning tactical commanders. According to Undersecretary of Defense (Comptroller) Dov Zakheim this shift caused the military to resemble "USAID in uniform," but without the necessary expertise, which resulted in poor outcomes and wasted funds.[165] Former Commander of Multi-National Force–Iraq and Army Chief of Staff, General (Ret.) Raymond Odierno, noted that CERP had positive effects, but should not have been used to fund large projects and required better training program for proper employment.[166] Reflecting upon his time as a commander in Iraq, Lieutenant General Robert Caslen noted the potential value of greater economics training for Army officers, particularly in the use of CERP.[167]

Military professional education does not adequately cover program evaluation.

Program monitoring and evaluation is an extremely technical and relatively new field. Although military doctrine requires evaluation, tactical commanders and staffs do not generally have a sufficient knowledge base with which to implement and oversee evaluation systems and develop the "learning culture" that is necessary for successful tactical economic interventions.[168] Army leaders do not need to know how to conduct the studies, but they need to understand how to employ and interpret them in the context of operations. While quantitative data on leader knowledge of evaluation methods is not available, a proxy measure is the U.S. military's struggle with assessing and communicating CERP effectiveness.

The level of commander and staff familiarity with evaluation techniques can have a significant effect on their use.

[163] SIGIR, "Learning From Iraq: A Final Report," March 2013
[164] ARCIC, "Army Warfighting Challenges," Accessed March 17, 2016.
[165] SIGIR, "Learning From Iraq: A Final Report," March 2013, p. 23.
[166] Ibid, p. 25.
[167] MAJ Mark E. Pelini, "Expeditionary Economics and Its Implications on the United States Army," in "Stability Economics: The Economic Foundations of Security in Post-Conflict Environments." U.S. Army Combined Arms Center, 2012, p. 62.
[168] Marian Lawson, "Does Foreign Aid Work? Efforts to Evaluate U.S. Foreign Assistance," 2012, p. 17.

Although opportunities to conduct RCTs are extremely limited during combat operations, the military must strive to achieve more compelling forms of evidence to guide tactical economic decisions.[169] USAID is increasingly making use of impact evaluations to better measure its program outcomes.[170] Similarly, Army units can benefit from similar methods.

Adopting an evidence-based approach is possible if leaders perceive tactical value in "economic intelligence."

Tactical units can gather "economic intelligence"—information about the needs of local economies—which they can then channel back to experts who can help design appropriate targeted tactical economic interventions.[171] Similarly, the Army can provide a significant contribution to economic development efforts by collecting information that, when combined with interpretation and analysis by economic professionals, can deepen a commander's situational understanding. [172] To frame the use of this information, it may be helpful to draw an analogy to scout units within the Army; organizations for whom gathering information is a primary mission.

According to military doctrine, scout units do not assume a decisive role in defeating the enemy. They contribute to shaping decisive operations not only through their effect on an enemy force, but through the value of the information they provide to reduce uncertainty and enable decision-making.[173] Similarly, the outcome of every economic effort may not be successful, but it can still provide valuable information regarding what does not work in a specific context. By testing small, hypothesis-based pilot programs (similar to employing small scout units), commanders can amass large amounts of information with relatively small amounts of funds, which can later guide the targeting of larger sums of money. Even failure to find causality can be valuable, just as it is valuable to know where enemy forces are not located. However, Army culture often views lack of positive results as failure, which poses an obstacle to the experimental mindset required to adopt an evidence-based approach.

Expertise

Numerous voices have called attention to the U.S. military's lack of expertise in economic development, which is understandable given the military's broad range of mission sets.[174] While it is not the U.S. Army's mission to become an international development agency, it must maintain sufficient expertise to execute the stability tasks outlined in ADRP 3-07. In comparing military operations in Iraq and

[169] Todd Harrison and John Speed Meyers, "Contracting Under Fire," Center for Strategic and Budgetary Assessments, 2012.
[170] USAID, "Technical Note: Impact Evaluations," September 2013, p. 1.
[171] LTC (Ret.) David A. Anderson and LTC Andrew Wallen, "Preparing for Economics in Stability Operations," *Military Review*, March-April 2008, p. 97.
[172] Sugai, p. 59.
[173] Department of the Army, "Reconnaissance and Security Operations," (FM 3-98), July 2015.
[174] Kori Schake and Frederick Kagan in "Proceedings from the Summit on Entrepreneurship and Expeditionary Economics," May 2010.

Afghanistan to international development best practices, a gap emerges with regard to expertise in two areas: designing economic interventions and program evaluation.

The Army lacks expertise in designing economic interventions.

Provincial Reconstruction Teams (PRTs), units consisting of military officers, diplomats, and development professionals, were created, in part, to fill the military's gap in development and evaluation expertise. First introduced in Afghanistan in 2002, PRTs were subsequently expanded to Iraq in 2005.[175] Their mission was to work with provincial and local governments to improve governance and meet the basic needs of the people. Unfortunately, PRTs also lacked sufficient development and evaluation expertise as pointed.[176] A SIGAR report found that in 2009, the two dozen U.S. PRTs in Afghanistan had only 35 government civilians.[177] The ensuing "civilian surge" increased government civilian numbers to over 1,300 by 2011, most of whom were part of District Support Teams (DSTs), similar in structure to PRTs, but focused on district-level projects.[178] As Berman, et al. found, the presence of PRTs led to a greater reduction in violence resulting from CERP spending, the effect of PRTs is still relatively unknown and deserving of further research.[179]

Official guidance covering the use of CERP was intentionally broad in order to provide flexibility to tactical commanders, but a general lack of expertise in economic development led to a wide variance in outcomes. Many commanders had very well intentioned plans to achieve tactical effects using economic development, but experienced poor outcomes due to a lack of expertise.[180] For example, "Operation Adam Smith," a multimillion dollar business-focused initiative intended to "revitalize" the commercial district in Baghdad, had little impact."[181] Part of the plan was to create a "business incubator" within Baghdad University to mentor Iraqi entrepreneurs.[182] Although a well-intentioned effort by the U.S. Army, assisted by expertise from the U.S. Department of Commerce, it is difficult to argue that this was the best use of financial resources given other pressing security concerns.

The Army lacks expertise in program evaluation.

Joint doctrine mandates that the military conduct program evaluation, but given the myriad conventional and unconventional threats faced by the Army in the current operating environment, there is a limited amount of intellectual capital with which to

[175] Crane, et al., "Guidebook for Supporting Economic Development in Stability Operations," RAND Corporation, 2009, p. 26.
[176] Markus Gauster, "Provincial Reconstruction Teams in Afghanistan," Marshal Center, January 2008.
[177] Vijaya Ramachandran and Julie Walz, "The Commander's Emergency Response Program in Afghanistan," Center for Global Development, September 6, 2011.
[178] Ramachandran and Walz.
[179] Eli Berman, Joseph H. Felter, Jacob N. Shapiro, and Erin Troland, "Modest, Secure, and Informed: Successful Development in Conflict Zones," *American Economic Review*, 2013.
[180] SIGIR, p. 23.
[181] Carl J. Schramm, "Expeditionary Economics: Spurring Growth After Conflicts and Disasters," 2010.
[182] Arlyn Tobias Fajilan, "Entrepreneurs in Iraq Tangle in U.S. Red Tape," *Fortune*, November 1, 2004.

evaluate past operations. The Army's COIN manual specifies for use of an "assessment cell" to track program effectiveness.[183] This is necessary since effects may differ greatly from one unit's area of operations to another.[184] This may be partly due to the fact that such assessment cells have either not been created or not staffed sufficiently to produce thorough evaluations. Funding should likely parallel the target program evaluation funds set by USAID (3%) and DOS (3-5%).[185] A 2010 OECD survey found that international aid agencies devoted an average of 0.1 percent of their budgets to evaluation.[186] Lack of dedicated funding for evaluation is a possible cause of the lack of qualified personnel available to staff the cells. Turnover among military units also makes long-term evaluation a challenge. Researchers can help provide continuity and observe long-term trends. PRT staff experienced a high rate of turnover, which made long term planning difficult and can resulted in disjointed programs that wasted resources.[187]

Very few impact evaluations are available from operations in Iraq and Afghanistan. The Center for Army Lessons Learned (CALL) published its most recent handbook regarding use of money in a combat zone in 2009. While the publication discusses many options for employing money and administrative requirements, it mentions little about specific metrics for tying economic interventions to outcomes.[188] CALL has gathered a set of data on CERP, but without statistical analysis, it will not be able to draw specific conclusions about effectiveness that the Army can apply future conflicts.[189] Due to the lack of program evaluation, little is understood about causality. Specialized evaluation expertise is necessary due to the challenges posed by the causality question—even if a unit can measure a specific outcome within an area, it is extremely difficult to identify what particular actions out of many factors caused the outcome.[190]

The Army is not alone in its challenges with evaluation. Within the U.S. government, both USAID and DOS have struggled with evaluation.[191] As noted earlier, the international development community is still working to close the evaluation gap. A 2010 OECD survey found that a lack of human capital was a binding constraint, as people qualified to conduct rigorous impact evaluations—particularly within conflict-affected areas—are in short supply.[192]

4. Recommendations

Recommendation 1: Revise U.S. Army stability doctrine.

[183] FM 3-24, p. 12-8.
[184] FM 3-24, p. 7-2.
[185] Lawson, p. 18.
[186] Lawson, p. 20.
[187] Center for Army Lessons Learned, "Afghanistan Provincial Reconstruction Team Handbook," February 2011, p. 28.
[188] Center for Army Lessons Learned, "Commander's Guide to Money as a Weapons System," April 2009.
[189] MAJ Thomas Archer-Burton, "Entrepreneurial Expeditionary Economics and the United States Military: Right Task, Wrong Tool?" in "Stability Economics: The Economic Foundations of Security in Post-Conflict Environments," 2012, p. 14.
[190] Christiaan Davids, Sebastiaan Ritjens, and Joseph Soeters, "Measuring Progress in Reconstructing Afghanistan," *Baltic Security and Defence Review,* Vol. 12, Issue 1. 2010, p. 7.
[191] Marian Lawson, "Does Foreign Aid Work? Efforts to Evaluate U.S. Foreign Assistance," Congressional Research Service, November 19, 2012.
[192] Lawson, p. 20.

Research has shown that money can achieve positive effects on the battlefield if used correctly. Similar to any other weapon, the use of "money as a weapon system" requires accurate intelligence, technical information, and user training.[193] Doctrine covering the use of tactical economics has captured many of the lessons of the past decade, as indicated by the most recent version of the Afghanistan "Money as a Weapons System SOP."[194] However, an enduring solution will require broader institutional changes. The primary way to internalize and communicate expensive lessons is to capture them within doctrine, as Center for Global Development researchers Ramachandran and Walz have recommended.[195] To accomplish this the task inherent in this recommendation, doctrinal changes should address the following four areas:

a.) Reduce the scope of economic doctrine to focus on measurable tactical effects, with an emphasis on violence reduction.

According to ADRP 3-0, "Security is the most immediate concern of the military force."[196] Establishing a "safe and secure environment" is paramount to laying the foundation for economic development.[197] The RCT conducted by Beath, et al. demonstrated this fact, as a minimum threshold of violence was found to be necessary for economic development to occur successfully.[198] This is a constant theme throughout the U.S. military's history of nation-building as campaigns with higher troop levels were more successful. When the number of troops was small relative to the local population, U.S. forces suffered the highest casualties, most notably in Somalia, Afghanistan, and Iraq.[199] In determining what types of projects to undertake, commanders must consider how well they can secure these projects. The high levels of U.S. troops that occupied Germany and Japan following World War II were crucial to maintaining civil order during those reconstructions.

Using the benefit of hindsight from Iraq and Afghanistan, we can determine what types of effects tactical units can accomplish given competing demands. While a wide range of economic development outcomes, such as supporting "broad-based economic opportunity" would be outstanding accomplishments, they are extremely difficult for combat units to achieve.[200] Doctrine must provide specificity and focus leader attention on the highest-payoff interventions in various contexts because every economic intervention has an opportunity cost in terms of time, money, and attention. As the Army's stability manual states, immediate security

[193] FM 3-24, p. 7-2.
[194] U.S. Forces Afghanistan, "Money as a Weapons System-Afghanistan," December 2009.
[195] Vijaya Ramachandran and Julie Walz, "The Commander's Emergency Response Program in Afghanistan," Center for Global Development, September 6, 2011.
[196] ADRP 3-0, p. 1-14.
[197] Ibid.
[198] Andrew Beath, Fotini Christia and Ruben Enikolopov, "Winning Hearts and Minds through Development: Evidence from a Field Experiment in Afghanistan," MIT Political Science Department, April 13, 2012.
[199] Dobbins, et al., *America's Role in Nationbuilding: From Germany to Iraq,* 2003, Rand Corporation, Chapter 9, p. 153.
[200] FM 3-24.

requirements create the need for short-term solutions.

As mentioned earlier, joint military doctrine explicitly requires that tactical units measure the effects of their economic interventions. However, doctrine does not provide sufficient detail regarding how units are to accomplish this task. Security outcomes (measured by incidents of violence) can provide a cost-based metric for commanders and serve to unify outcome variables across complex environments. Using security as a measure of effectiveness (MOE) both recognizes the Army's comparative advantage in providing security and relies on currently available data (SIGACTs). Commanders may also decide to focus on other interim objectives, but these should be hypothesis-based and subject to testing. By tying tactical economics more closely to security, economic tools become shaping operations which tie into the commander's overall mission—establishing security. This helps solve an incentive problem, since commanders are generally evaluated on short-term outcomes, whereas economic development objectives, such as GDP growth, are almost impossible to measure in fragile states in the short to medium term. The impact was often felt in Iraq and Afghanistan when one unit prepared to be replaced by another unit overseas. There was little incentive for the outgoing unit to begin new CERP projects, since the current commander would not receive credit due to the long timeframe required to see measurable results.[201]

b.) Narrow the scope of CERP to focus on small, conditional projects informed by local needs.

Numerous senior Army leaders, including General (Ret.) Raymond Odierno, have advocated for the use of CERP during future operations since it was a "useful tool" for commanders that saved lives. [202] General (Ret.) Odierno has recommended that the Army review the program in order to better understand its successes and failures in order to find areas for improvement. To date, research has only scratched the surface of the massive number of CERP projects conducted; such efforts should be intensified.

The primary advantage of building upon CERP is its adaptability for unknown future conditions. CERP was originally designed to fund quickly executed, high-impact small projects to meet community needs in localized contexts. As both Berman, et al. and Crost, et al. documented, large projects can be counterproductive by fueling violence, as insurgents attempt to discredit the government.[203] Given current budgetary constraints, it is a major advantage to focus on small projects first. A given sum of money can might directly benefit exponentially more individuals than a single large project that favors local elites and possibly fuels both corruption and insurgent violence.

[201] COL (Ret.) Jeffrey Peterson, Phone interview, February 2, 2016; Alternatively, the current commander may be reluctant to commit the incoming commander to a certain course of action.
[202] General (Ret.) Raymond Odierno, SIGIR, p. 25.
[203] Eli Berman Jacob N. Shapiro and Joseph H. Felter, "Can Hearts and Minds Be Bought? The Economics of Counterinsurgency in Iraq," *Journal of Political Economy,* August 2011; Benjamin Crost, Joseph Felter, and Patrick Johnston, "Aid Under Fire: Development Projects and Civil Conflict," *American Economic Review*, June 2014.

In order to achieve the desired effect, CERP projects should be conditional. During COIN operations, a military force is working to build support from the local population; as a result, aid should be tied to the population's support in reducing violence and insurgent influence. While this raises ethical issues in regard to providing humanitarian relief and essential services, it is vital to keep in mind that without establishing security, no further sustainable development progress can occur. It is possible that in some cases CERP unintentionally incentivized violence when commanders directed projects toward violent areas. In contrast, spending should incentivize stability by channeling funds to the parts of the population that are cooperating with security efforts.[204] Lastly, projects should only be undertaken to address stated needs of the population. Both social science research and government reports have highlighted numerous violations of this principle with CERP spending. In addition to increasing the effectiveness of projects, such a stipulation will also save money by eliminating unwanted or unneeded projects.

c.) Clarify guidelines to minimize counterproductive economic interventions.

Given the high opportunity cost of economic interventions, the first rule must be to "do no harm." Limited time and money necessitate a strict prioritization between programs, making it necessary to choose against ineffective programs and absolutely avoid counterproductive ones. In any intervention–whether conducted by a military force or the World Bank--the risk of adverse effects exists. Designing programs according to correct principles can minimize this risk. What works will differ in every context, but two areas in which doctrine significantly conflicts with empirical research are large infrastructure projects and employment programs. The military's focus on input metrics (MOPs) has been a problem because it incentivized greater magnitude of reconstruction spending rather than achieving desired effects (MOEs) from economic programs.[205] Part of the problem has been bureaucratic overhead, as the difficulty in obtaining the commitment of funds often overshadows consideration of the potential effects of projects.[206] Specifically, manuals should replace mandates to rebuild major infrastructure and broadly reduce unemployment with a bottom-up, hypothesis-based approach. Guidance on unemployment efforts should be particularly nuanced due to evidence of its uncertain effect on violence.

d.) Ensure that doctrine is connected to current social science research.

The body of tactical economic doctrine needs to adapt almost as quickly as social science research. The Army maintains systems to ensure its doctrine is regularly

[204] Paul Fishstein and Andrew Wilder, "Winning Hearts and Minds? Examining the Relationship Between Aid and Security," Feinstein International Center, January 2012.
[205] MAJ Michael J. Higgins,"Commander's Emergency Response Program: A Flawed Metric," School of Advanced Military Studies, U.S. Army Command and General Staff College, September, 2012.
[206] SIGIR, "Learning From Iraq: A Final Report," March 2013.

updated in various forms. The Center for Army Lessons Learned (CALL) is central to this process. Due to the rapid pace of advances in empirical social sciences, staying abreast of current studies is increasingly important. The application of social science research to military operations is a relatively new phenomenon stemming from population-centric warfare, but should be incorporated into future doctrinal developments. An optimal product would be a field manual (FM) guiding effective employment of tactical economics. Due to the time lag inherent in the organizational process for updating formal doctrine, a more general manual incorporating the changes discussed above would be preferable to overly specific guidance. As new insights and best practices emerge, CALL has the ability publish supplemental handbook for dissemination to the force.

Recommendation 2: Increase the Army's economics expertise through internal and external education.

a) Incorporate development economics and program evaluation into professional military education (PME).

The first target audience for tactical economics is the echelon of officers who approve the range of operations available to tactical units–general officers. The second target audience are officers responsible for implementation during stability operations–field grade officers (major through colonel). The critical band is quite wide, ranging from battalion operations officers (major) to division commanders (major general). Target courses include Command General Staff College (CGSC) and Pre-Command Courses for battalion, brigade, and division command. The World War II-era School of Military Government is an example of successful generation of internal expertise in nation-building prior to the occupations of Germany and Japan.[207] However, the level of resources required for such an intensive course is not currently justified given competing demands. Classroom time is extremely limited within PME courses, and adding one subject/module will require removing something else. Thus, revising existing modules covering stability operations to incorporate tactical economics is the most feasible course of action.

b) Increase economics and evaluation expertise through external education of Army personnel.

The Army has several programs designed to allow leaders to attend civilian academic programs. The Advanced Civil Schooling (ACS) program allows junior and mid-grade officers to attend masters or Ph.D. programs while on active duty. Usually, a "utilization" tour of duty follows, such as serving as an academic instructor at West Point or as a staff officer in the Pentagon. While such "broadening" programs are an important mechanism for educating leaders, the number of officers focusing on social sciences and development

[207] Rebecca Patterson, "Revisiting a School of Military Government: How Reanimating a World War II-Era Institution Could Professionalize Military Nation Building," Ewing Marion Kauffman Foundation, June 2011.

economics in particular is relatively small. Increasing economics and evaluation expertise in a meaningful way would require a significant increase in these opportunities.

Executive education is a more informal option which allows commands to specifically target their knowledge needs, but is dependent on the level of available funding possessed by a particular command. Executive education has the advantage of being able to pinpoint specific leaders who require specific knowledge and subsequently to fill knowledge gaps quickly. An example of such an option is executive education offered by Harvard's Center for International Development (CID). Cutting edge classes on development practices and evaluation such as "Leading Successful Social Programs: Using Evidence to Assess Effectiveness" can provide officers with critical information at the cost of duty five days and $7,400 per person.[208]

Recommendation 3: **Gain access to external economics expertise by strengthening ties with the social science community.**

The Army's two expertise gaps lie in designing and evaluating economic interventions. The organization must first recognize that expertise in development economics is very limited and it is only possible to pull so many external personnel into the military structure. Those who specialize in development research comprise a small community. Simply embedding civilian economists in tactical units is probably not the answer, as shown by the Army's experience with the Human Terrain System (HTS), during which the Army embedded social scientists (largely anthropologists) in tactical units to fill a gap in cultural expertise. Despite high-level support, the program did not go as planned and ended in 2014 at great expense ($725 million).[209] Issues included flawed recruiting, insufficient training, poor management, dysfunctional organizational culture, and an unclear mission.[210] This experience indicates that embedding social scientists in tactical formations is a non-starter option. A better alternative would be for the military to develop ties with civilian researchers focused on a specific areas of operations, which can provide a reach back capability for deployed units, along with long-term continuity in evaluation as units rotate through the area.

a) Increase research grants and working partnerships with social scientists.

This option seeks to gain access to expertise in development and evaluation by connecting with the social science community. It also recognizes that the Army has a comparative advantage in security operations while academia has a comparative advantage in development economics expertise. The Army can create

[208] Center for International Development website. Accessed March 1, 2016.
[209] Whitney Kassel, "The Army Needs Anthropologists," *Foreign Policy*, July 28, 2015; Roberto J. Gonzalez, "The Rise and Fall of the Human Terrain System," Counterpunch, June 29, 2015.
[210] Ryan Evans, "The Seven Deadly Sins of the Human Terrain System: An Insider's Perspective," International Relations and Security Network, July 31, 2015.

ties with the research community at various levels from senior commander to assistant staff officers. Both formal and informal relationships between tactical officers and social scientists can feed approved data to researchers, who can then provide analysis back to operational units. Tactical units should build such relationships with external experts early, since units will not have time do so once deployed.[211] The specifics of these relationships would vary by command, but one technique could be for external researchers to focus on a specific region or sub-region, which would provide continuity of evaluation as units rotate through deployments. External research grants, such as the Minerva Initiative, in which DOD funds civilian social science research, can also continue to draw in academic expertise to answer research questions of relevance to the military. However, the number of Minerva grants focused on development economics has been small—only two in 2013.[212]

Outside the Army, the academic research community has an interest in military economic efforts, particularly in the declassified economic data they can receive from the Army. The international development community (including USAID) can benefit from studies conducted using Army data. Researchers may be unable to obtain basic survey data from conflict-affected areas due to violence, as OECD research has noted.[213] Even when data collection is possible, it is more costly, due to the security overhead required.[214] Thus, a partnership with the Army would provide significant value to such external stakeholders. Informal research by the author indicates a high level of interest in collaboration among social science faculty in academia, including top universities such as Harvard and MIT.[215]

b) Establish a "Tactical Economics Center of Excellence" to provide an intellectual hub for collecting best practices and diffusing knowledge.

A "Tactical Economics Center of Excellence" could provide a hub for channeling data and lessons learned from the operational force to the social science research community, and disseminating research insights from academia back to tactical units. Such an institution could be the nexus where researchers and practitioners interact, and address the conflict evaluation gap. Incentivizing commanders to support research efforts, likely through assigning credit on performance evaluations, could help institutionalize an evidence-based approach to stability operations. The most likely home for such a center would be within the U.S. Army Combined Arms Center.

[211] Sugai, p. 61.
[212] The Minerva Initiative website, accessed March 17, 2016.
[213] OECD, "Guidance on Evaluating Conflict Prevention and Peacebuilding Activities," 2008, p. 39.
[214] OECD, "Evaluating Peacebuilding Activities in Settings of Conflict and Fragility," 2012, p. 70.
[215] The author discussed potential collaboration efforts between the Army and social scientist with five tenured professors at MIT and Harvard from January to May 2016.

5. Conclusion

Carl Schramm, Ewing Marion Kauffman Foundation former President and CEO, has observed that the U.S. military is "well placed to play a leading role in bringing economic growth to devastated countries. It may have little resident economic expertise, but it has both an active presence and an active interest in places where economic growth is sorely needed."[216] As the U.S. military continues to prepare for and conduct stability operations in volatile regions across the globe, it possesses an opportunity to apply the nation's economic power directly to the sources of instability that often fuel the growth of violent extremism. Revisions to military doctrine, changes in military education, and increased partnerships with the social science research community can overcome the military's lack of economic expertise while capitalizing on its ability to operate in violent environments in pursuit of stability.

While it is possible for the military's economic efforts to lay a foundation for long-term economic growth within fragile regions, the time frame required to evaluate such growth is too long and the metrics too ambiguous to operationalize in a cost-effective manner. By using violence reduction as a primary measure of effectiveness (MOE), tactical economics allows military units to focus on achieving the stability necessary for reconstruction and economic development to occur successfully. Adoption of an evidence-based approach can increase the ability of tactical units to target specific economic issues underlying conflict while more quickly adapting in response to measured impacts on local populations. A greater emphasis on empirical evaluation of tactical economic outcomes can add granularity to the debate on stability operations while bolstering a key nonlethal capability that the U.S. military can employ to shape security environments in a complex world.

[216] Carl J. Schramm, "Expeditionary Economics: Spurring Growth After Conflicts and Disasters," *Foreign Affairs,* May/June 2010.

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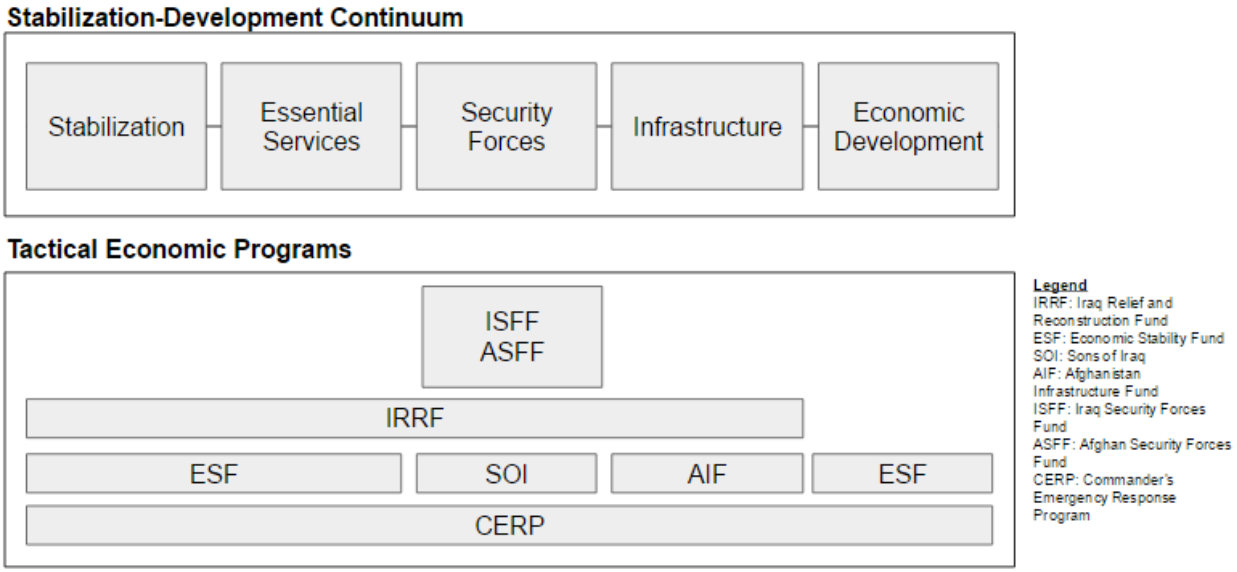
Appendix A

The Spectrum of Tactical Economic Interventions

Figure 3: Tactical Economic Programs Along the Stabilization-Development Continuum[217]



When overlaying tactical economic programs along the continuum, it becomes clear that significant overlap exists between both programs and other agencies, particularly DOS and USAID. While some programs address specific objectives, others address multiple objectives, while CERP spans the entire continuum.

U.S. spending on Iraq reconstruction totaled approximately $60 billion. The majority flowed into five primary funds shown in the table below. DOD controlled 87% ($45 billion) of Iraq reconstruction funds.[218]

Table 1: Major Iraq Reconstruction Funds[219]

Fund	Amount	Focus	Agency
Iraq Relief and Reconstruction Fund (IRRF)	$20.86 billion	Stabilization, Essential Services, Infrastructure	DOD USAID
Iraq Security Forces Fund (ISFF)	$20.19 billion	Security Forces	DOD
Economic Support Fund (ESF)	$5.13 billion	Stabilization	USAID

[217] Figure based on a similar diagram by Archer-Burton. MAJ Thomas J. Archer-Burton in "Entrepreneurial Expeditionary Economics and the U.S. Military, Right Task, Wrong Tool," in "Stability Economics," School of Advanced Military Studies, 2012, p. 7.
[218] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, p. 38.
[219] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, p. 9.

		Government services Economic development	DOS
Commander's Emergency Response Program (CERP)	$4.12 billion	Stabilization	DOD
International Narcotics Control and Law Enforcement (INCLE)	$1.31 billion	Counter-narcotics	DOS
Other Funds	$13.52 billion	Various	Various

The $113 billion in reconstruction spending allocated to Afghanistan since 2002 is broken down into the seven major funds shown below. DOD has received the majority of the total at $72 billion (64%).

Table 2: Major Afghanistan Reconstruction Funds[220]

Fund	Amount	Focus	Agency
Afghanistan Security Forces Fund (ASFF)	$63.92 billion	Security Forces	DOD
Commander's Emergency Response Program (CERP)	$3.68 billion	Stabilization	DOD
Afghanistan Infrastructure Fund (AIF)	$0.99 billion	Infrastructure	DOD, DOS
Task Force for Business and Stability Operations (TFBSO)	$0.82 billion	Economic Development	DOD
DOD Drug Interdiction and Counter-Drug Activities	$3.0 billion	Counter-narcotics	DOD
Economic Support Fund (ESF)	$18.6 billion	Stabilization Government services Economic development	USAID DOS
International Narcotics Control and Law Enforcement (INCLE)	$4.69 billion	Counter-narcotics	DOS

[220] SIGAR, "Quarterly Report to the United States Congress," April 30, 2016, p. 75.

Other Reconstructions Funds and Civilian Operations	$17.39	Various	Various

Reconstruction Programs

Iraq Relief and Reconstruction Fund (IRRF)

Jointly administered by USAID and DOD, the IRRF was the first and largest ($20.08 billion) U.S. fund for reconstruction in Iraq.[221] Projects were initially wide-ranging, to include utilities, health care, rule of law, private sector development, and law enforcement, but after late 2003, they became focused more on large infrastructure projects such as electricity, water, sanitation, and transportation.[222] IRRF projects peaked from 2004-2005 with expenditures averaging $21.4 million per day.[223] The IRRF also funded over $5 billion in U.S. Army Corps of Engineers (USACE) construction projects.[224]

Afghanistan Infrastructure Fund (AIF)

Just under $1 billion, the AIF was intended to fund large-scale, high-priority infrastructure projects that supported the U.S. civilian-military reconstruction effort.[225] It was jointly administered by DOD and DOS.

Security Forces Programs

Iraq Security Forces Fund (ISFF)

The ISFF supported development of Iraq's military and police forces. It totaled $20.19 billion from 2005 to 2011—one-third of all U.S. assistance to Iraq.[226] $12 billion supported the Ministry of Defense (MOD) while $6.7 billion supported the Ministry of the Interior (MOI).[227] Approximately one-fourth of these funds were spent on infrastructure, but the majority (over 40%) was spent on equipment and training. The fund succeeded in creating an army and police force, but with significant institutional and logistical weaknesses. Despite this, SIGIR has noted that the ISFF provided the best return on reconstruction funds invested in Iraq.[228]

Afghan Security Forces Fund (ASFF)

The U.S. allocated $68 billion to equip and train the Afghan National Defense and Security Forces (ANDSF).[229] Out of this amount, $37.59 billion supported the Afghan National Army (ANA) while $18.22 billion supported the Afghan National Police (ANP). Logistical support was the largest category of funding for both groups. Infrastructure accounted for only 15% of

[221] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, p. 57.
[222] Ibid, p. 58.
[223] Ibid.
[224] Ibid, p. 48.
[225] Ibid, p. 57
[226] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, p. 59.
[227] Ibid.
[228] Ibid, p. 9.
[229] SIGAR, "Quarterly Report to the United States Congress," April 30, 2016, p. 3.

funding for both the ANA and ANP.[230] The ANDSF continue to operate as effective forces, but as with the Iraqi security forces, they also suffer from significant institutional and logistical weaknesses.

Sons of Iraq (SOI)

The Sons of Iraq program differs from other security forces programs in that it was a grassroots program funded with CERP. In fact, SOI was the largest CERP project in terms of scope, with 780 total contracts.[231] The program began in 2004 by employing Sunni citizens to provide security for buildings, checkpoints, and neighborhoods in their communities. Also known as the "Anbar Awakening," SOI successfully attracted former and potential future insurgents and aligned them with Coalition efforts. The program helped address the long-term repercussions of CPA Order 2, which had disbanded the Iraqi Army in 2003, putting 500,000 military-age men out of work.[232] Before transitioning to Iraqi government control in 2009, SOI allocated $370 million in CERP funds to 100,000, mostly Sunni, men across nine provinces, who then fought alongside, rather than against the Coalition.[233] In enabling tactical-level relationships and security cooperation between Iraqi citizens and U.S. soldiers, SOI was extremely effective in reducing violence, as attacks dropped from 1,350 per month in October 2006 to only 200 per month in August 2007.[234]

Critics of the program note the fact that the Sunni support for the program may have been more a repudiation of al-Qaeda in Iraq's influence than an embrace of U.S. objectives.[235] Additionally, SIGIR identified two major issues: weak financial controls (program managers could not confirm whether SOI members received their salaries) and lack of evaluations for program outcomes (other than narrative data).[236] Despite its weaknesses and lack of empirical evaluation, SOI provides an excellent example of leveraging reconstruction funds to reduce violence and achieve some measure of stabilization in the short run.[237]

Multiple Objective Programs

Economic Support Fund (ESF)

DOS and USAID jointly managed the Economic Support Fund (ESF) in Iraq, which totaled $5.13 billion and focused on democratization, government capacity building and economic growth.[238] Initiatives included the Community Stabilization Program (CSP), Community Action Program (CAP), and PRT Quick Response Fund.[239] Of note, the CSP aimed to reduce violence

[230] Ibid, p. 55.
[231] SIGIR, p. 100.
[232] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, p. 73.
[233] Ibid, p. 92.
[234] Mark Wilbanks and Efraim Karsh, "How the 'Sons of Iraq' Stabilized Iraq, *Middle East Quarterly,* Fall 2010, p. 62.
[235] Greg Bruno, "The Role of the 'Sons of Iraq' in Improving Security," Council of Foreign Relations, April 28, 2008.
[236] SIGIR, p. 100.
[237] Greg Bruno, "Finding a Place for the 'Sons of Iraq,'" Council on Foreign Relations, January 9, 2009.
[238] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, p. 55.
[239] Ibid, p. 64

by generating employment in 17 cities. Despite providing direct employment for 47,000 Iraqis and providing $77.4 million in grants to 10,250 business owners, the USAID Inspector General was not only unable to establish a causal relationship between CSP efforts and violence reduction, but found evidence that millions of dollars in CSP funds may have ended up in insurgent hands.[240]

In Afghanistan, ESF programs totaling $18.6 billion in focused on meeting short and long-term political, economic, and security needs.[241] USAID and DOS jointly administered the programs which were quite diverse, ranging from counter-terrorism, to legal system development to economic growth. Information regarding program outcomes for the ESF in Afghanistan is not readily available.

Commander's Emergency Response Program (CERP)

Resulting from the accidental discovery of $650 million in hidden Iraqi funds in 2003, CERP placed financial resources directly into the hands of tactical commanders in order to address urgent humanitarian needs largely unencumbered by bureaucratic delays.[242] DOD authorized projects within twenty categories, ranging from battle damage repair to sanitation projects to micro-business grants.[243] Due to its popularity with commanders, DOD later expanded CERP to Afghanistan.[244] CERP spending totaled $4.12 billion in Iraq and $3.68 billion to date in Afghanistan.[245]

By 2006, CERP in Iraq had radically shifted away from the original intent of small-scale projects meeting local needs, toward large infrastructure projects. This raised concerns of project quality, sustainability, and duplication of effort with work done by other U.S. agencies, particularly USAID. [246] Congress imposed a $2 million per-project limit before ultimately ending Iraq CERP funding in 2011 due to concerns that the program was not addressing urgent needs as intended.[247] Similarly, many CERP projects in Afghanistan also greatly exceeded the intended $500,000 per project limit in Afghanistan.[248] Issues also emerged with project quality. For example, SIGAR found that in Afghanistan's Laghman Province, 27 out of 69 CERP projects were in danger of "questionable outcomes," placing $49 million at risk of being wasted.[249] The majority of this amount ($44.6 million) was allocated for paving roads which the Afghan government was unable to maintain.[250]

[240] Ibid, p. 112.
[241] SIGAR, "Quarterly Report to the United States Congress," April 30, 2016, p. 86.
[242] David Zucchino, "Troops find Baghdad stash: $650 million / Little-noticed cottages hold boxes of cash," *L.A. Times,* April 19, 2003.
[243] SIGIR, "Commander's Emergency Response Program in Iraq Funds Many Large-Scale Projects," January 2008.
[244] Crane, et al., "Guidebook for Supporting Economic Development in Stability Operations," RAND Corporation, 2009, p. 24.
[245] SIGIR, "Learning From Iraq: A Final Report From the Special Inspector General for Iraq Reconstruction," March 2013, p. 9.
[246] Ibid, p. 65.
[247] Ibid, p. 123
[248] John Sopko, "Statement Before the Committee on Oversight and Government Reform U.S. House of Representatives," March 16, 2016. p. 4.
[249] SIGAR, "Quarterly Report to the United States Congress," April 30, 2016, p. i.
[250] Ibid.

Empirical research has shown that the vast majority of reconstruction spending in Iraq (non-CERP) had no violence-reducing effect.[251] Reasons for this have not been empirically identified, but they likely involve corruption and insurgent opposition. Researchers in the same study found that small CERP projects that were informed by community needs and secured by troops were successful in reducing violence, as measured by the military's "significant activities (SIGACTs).[252] Another 2014 study similarly found that the use of CERP had a violence-reducing effect, but also found that large CERP projects correlated with increased violence.[253] As a 2014 RAND report noted, CERP is likely one of the innovations in stability operations resulting from the wars in Afghanistan and Iraq that will remain a tool for future operations, due to its flexibility.[254]

[251] Eli Berman Jacob N. Shapiro and Joseph H. Felter, "Can Hearts and Minds Be Bought? The Economics of Counterinsurgency in Iraq," *Journal of Political Economy,* August 2011.
[252] Ibid.
[253] Greg Adams, "Conflict of Interest: Military-Led Development Insights from Afghanistan for Warfighters, Development Practitioners, and Policy Makers," Harvard Kennedy School of Government, March 17, 2014.
[254] Chivvis, et al., "Initial Thoughts on the Impact of the Iraq War on U.S. National Security Structures, RAND Corporation, 2014.

Appendix B

The U.S. Army's Required Tactical Economic Capabilities

Both joint and Army doctrine mandate proficiency in economic tasks as part of both stability and counterinsurgency operations. Doctrine also requires the Army to evaluate the impacts of these activities. The 2014 QDR sets out stability and counterinsurgency operations as one of eleven enduring armed forces missions in which the Army plays a major role.[255] In reissuing the 2005 DOD Directive on stability, security, transition, and reconstruction (SSTR) operations, DOD Instruction 3000.05 requires that the U.S. military take the lead in restoring essential services, rebuilding critical infrastructure, and providing humanitarian assistance until it can transition responsibility to other agencies or the local government.[256] Both the 2011 joint doctrine on stability, Joint Publication 3-07, and the Army Operating Concept echo this guidance in highlighting the importance of essential services, infrastructure, and relief efforts.[257]

These types of operations closely resemble the activities conducted by international humanitarian and development organizations such as USAID and the World Bank. A primary difference, however, is the underlying organizational mission of military forces. Ultimately, the Army's mandate requires it to establish security rather than pursue philanthropic objectives. In ADRP 3-0, Army doctrine draws the connection between stability tasks and "wide area security."[258] Military ground forces are usually the only organizations available to conduct such tasks during or immediately after a conflict, as former Secretary of Defense Robert Gates noted:

"We know that at least in the early phases of any conflict, contingency or natural disaster, the U.S. military–as has been the case throughout our history–will be responsible for security, reconstruction, and providing basic sustenance and public services. I make it a point to reinforce this message before military audiences, to ensure that the lessons learned and relearned in recent years are not forgotten or again pushed to the margins."[259]

[255] 2014 QDR.
[256] Department of Defense, "Stability Operations," (DOD Instruction 3000.05) September 16, 2009.
[257] Department of Defense, "Joint Operations" (JP 3-0), August 11, 2011, p. V-4; "The U.S. Army Operating Concept," p. 16.
[258] Department of the Army, "Unified Land Operations," (ADRP 3-0), May 2012.
[259] U.S. Joint Forces Command, "Military Support to Economic Normalization Handbook," July 2009, p. I-1.

Appendix C
Hierarchy of Evidence

Source: Harrison, Todd and John Speed Meyers. "Contracting Under Fire: Lessons Learned in Wartime Contracting and Expeditionary Economics." Center for Strategic and Budgetary Assessments. 2012.

Appendix D
DOD CERP Reporting Requirements

CERP Quarterly Report Commander's Narrative

1. Each quarterly report, submitted in accordance with section 270402, will contain a Commander's Narrative from the Commander, MNC-I and Commander, CJTF in Afghanistan that at the beginning of each fiscal establishes:

A. Commander's overall goals for the CERP funding
B. At least three supporting areas of emphasis for using the funding
C. How progress against the identified goals will be judged

2. Each quarter the Commander's Narrative will review the goals as required above and report progress achieved against the identified goals, using the above noted methods.
A. Significant events/issues that have occurred since the previous quarterly report
B. Adequacy of projected funding
C. Areas anticipated to be of interest to USCENTCOM, HQDA, OSD and Congress
D. Any problems arising in the transfer of completed projects to the government
E. Impact of security situation on monitoring of CERP funded projects

F. Newly approved projects > $500,000 and the category of any project
G. Projects > $500,000 that were completed during the quarter and category of each project.
H. Contributions each project > $500,000 made to humanitarian relief and reconstruction efforts for the benefit of the Iraqi and Afghan people.
I. Efforts made to obtain donor funding for projects and results obtained.
J. Identification of any projects or category of projects that are cost-shared and with whom.
K. Date that projects were turned over to the appropriate government.
L. Impacts of CERP funded projects, individually and collectively in assisting the U.S. carry out its strategy.
M. For Iraq, progress made in identifying and pursuing opportunities to transition responsibility for larger economic revitalization efforts to the Government of Iraq (GoI) including;

· The level of funding from the GoI into I-CERP;
· The level of funding provided by GoI through other programs to meet urgent humanitarian relief and reconstruction requirements that immediately assist the Iraqi people; and
· The status of efforts to transition Sons/Daughters of Iraq to the GoI.

Source: Department of Defense. "Financial Management Regulation, Volume 12, Chapter 27: Commanders' Emergency Response Program (CERP)" (DOD 7000.14-R) January 2009. pp. 27-5 - 27-6

Appendix E

Key Empirical Studies of Conflict and Development

Table 3: Key Empirical Studies of Conflict

Author(s)	Paper	Topic/Type of Study	Findings
Berman, Felter Shapiro, and Troland	**"Modest, Secure and Informed: Successful Development in Conflict Zones"** (2013)	Effects CERP spending during 2007 Iraq surge *Natural experiment (Regression discontinuity)*	-90% of reconstruction spending had no violence-reducing effect. -CERP spending was most effective when projects were small (<$50k), troops strength was high, and development expertise was present.
Beath, Christia, and	**"Winning Hearts and Minds Through**	Afghan National Solidarity Program	-Village participation in NSP improved perceptions

Enikolopov	**Development: Evidence from a Field Experiment in Afghanistan"** (2012)	(NSP) *RCT*	of well-being, attitudes toward government, and local security. -Effect did not occur in areas with high initial violence. -Suggests minimum security threshold for development programs to be effective.
Crost, Felter, and Johnston	**"Aid Under Fire: Development Projects and and Civil Conflict"** (2014)	Philippine community-driven development (CDD) program (KALAHI-CIDSS) *Natural experiment (Regression discontinuity)*	-Development projects increased insurgent violence if governments could not secure projects or credibly commit to upholding agreements with villages
Crost, Felter, and Johnston	**"Conditional Cash Transfers, Civil Conflict and Insurgent Influence: Experimental Evidence from the Philippines"** (2016)	Effect of conditional cash transfers (CCTs) on conflict in the Philippines *RCT*	-CCTs reduced conflict and insurgent influence in villages -The effect may have been due to shifting violence to untreated villages
Khanna and Zimmerman	**"Fighting Maoist Violence with Promises: Evidence from India's Employment Guarantee Scheme"** (2014)	Effect of the National Rural Employment Guarantee Scheme (NREGS)on Maoist violence in India *Natural experiment (Difference-in-difference)*	-Introducing the program caused large increase in violence in the short run, mainly driven by police-initiated attacks -Program made police more effective at tracking insurgents due to citizen support
Malkasian and Meyerle	**"Provincial Reconstruction Teams: How Do We Know They Work?"** (2009)	Impact of PRT spending in Afghanistan *Observational*	-Positive correlation between PRT spending and district security ratings for Khost and Ghazni provinces in 2007.

			-In 2008, violence in Khost increased despite increase in PRT project funds.
Iyengar, Monten, and Hanson	"Building Peace: The Impact of Aid on the Labor Market for Insurgent" (2011)	Effect of employment on violence in Iraq *Observational*	-Labor intensive programs reduced insurgent violence -10% increase in labor programs reduced violence by 10%
Berman, Callen, Felter, and Shapiro	"Do Working Men Rebel? Insurgency and Unemployment in Afghanistan, Iraq, and the Philippines" (2011)	Effect of unemployment on insurgencies *Observational*	-No statistically-significant relationship between unemployment and insurgent violence -Higher employment may make it harder for government forces to buy information
Dube and Naidu	"Bases, Bullets, and Ballots: The Effect of U.S. Military Aid on Political Conflict in Colombia" (2010)	Impact of U.S. military aid on violence in Colombia *Observational*	-A 1% increase in military aid increased paramilitary attacks by 1.5% -Military aid reduces voter turnout in municipalities where U.S. assistance rises

Table 4: Example Empirical Studies in International Development

Author(s)	Paper	Topic/Type of Study	Findings
Miguel and Kremer	"Worms: Identifying Impacts on Education and Health in the Presence of Treatment Externalities" (2004)	School-based deworming intervention in Kenya *RCT*	- Deworming programs improved health and decreased school absenteeism by one-quarter but did not have observable effects on school achievement. -Effect was observed among both treated and untreated schools due to a spillover effect.

Blattman and Annan	**"Can Employment Reduce Lawlessness and Rebellion? A Field Experiment with High-Risk Men in a Fragile State"** (2015)	Rehabilitation program for ex-fighters in Liberia *RCT*	-Program caused men to reduce illicit activities. -Largest impact came from contingent future cash payments.
Nunn and Qian	**"US Food Aid and Civil Conflict"** (2014)	U.S. food aid *Natural Experiment*	U.S. food aid increased incidence and duration of civil conflict in recipient countries.

By establishing causal effects through either an RCT or natural experiment, the three studies above provided invaluable insight into their topics. The policy-relevant conclusions had the potential to guide allocation of resources. In the deworming study for example, Miguel and Kremer found that deworming children was less expensive than alternatives for increasing school attendance. Although it brought a positive externality benefiting nearby untreated schools, it did not have an observable impact on test scores. Such nuanced findings allow policymakers to make better-informed decisions regarding interventions in complex environments.

Appendix F

List of Acronyms

ACS Advanced Civil Schooling

ADRP Army Doctrine Reference Publication

AIF Afghanistan Infrastructure Fund

ANA Afghan National Army

ANP Afghan National Police

ANDSF Afghan National Defense and Security Forces

ASFF Afghan Security Forces Fund

AOC Army Operating Concept

ARCIC U.S. Army Capabilities Integration Center

AWFC	Army Warfighting Challenge
CALL	Center for Army Lessons Learned
CAP	Community Action Program
CCT	Conditional Cash Transfer
CERP	Commander's Emergency Response Program
CENTCOM	United States Central Command
CID	Center for International Development
COIN	Counterinsurgency
CNA	Capability Needs Analysis
CPA	Coalition Provisional Authority
CSP	Community Stabilization Program
DOS	Department of State
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel, Facilities
DOD	Department of Defense
DSCA	Defense Support of Civilian Authorities
DST	District Support Team
ESF	Economic Stability Fund
FORSCOM	U.S. Army Forces Command
FM	Field Manual
GDP	Gross Domestic Product
GWOT	Global War on Terrorism
HTS	Human Terrain System
IMSO	Integrated Monetary Support Operations
INCLE	International Narcotics Control and Law Enforcement

IRRF	Iraq Relief and Reconstruction Fund
ISFF	Iraq Security Forces Fund
CIDSS	Comprehensive Integrated Delivery of Social Service
MAAWS	Money as a Weapon System
MCC	Millennium Challenge Corporation
MOP	Measure of Performance
MOE	Measure of Effectiveness
NBER	National Bureau of Economic Research
NSP	National Solidarity Program
OECD	Organization for Economic Cooperation and Development
PME	Professional Military Education
PRT	Provincial Reconstruction Team
QDR	Quadrennial Defense Review
RCT	Randomized Controlled Trial
SIGACT	Significant Activity
SIGAR	Special Inspector General for Afghanistan Reconstruction
SIGIR	Special Inspector General for Iraq Reconstruction
SOI	Sons of Iraq
SRO	Stabilization and Reconstruction Operations
SSTR	Stability, Security, Transition, and Reconstruction
SWEAT-MS	Sewer, Water, Electricity, Academics, Trash, Medical, Safety
TFBSO	Task Force for Business and Stability Operations
TRADOC	U.S. Army Training and Doctrine Command
TTP	Tactics, Techniques, and Procedures
ULO	Unified Land Operations

USACE	United States Army Corps of Engineers
USAID	United States Agency for International Development
USFOR-A	United States Forces Afghanistan