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Can “Tactical Economics” Help the U.S. Army “Win in a Complex World?” Addressing Army Warfighting Challenges with an Evidence-Based Approach

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Can “Tactical Economics” Help the U.S. Army “Win in a Complex World?”

Addressing Army Warfighting Challenges with an Evidence-Based Approach



Policy Analysis Exercise

Written in Partial Fulfillment of the Master in Public Policy
at the Harvard Kennedy School of Government

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Executive Summary

As the 2014 Quadrennial Defense Review highlights, the U.S. military faces a world that is more volatile and complex than ever before. The Department of Defense's primary ground force, the U.S. Army, bears primary responsibility for leading population-centric stability operations, which involve establishing security, providing humanitarian relief, restoring essential services, and rebuilding critical infrastructure. This paper examines the Army's recent experiences with stability operations and considers whether economic programs at the "micro" level can provide an important capability to tactical units--"tactical economics." Employing economic interventions effectively is extremely difficult, as operations in Iraq and Afghanistan have demonstrated. To prepare for future stability operations, the U.S. Army can benefit from an assessment of its current capabilities. Analysis indicates that adoption of an "evidence-based" approach to tactical economics, guided by insights provided by empirical social science, can provide a powerful nonlethal option by which tactical commanders can shape the security environment.

Research Questions

1. Why were the U.S. military's tactical economic efforts largely unsuccessful in Iraq and Afghanistan?
2. What lessons can the U.S. Army learn from the international development community and empirical social science research?
3. How can the U.S. Army more effectively employ tactical economics to shape the security environment?

Methodology

This paper uses an informal Capability Needs Analysis (CNA) to identify possible "capability gaps" in regard to employing economic programs at the tactical level. Since the international community faces a similar problem set when conducting humanitarian relief and economic development in conflict-affected regions, development literature and best practices provide a lens with which to assess capability gaps and propose solutions.

Key Findings

- A decade ago, the international development community identified an “evaluation gap” due to lack of impact evaluations of economic programs.
- The recent “credibility revolution” in empirical social science has provided powerful tools with which to assess program effectiveness and identify causal effects. This evidence-based approach has proven effective in improving program outcomes. By adopting a similar evidence-based approach, the Army can more effectively employ economic programs to shape security environments.
- An informal CNA identified capability gaps in three categories (Doctrine, Education, and Personnel/Expertise) and generated five possible solutions to address the gaps:
 1. Update Army economic doctrine
 2. Revise internal economics education
 3. Expand external economics education
 4. Develop internal economics expertise
 5. Acquire external economics expertise
- Evaluation of available policy options indicates that the highest payoff solutions be prioritized:
 - Priority #1:** Expand external economics education
 - Priority #2:** Acquire external economics expertise
 - Priority #3:** Update Army economic doctrine.

Recommendations

Short Term (1-2 years)

1. Expand executive education and broadening programs for Army leaders.
2. Develop stronger ties with the social science research community.
3. Thoroughly analyze CERP data from Iraq and Afghanistan.
4. Update informal doctrine using insights from empirical social science.

Medium Term (3-5 years)

1. Formalize relationships with the social science community.
2. Revise key stability and COIN field manuals.

Long Term (6-10 years)

1. Revise Army professional military education (PME).
 2. Establish a “Tactical Economics Center of Excellence” to coordinate research and evaluation efforts.
-

List of Acronyms

ADRP	Army Doctrine Reference Publication
AOC	Army Operating Concept
ARCIC	U.S. Army Capabilities Integration Center
AWFC	Army Warfighting Challenge
CERP	Commander's Emergency Response Program
COIN	Counterinsurgency
CNA	Capability Needs Analysis
DOD	Department of Defense
DOS	Department of State
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel, Facilities
FORSCOM	U.S. Army Forces Command
FM	Field Manual
MOP	Measure of Performance
MOE	Measure of Effectiveness
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 Afghanistan Reconstruction
TRADOC	U.S. Army Training and Doctrine Command
ULO	Unified Land Operations
USAID	United States Agency for International Development

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 fact recognized by the Department of Defense (DOD). In a shift from away from large-scale conflict, the U.S. military expects to more regularly conduct population-centric operations in volatile regions. The 2014 Quadrennial Defense Review (QDR) highlights two central challenges: operations within “fragile” states and an uncertain budget environment. It also makes clear the importance of preparation for a “full spectrum of possible operations.”¹ Economic interventions have historically been a vital nonlethal shaping operation, although have not always proven themselves cost effective.

The U.S. Army’s stability manual highlights the fact that in U.S. history, the military has fought only eleven conventional conflicts, a number dwarfed by the hundreds of other operations focused on stability tasks.² As DOD’s primary ground force, the U.S. Army is mandated to assume the lead in Unified Land Operations (ULO) and generally has responsibility for stability and reconstruction operations. Within context of the QDR, the recently-published Army Operating Concept (AOC) mandates that the Army be able to “win in a complex world.” In contrast to operations during the Cold War, when the U.S. military faced a known enemy in known terrain, both of these, along with future coalitions, are constantly changing. As both the military and the international development community have found, the effects of economic interventions are much more complicated than previously thought. Consequently, the Army

¹ Department of Defense, “Quadrennial Defense Review 2014,” March 2014, p. iii.

² Department of the Army, “Unified Land Operations,” (ADRP 3-0), May 2012, p. 1-1.

needs new tools to both update its current understanding and continually adapt its knowledge in the face of constantly-changing threats.

Success in this environment requires consideration of eight interconnected operational variables, as described in ADRP 5-0: political, military, economic, social, information, infrastructure, physical environment, and time.³ The U.S. Army has developed capabilities to address each of these variables. Economics is one of the areas in which the U.S. military--along with many other agencies--has struggled significantly in an increasingly complex operating environment, which usually includes conditions of conflict or fragility.⁴ Adding to the complexity is that economic interventions, such as the Commander's Emergency Response Program (CERP), can simultaneously impact multiple economic and social variables for good or ill.

Economic efforts have occurred at various echelons within combat zones. In this paper, I draw a distinction between "macro" and "micro" economic programs. Whereas "macro" programs aim to create favorable conditions within the macro economy (such as trade policy, the financial system, etc.) activities that affect the population most directly are those conducted by units operating in proximity to the people. I will thus use the term "tactical economics" to denote economic programs and tools designed to be used by tactical level units (brigade and below, including Provincial Reconstruction Teams) to influence local populations. Tactical economics is neither a doctrinal nor widely-used term. The only mention within the literature is a U.S. Army Command and General Staff College thesis by Iven Sugai.⁵ In this paper, he develops a

³ Department of the Army, "The Operations Process," (ADRP 5-0), May 2012.

⁴ Fragility, as defined by risk indicators in "Fragile States Index 2015," Fund for Peace.

⁵ 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.

framework by which Army units can contribute to economic development during stability operations despite lack of expertise in the area. This paper builds upon this concept by proposing that the Army fill this expertise gap through stronger ties to the academic social science research community.

When viewed as a “shaping operation,” tactical economics can provide additional nonlethal options for tactical commanders to shape the security environment during unified land operations.⁶ Unfortunately, employing economic interventions effectively is extremely difficult, as recent experiences in Iraq and Afghanistan have illustrated. They are exponentially more difficult under conditions of conflict. The difficulty is compounded further when conducted by an organization not designed to conduct economic interventions. This is the threefold challenge faced by the U.S. Army, an organization often confronted by intractable economic issues in the developing world, yet charged with a primary mission to “fight and win [the] Nation’s wars.”⁷

The purpose of this paper is to evaluate the U.S. Army’s capabilities in employing tactical economics and propose steps to improve them using an evidence-based approach. Arguably, the U.S. Army should not attempt become USAID or the World Bank, but should leverage every tool at its disposal to accomplish its security mission. Although the U.S. military has encountered difficulty with past economic interventions, it should not dismiss them as a potentially powerful tool to contribute to “Army Warfighting Challenge 2: Shape the Security Environment.”⁸ I seek to do this by considering the following research questions:

⁶ A shaping operation is “an operation that establishes conditions for the decisive operation through effects on the enemy, other actors, and the terrain.” ADRP 3-0, p. 1-12.

⁷ U.S. Army website, “Mission,” accessed January 2016.

⁸ ARCIC, “Army Warfighting Challenges,” December 2015.

1. Why were the U.S. military's tactical economic efforts largely unsuccessful in Iraq and Afghanistan?
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Background/Problem Statement

The U.S. military has a long history of engaging in post-conflict stability operations.⁹ As the organization usually best positioned to restore order in the wake of combat operations, “reluctant economists” within the U.S. Army often bear the responsibility for initial efforts to rebuild infrastructure and restoring a functioning economy.¹⁰ The most prominent example of success was the U.S. reconstruction of West Germany and Japan in the aftermath of World War II. The U.S. military subsequently played varying roles in economic interventions in Korea, Vietnam, Somalia, Haiti, Bosnia, and Kosovo, but largely focused on providing security. In Afghanistan, and Iraq, the military's role in economic stabilization, reconstruction, and development once again came to the forefront.

The failure of U.S. reconstruction efforts in Iraq and Afghanistan provide a stark contrast to post-World War II success. U.S. invasions of Iraq and Afghanistan brought the military's role in economic development to the forefront. The top-down “whole-of-government” approach to reconstruction, which resembled the post-World War II model, quickly backfired. Despite infusing vast amounts of money, reconstruction efforts in both Iraq and Afghanistan failed at a

⁹ 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.

¹⁰ COL(Ret.) Jeffrey Peterson, “Towards a Post-Conflict Economic Development Doctrine,” in Summit on Entrepreneurship and Expeditionary Economics, Kauffman Foundation, 2010.

strategic level, as both countries have neither been stabilized nor developed sustainable economies. The Special Investigator General for Afghanistan (SIGAR) found reconstruction efforts to have been “an abysmal failure.”¹¹ The agency found that DOD spent between \$700 and \$800 million and “accomplished nothing.”¹² In total, U.S. reconstruction spending exceeded \$60 billion in Iraq and \$110 billion in Afghanistan--figures which dwarf the \$29.6 billion and \$15.2 billion price tags for successful reconstruction efforts in Germany and Japan, respectively, from 1946-1952.¹³ Much of the latter aid was in fact repaid by the two former Axis countries.

Numerous economic programs were developed within an interagency context, but the Commander’s Emergency Relief Fund (CERP) placed financial resources directly into the hands of tactical commanders in order to impact both security and economic development simultaneously.¹⁴ This paper will hence focus on use of CERP as the Army’s primary tool to employ economics at the tactical level. CERP was established in Iraq in 2003 by the Coalition Provisional Authority (the post-invasion transitional U.S. government) using seized Iraqi assets and later expanded to Afghanistan.¹⁵ The original purpose was to address urgent local needs requiring immediate action by commanders and largely unencumbered by bureaucratic controls. Empirical research has shown, surprisingly, that the vast majority of reconstruction spending in

¹¹ Joe Gould, “SIGAR: Pentagon’s Economic Development in Afghanistan ‘Accomplished Nothing,’” *Military Times*, 2014.

¹² Gould.

¹³ 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.

¹⁴ Nathan W. Toronto, “Stability Economics: The Economic Foundations of Security in Post-Conflict Environments,” U.S. Army Combined Arms Center, 2012, p. 1.

¹⁵ Crane, et al., “Guidebook for Supporting Economic Development in Stability Operations,” RAND Corporation, 2009, p. 24.

Iraq (non-CERP) had no violence-reducing effect, reasons for which are still largely unknown.¹⁶

The magnitude of CERP spending was massive, totaling \$4.12 billion in Iraq.¹⁷ In Afghanistan, 2011 CERP spending equaled 5 percent of the country's annual GDP.¹⁸ Despite wide-ranging opinions regarding the Army's appropriate role economic reconstruction and development, the level of funds allocated have in many ways made it a de facto member of the international development community.

The U.S. military faces an “evaluation gap” in determining tactical effect of economic programs.

Despite vast sums of money spent during stability operations, the U.S. military gained very little insight into the effectiveness of those funds. As the special investigators for both Iraq and Afghanistan (SIGIR and SIGAR) have highlighted, DOD has struggled to even account for billions of dollars it spent on reconstruction, let alone measure specific outcomes. Tragically, due to insufficient monitoring, evaluation, and analysis, the staggering price tags for reconstruction brought very little insight into the causal factors for successful interventions. Although military doctrine explicitly mandates use of performance indicators, the Army lacks a large-scale capability to gather and analyze data. The preceding failures in economic effectiveness and outcome evaluation indicate a capability gap in the area of tactical economics.

¹⁶ 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.

¹⁷ SIGIR, “Learning From Iraq: A Final Report,” March 2013, p. 9.

¹⁸ Vijaya Ramachandran and Julie Walz, “The Commander’s Emergency Response Program in Afghanistan: Refining U.S. Military Capabilities in Stability and In-Conflict Development Activities,” Center for Global Development, September 6, 2011.

Methodology

This paper uses an informal capability needs analysis (CNA) approach to better understand this capability gap and propose solutions to address specific deficiencies. Although I consider capabilities from the standpoint of the U.S. Army, long term solutions will fall within the larger DOD context and apply to ground forces in other branches of service involved in land operations (most notably the Marine Corps). When conducting a CNA, it is necessary to ask four questions:

1. What must the Army be able to do (required capabilities)?
2. What are current Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities, and Policy (DOTMLPF) capability solutions to meet those requirements?
3. What are the capabilities gaps?
4. What are potential ways to close the gaps?¹⁹

To assess capability gaps and generate potential solutions across DOTMLPF, I evaluate the U.S. military's history of economic interventions in light of empirical social science research. Over the past decade, the social sciences have gained tremendous insight into the effectiveness of economic interventions in developing and fragile states. Data sources include the following:

- Government and military reports
- Empirical social science research
- Case studies
- Interviews with military officers and development professionals

Why look to the international development community for best practices?

The international development community seeks to achieve many of the same goals within fragile states and conflict-affected regions, including humanitarian relief, restoring essential services, and promoting economic growth. Like the U.S. military, it has also struggled

¹⁹ Matthew DiGiosaffatte, "Capability Needs Analysis," ARCIC, September 27, 2013.

with achieving desired results. Decades ago, economist Jeffrey Sachs postulated that poor countries suffered from a “poverty trap,” which simply required investment sufficient capital to overcome.²⁰ However, “simple answers” proved ineffective. Despite \$2.3 trillion in foreign aid which flowed from the developed countries to the developing world over the past fifty years, extreme poverty has been significantly reduced, but not eliminated.²¹ As a result, the development economics field has moved away from “universal answers” toward a more evidence-based approach, which uses rigorous quantitative data to determine which programs work and why.²²

The insights we now benefit from have not always been available. A decade ago, the international development community also faced an “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 found itself “bemoaning the lack of knowledge about what really works.”²³ During the following ten years, the evaluation gap has been addressed through an explosion in number and quality of impact evaluations. Empirical economics enjoyed a “credibility revolution” as a result, through use of an evidence-based approach, which incorporates hypothesis-based interventions evaluated using statistical methods.²⁴ As Dr. Christia of MIT recently pointed out,

²⁰ Jeffrey D. Sachs, *The End of Poverty: Economic Possibilities for Our Time*, 2005.

²¹ An estimated 12.7 percent of global population lives in extreme poverty. The World Bank, “Poverty Overview,” October 7, 2015; William R. Easterly, *The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and So Little Good*, 2006, p. 4.

²² Abhijit Banerjee and Esther Duflo, *Poor Economics*, 2011.

²³ Evaluation Gap Working Group. “When Will We Ever Learn? Improving Lives Through Impact Evaluation,” Center for Global Development, May 2006, p. 8.

²⁴ 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.

there has been a surge in social science research focused understanding the causal factors driving the dynamics of intrastate conflict rather than interstate war.²⁵

Despite this evaluation surge, many challenges remain due to the inherent difficulty of conducting impact evaluation and applying lessons learned to interventions. The number of impact evaluations is still small compared to the number of open research questions.²⁶ The evaluation gap is even more severe for development during conflict. According to OECD research, there has been “little to no evaluation activity in settings of violent conflict,” which makes it very difficult to understand the impact of interventions.²⁷ 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.”²⁸ The U.S. Army has a comparative advantage in the latter, as security capabilities provide access to violent areas.

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 impact evaluations, has begun to shed light on the causal factors behind interventions.²⁹ Such information is particularly important because economic programs have often been found not only to have been ineffective, but to create 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

²⁵ Dr. Fotini Christia, remarks at the Future of War Conference, Washington DC, March 10, 2016.

²⁶ William D. Savedoff, “The Evaluation Gap is Closing, But Not Closed,” Center for Global Development, March 24, 2015.

²⁷ OECD, “Evaluating Peacebuilding Activities in Settings of Conflict and Fragility,” 2012, p. 7.

²⁸ Christia.

²⁹ Angrist and Pischke.

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 Harrison and Meyers point out, a “hierarchy of evidence” exists due to varying levels of randomization.³⁰ As Appendix A illustrates, randomized controlled trials (RCTs) provide the “gold standard” of studies since the randomization allows the study to identify causality, not just correlation. The disadvantage 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.³¹

The following tables provide examples of the insights provided by social science (see appendix B for more complete list of studies used in this paper). The knowledge frontier for studies focused on conflict is not far and the body of literature is still relatively small, with the majority of these papers having been published only within the past few years.

³⁰ Todd Harrison and John Speed Meyers, “Contracting Under Fire: Lessons Learned in Wartime Contracting and Expeditionary Economics,” Center for Strategic and Budgetary Assessments, 2012.

³¹ Examples include use of instrumental variables, regression discontinuity, and difference-in-differences.

Table 1: 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 <i>RCT</i>	-Deworming programs improved health and decreased school absenteeism by one-quarter but did not have observable effects on school achievement. -Effect 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 <i>RCT</i>	-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 <i>Natural Experiment</i>	U.S. food aid increased incidence and duration of civil conflict in recipient countries.

By discovering 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.

Table 2: Key Empirical Studies Pertaining to Conflict and Military Operations

Author(s)	Paper	Topic/Type of Study	Findings
Berman, Felter Shapiro, and Troland	“Modest, Secure and Informed: Successful Development in Conflict Zones” (2013)	Effect of CERP spending during the 2007 Iraq surge <i>Natural Experiment (Regression Discontinuity)</i>	-Large reconstruction programs increased violence. -CERP was most effective when projects were small (<\$50k), troop strength was high, and development expertise was available. -Small projects were three times more effective when a PRT operated in the district
Beath, Christia, and Enikolopov	“Winning Hearts and Minds Through Development: Evidence from a Field Experiment in Afghanistan” (2012)	Afghan National Solidarity Program (NSP) <i>RCT</i>	-Village participation in NSP improved perceptions of well-being, attitudes toward government, and local security. -Effect did not occur in areas with high initial violence. -Results suggest minimum security threshold for development programs to be effective.
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 <i>RCT</i>	-CCTs reduced conflict and insurgent influence in villages -The effect may have been due to shifting violence to untreated villages
Iyengar, Monten, and Hanson	“Building Peace: The Impact of Aid on the Labor Market for Insurgent” (2011)	Effect of employment on violence in Iraq <i>Observational</i>	-Labor intensive programs reduced insurgent violence -10% increase in labor-intensive public works spending reduced violence by 10%

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

The four papers in Table 2 demonstrate that economic programs can have a measurable impact on the security environment. Using a natural experiment provided by the 2007 troop surge in Iraq, Berman, et al. documented a causal link between CERP spending and reduced violence as measured by the military’s significant activity (SIGACT) data. However, the effect was only observed with small projects, whereas large projects increased violence. 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. Crost, et al. found that in the Philippines, conditional cash transfers (CCTs) reduced conflict and insurgent influence by the government. Lastly, Iyengar, et al. demonstrated that increased spending on labor-intensive programs in Iraq reduced insurgent violence.

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. Thus, while it is tempting to apply the results of studies conducted in the Philippines to Afghanistan, the causal relationships may not hold. Despite such limitations, the conclusions of empirical studies can provide actionable hypotheses to commanders regarding how to allocate limited stability, reconstruction, and development resources.

Insufficient data collection has limited understanding of CERP outcomes

A 2015 SIGAR report found that DOD could not account for \$1.3 billion in CERP funds in Afghanistan.³² A 2011 U.S. Inspector General report similarly found inadequate reporting of CERP payments, as between 2008 and 2010, forces in Afghanistan failed to record data on 6,157 of 8,509 CERP payments exceeding \$1 billion.³³ As Berman, et al. pointed out, major challenge in applying an evidence-based approach is the difficulty of obtaining data, an effort which requires conscious effort and resourcing by management.³⁴ Despite detailed reporting requirements (see Appendix C), databases were not consistently updated and the Army Budget

³² 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.

³³ U.S. Inspector General, "Management Improvements Needed in Commander's Emergency Response Program in Afghanistan," November 21, 2011, p. i.

³⁴ Eli Berman, Joseph Felter, Ethan B. Kapstein, and Jake Shapiro, "How Empirical Studies of Violence (Can) Help Policymakers," *The Washington Post*, March 16, 2015.

Office tracked CERP projects in aggregate, but not on an individual basis. As a result, DOD lacks an accurate and comprehensive picture of what these projects accomplished in Iraq. The fact that CERP data is at best a “rough approximation” of actual inputs casts doubt on the commander narratives and analysis based on that data.³⁵

Evaluation efforts have largely focused on inputs rather than outcomes.

Comments by John Sopko (SIGAR) summed up the incentive problem related to project inputs:

“Performance does not matter in many of the situations...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. Not whether the contract accomplishing anything.’”³⁶

Similarly, in discussing his PRT experience in Afghanistan, diplomat Kael Weston noted that “[t]here was pressure early on to do a lot of building of things: to build roads and projects and to spend money.”³⁷ In 2007, his team spent \$53 million in one year to build 50-60 schools, of which less than half remained functional several years later.³⁸ Similarly, numerous reports have documented little effort within the U.S. military to assess measures of effectiveness.³⁹ A 2008 Princeton study found that large-scale evaluation of PRT outcomes in Iraq or Afghanistan has yet to occur.⁴⁰

³⁵ Ibid

³⁶ Sheila MacVicar, “SIGAR: We built an Afghanistan they can’t afford,” Aljazeera America. June 17, 2015.

³⁷ Rachel Martin, “Revisiting Afghanistan’s Reconstruction Teams,” National Public Radio, April 17, 2013.

³⁸ Ibid.

³⁹ Save the Children, “Provincial Reconstruction Teams and Humanitarian - Military Relations in Afghanistan,” 2004, p. 44.

⁴⁰ Abbaszadeh, et. al, “Provincial Reconstruction Teams: Lessons and Recommendations,” Woodrow Wilson School of Public and International Affairs, January 2008, p. 14.

Lack of both data collection and analysis has created a CERP “evaluation gap.”

Regarding CERP expenditures, 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.”⁴¹ As mentioned above, CERP spending had positive effects, but the U.S. military was unable to measure or communicate these effects. ARCIC director, Lieutenant General McMaster highlighted the importance of better analyzing data in partnership with social science in order to avoid “confus[ing] activity for progress toward objectives.”⁴² The missing evaluative capability is one of the primary motivations underlying this study.

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

As Anderson and Andrew proposed, tactical units can gather “economic intelligence” which they channel back to those with expertise in interpreting data and designing economic programs.⁴³ Similarly, Sugai proposed that the Army can provide the greatest contribution to economic development by collecting information that, when combined with interpretation by economic professionals, can contribute to a commander’s situational understanding.⁴⁴ To frame use of this information, it may be helpful to draw a parallel to scout units within the Army, the primary mission of which is to obtain information for a unit commander.

According to military doctrine, scouts do not assume a decisive role in defeating the enemy. Rather, their operations are assessed not only by direct effect on an enemy force, but more so on the quality of the information flow they provide, which can reduce uncertainty and

⁴¹ Michelle M. Stein, “Lawmakers question CERP funds in Afghanistan,” Medill DC, August 8, 2011.

⁴² 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.

⁴³ LTC (Ret.) David A. Anderson and LTC Andrew Wallen, “Preparing for Economics in Stability Operations,” *Military Review*, March-April 2008, p. 97.

⁴⁴ Sugai, p. 59.

enable decision-making.⁴⁵ Similarly, the outcome of every economic intervention 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 acquire large amounts of information at relatively low cost and risk. 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.

The U.S. Army's Required Economic Capabilities

The first step in conducting a CNA is determining required capabilities. DOD and Army doctrine both mandate proficiency in economic tasks as part of both stability and counterinsurgency operations. They also require 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.⁴⁶ 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.⁴⁷ Both the DOD stability manual (Joint

⁴⁵ Department of the Army, "Reconnaissance and Security Operations," (FM 3-98), July 2015.

⁴⁶ QDR 2014.

⁴⁷ Department of Defense, "Stability Operations," (DOD Instruction 3000.05) September 16, 2009.

Publication 3-07) and the Army Operating Concept echo this guidance in highlighting the importance of essential services, infrastructure, and relief efforts.⁴⁸

These statements make the necessity of economic programs clear. In fact, the types of operations closely resemble the activities conducted by international humanitarian and development organizations such as USAID or the World Bank. The primary difference, however, are the underlying organizational missions. Ultimately, the Army is mandated to establish security rather than pursue philanthropic objectives. 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.”⁴⁹

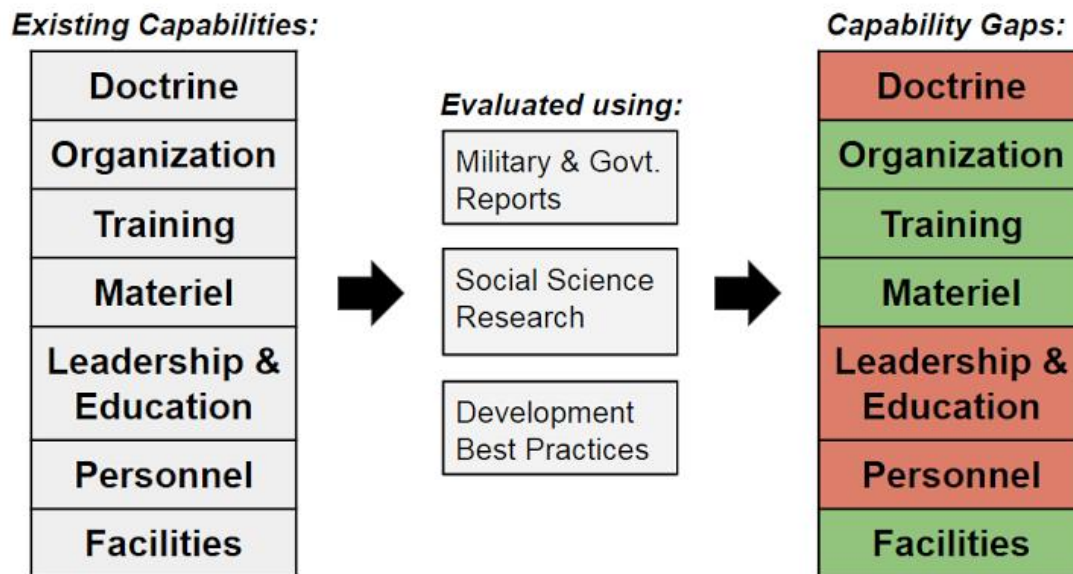
Identifying Capability Gaps

Assessing the Army’s economic stabilization capabilities using a DOTMLPF framework (Doctrine, Organizations, Training, Materiel, Leadership & Education, Personnel, and Facilities) can enable a more detailed understanding of areas in which the Army’s capabilities are lacking. After conducting the analysis, gaps emerge in three primary categories: doctrine, education, and personnel. Figure 1 summarizes this finding:

⁴⁸ Department of Defense, “Joint Operations” (JP 3-0), August 11, 2011, p. V-4; “The U.S. Army Operating Concept,” p. 16.

⁴⁹ U.S. Joint Forces Command, “Military Support to Economic Normalization Handbook,” July 2009, p. I-1.

Figure 1: Research Design/Capability Gaps



DOCTRINE

“The way we fight, e.g., emphasizing combined arms maneuver and wide area security.”⁵⁰

Analysis questions:

- “Is there existing doctrine that addresses or relates to the need?”
- “Are there operating procedures in place that are NOT being followed which contribute to the identified need?”⁵¹

To answer the questions above, I examine the primary manuals governing military economic interventions: the Army’s counterinsurgency field manual (FM 3-24) and the manual for stability operations (ADRP 3-07). I will also include 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

⁵⁰ ARCIC, “DOTMLPF Explained,” Accessed March 17, 2016

⁵¹ “JCIDS Process: DOTMLPF Analysis.” AcqNotes. Accessed March 17, 2016.

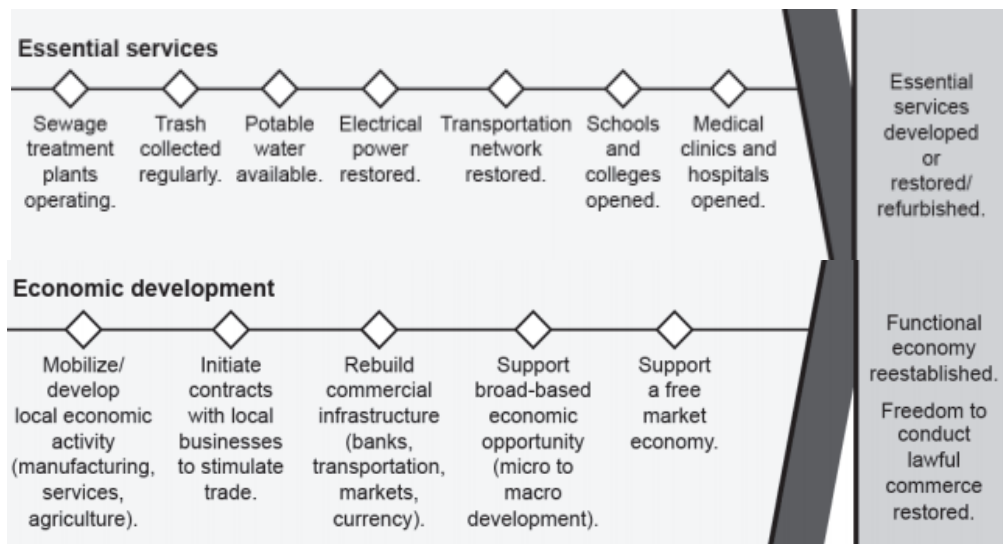
doctrine recognizes the importance of economics in population-centric warfare and provides a valuable interagency stability framework, but it has two major deficiencies: lack of specificity and contradictions with empirical data.

Lack of specificity within doctrine limits effective implementation.

Current doctrine instructs commanders to employ economic tools, but does not provide sufficient information regarding how to use them. The amount of assumed knowledge is vast--almost to the point where it impossible to execute given current levels of training. This leads to the danger that commanders will default to more familiar and much better-trained tactics at the expense of economic tools. For example, FM 3-24 discusses use of integrated monetary shaping operations (IMSO) and provides a list of 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.⁵² 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 swath 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 below illustrate the generalized guidance to the tactical leaders:

⁵² 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 some of the most difficult tasks even in the absence of conflict. As with monetary shaping operations, restoring essential services is complex, whereas the economic development line of effort is almost impossible even to highly-trained experts. Thus, I question whether there is any value in telling an infantry captain with no formal economic training other than undergraduate economics courses 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. In the worst case, it could divert scarce resources from a more impactful effort.

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.⁵³ Tasks 3 and 5 fall firmly in the realm of economic interventions. Restoration of essential services is a task that military is fairly well experienced, using the SWEAT-MS framework.⁵⁴ In regard to Task 5, the manual states that local units should focus on: “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.”⁵⁵ No further guidance follows except for a discussion of employment generation.

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, recent data does not provide justification. The development community has faced a similar experience. In *Poor Economics*, Banerjee and 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.”*⁵⁶

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 claim highly successful impact from economic development efforts.⁵⁷ While they may very well be correct, determining causality is extremely difficult. Anecdotal evidence is the least credible within the hierarchy of

⁵³ Department of the Army, “Stability Operations.” (ADRP 3-07), August 2012, p. 2-10.

⁵⁴ Military acronym representing essential services (Sewer, Water, Electricity, Academics, Trash, Medical, Safety)

⁵⁵ ADRP 3-0, p. 2-19.

⁵⁶ Abhijit Banerjee and Esther Duflo, *Poor Economics*, 2011.

⁵⁷ U.S. Joint Forces Command, “Military Support to Economic Normalization Handbook.” July 2009, p. II-11.

evidence and can easily result in mistaking correlation for causality. This is particularly dangerous, as in many cases, the wrong type of economic intervention can be worse than doing nothing.⁵⁸

Two areas in which doctrine conflicts with 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.⁵⁹ Similarly, at the top of economic development recommendations in a 2011 CALL handbook is infrastructure development.⁶⁰ However, several studies have shown that while spending on small projects can reduce violence, large projects can actually fuel violence. Most notably, Berman, et al. examined the effects of CERP spending before and after the 2007 troop surge in Iraq and found that the vast majority of reconstruction spending in Iraq had no violence-reducing effect.⁶¹ Reasons for this are still largely unknown.⁶² 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 insurgents attempt to disrupt projects in order to discredit the

⁵⁸ Jake Shapiro, personal interview, September 25, 2015.

⁵⁹ Center for Army Lessons Learned, “Commander’s Guide to Money as a Weapons System,” April 2009, p. i.

⁶⁰ Center for Army Lessons Learned, “Afghanistan Provincial Reconstruction Team: Observations, Insights, and Lessons,” June 2011, p. 49.

⁶¹ Eli Berman, Joseph H. Felter, Jacob N. Shapiro, and Erin Troland. “Modest, Secure, and Informed: Successful Development in Conflict Zones,” *American Economic Review*, 2013.

⁶² 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.

government.⁶³ This is consistent lessons highlighted by SIGIR: “Focus first on small programs and projects.”⁶⁴

The adverse effects of incorrect doctrine can be far-reaching. The reconstruction focus in Iraq was often on large projects, often scattered, and not unified. The majority of the \$20.86 billion Iraqi Relief and Reconstruction Fund (IRRF), for example, was spent on large infrastructure projects, which is a concern given the preceding results.⁶⁵ CERP often led to duplication of efforts by other U.S. agencies. SIGIR found evidence of strategic drift away from the program’s core mandate to meet urgent, low-level needs. Insufficiently justified projects such as construction of 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 2011.⁶⁶

The MAAWS handbook recommends economic initiatives that include hiring military aged males for projects.⁶⁷ Research by Iyengar, et al. found that labor-intensive CERP projects reduced insurgent violence in Iraq, but the relationship is complex.⁶⁸ 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 Afghanistan, Iraq, and the Philippines.⁶⁹ Their data failed to show a positive correlation between unemployment and violence. In fact, higher unemployment may actually increase effectiveness of counterinsurgency efforts through

⁶³ 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.

⁶⁴ SIGIR, “Learning From Iraq: A Final Report,” March 2013, p. xii.

⁶⁵ Ibid, p. 58.

⁶⁶ Ibid, p. 65.

⁶⁷ Center for Army Lessons Learned, “Commander’s Guide to Money as a Weapons System,” U.S. Army Combined Arms Center, April 2009, p. 164.

⁶⁸ Radha Iyengar, Jonathan Monten, and Matthew Hanson, “Building Peace: The Impact of Aid on the Labor Market for Insurgents,” NBER, August 2011.

⁶⁹ 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.

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.

Security is an essential precondition for successful reconstruction and development.

Post-conflict reconstruction is not possible unless an area is actually post-conflict. U.S. experience with the Strategic Hamlet Program in Vietnam bore this out.⁷⁰ Similarly, Beath, et al. used an RCT to determine that the National Solidarity Program, Afghanistan's largest development program, had positive effects on villager perceptions of well-being, attitudes toward the government, and level of security.⁷¹ The latter two effects were only observed in relatively secure areas, which suggests there is a minimum security threshold needed for public goods and services to have an effect on winning support from the population.

It is important to note that the highly successful reconstruction efforts in Germany and Japan occurred against the backdrop of a largely peaceful population. Conversely, reconstruction in Iraq and Afghanistan occurred in the midst of insurgencies. Large infrastructure projects thus occurred prematurely. A major conclusion reached by SIGIR was that reconstruction should begin only after security is established.⁷² Unfortunately, Iraq has yet to become "post-conflict."⁷³

⁷⁰ Rufus Phillips in "Proceedings from the Summit on Entrepreneurship and Expeditionary Economics," May 2010.

⁷¹ 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.

⁷² SIGIR, "Learning From Iraq: A Final Report," March 2013, p. xii.

⁷³ SIGIR, *Hard Lessons: The Iraq Reconstruction Experience*, 2009, p. 331.

Conditionality is a crucial ingredient for program success.

Even providing for basic needs can have adverse effects in fragile or conflict-affected environments. For example, Nunn and Qian constructed a natural experiment using U.S. droughts to determine that unconditional food aid can fuel violence in recipient countries experiencing civil conflict.⁷⁴ A similar phenomenon was observed during the UN's 1991 intervention in Somalia as warlords used food aid to increase their power and prolong the conflict.⁷⁵ Experience in Southern Sudan can provide a valuable lesson for military economic efforts, as during 2005-2010, foreign aid donor emphasis on providing basic services at the expense of security led to increased violence.⁷⁶ 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 of restoring essential services, as well as the tenuous link between services and reduced violence. In 2005, the security situation began to deteriorate, despite over \$700 million along with significant technical expertise invested in infrastructure.⁷⁷ Although it is not possible to infer causality, the majority of this aid lacked conditionality, fueled local corruption, and failed to address actual needs of the local population.⁷⁸

⁷⁴ Nathan Nunn and Nancy Qian, "US Food Aid and Civil Conflict," *American Economic Review*, 2014.

⁷⁵ 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.

⁷⁶ OECD, "Evaluating Peacebuilding Activities in Settings of Conflict and Fragility," 2012, p. 22.

⁷⁷ 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.

⁷⁸ Ibid.

Crost, et al. studied the effect of the Philippines largest development program (KALAHI-CIDSS) on civilian conflict deaths during the period from 2003-2008.⁷⁹ They found that the program increased violent activity because insurgent groups attempted to sabotage the program to prevent the government increasing popular support. While the program exacerbated violence in the short term it had no long run effects. In a later study, the same authors found that conditional cash transfers (CCTs) were an effective means of reducing violence in the Philippines.⁸⁰ This study reinforces prior findings that conditional and targeted, low level aid can decrease violence and weaken an insurgency.

LEADERSHIP & EDUCATION

“How we prepare our leaders to lead the fight; from team leader to general; professional education.”

Analysis questions:

- “Does leadership understand the scope of the problem?”
- “Does leadership have resources at its disposal to correct the issue?”⁸¹

Army leadership appears to understand the problem in general, as shown by reports detailing lack of CERP effectiveness. However, it is not clear that the specific reasons for failure are understood. Secondly, it appears that current leader education programs do not provide the resources to address the core issue in future operations.

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

In order to maintain “agile and adaptive leaders,” the Army requires its commissioned and noncommissioned officers to attend PME at various stages of their careers.⁸² The curriculum

⁷⁹ Benjamin Crost, Joseph Felter, and Patrick Johnston, “Aid Under Fire: Development Projects and Civil Conflict,” *American Economic Review*, June 2014.

⁸⁰ 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,

⁸¹ “JCIDS Process: DOTMLPF Analysis.” AcqNotes. Accessed March 17, 2016.

is derived from current doctrine, which compounds the deficiencies discussed above. The effects were observed when tactical commanders pursued economic development as part of COIN operations. An issue observed in Iraq was that use of CERP “morphed” from its designed role for tactical commanders to fund quick-impact projects to much larger ones, which according to Undersecretary of Defense Dov Zakheim problematically led to the military “USAID in uniform” and resulted in poor outcomes and wasted funds.⁸³ Former commander of Multi-National Force--Iraq, General Odierno, noted that CERP had positive effects, but should not have been used to fund large projects and should have had a better training program for use.⁸⁴ Upon reflecting upon his time as a commander in Iraq, Lieutenant General Caslen noted the value of greater economics training for Army officers, particularly in use of CERP.⁸⁵

Military professional education does not adequately cover program evaluation.

Program monitoring and evaluation is a relatively new field and is very technical. Although military doctrine mandates that measures of effectiveness be evaluated, tactical commanders and staff are generally not exposed to sufficient knowledge to implement and oversee evaluation systems and to develop the “learning culture” that is necessary for successful economic interventions.⁸⁶ 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 readily available, a proxy measure is the U.S. military’s struggle with assessing and communicating CERP effectiveness.

⁸² ARCIC, “Army Warfighting Challenges,” Accessed March 17, 2016.

⁸³ SIGIR, “Learning From Iraq: A Final Report,” March 2013, p. 23.

⁸⁴ SIGIR, “Learning From Iraq: A Final Report,” March 2013, p. 25.

⁸⁵ 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.

⁸⁶ Marian Lawson, “Does Foreign Aid Work? Efforts to Evaluate U.S. Foreign Assistance,” 2012, p. 17.

The level of commander and staff familiarity with evaluation techniques can have a major effect on their use. Harrison and Meyers point out that although opportunities to conduct RCTs are extremely limited during combat operations, the military must strive to achieve more compelling forms of evidence to guide economic decisions.⁸⁷ USAID is increasingly making use of impact evaluations to obtain better evidence.⁸⁸ Similarly, Army commanders can benefit from such methods.

PERSONNEL

“Availability of qualified people for peacetime, wartime, and various contingency operations.”⁸⁹

Analysis questions:

- “Is the issue caused, at least in part, by inability or decreased ability to place qualified and trained personnel in the correct occupational specialties?”
- “Are the right personnel in the right positions (skill set match)?”⁹⁰

Numerous voices have called attention to the military’s lack of expertise in economic development.⁹¹ This lack of expertise is explained largely by the vast array of mission sets required—it is impossible to become an expert in every form of operation, both lethal and nonlethal. 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 stated in ADRP 3-07. In comparing military operations in Iraq and Afghanistan to international development best practices, a gap emerges in regard to expertise in two areas: designing economic interventions and program evaluation.

⁸⁷ Todd Harrison and John Speed Meyers, “Contracting Under Fire,” Center for Strategic and Budgetary Assessments, 2012.

⁸⁸ USAID, “Technical Note: Impact Evaluations,” September 2013, p. 1.

⁸⁹ ARCIC, “DOTMLPF Explained,” Accessed March 17, 2016

⁹⁰ “JCIDS Process: DOTMLPF Analysis.” AcqNotes. Accessed March 17, 2016.

⁹¹ Kori Schake and Frederick Kagan in “Proceedings from the Summit on Entrepreneurship and Expeditionary Economics,” May 2010.

The Army lacks expertise in designing economic interventions.

Provincial Reconstruction Teams (PRTs) 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 2005.⁹² Their mission was to work with provincial and local governments to provide essential services to local populations. Unfortunately, PRTs also lacked sufficient development and evaluation expertise as pointed out by Gauster.⁹³ A SIGAR report found that in 2009, all U.S. PRTs in Afghanistan had only 35 government civilians.⁹⁴ The ensuing "civilian surge" increased government civilian numbers to over 1,300 by 2011, most of which were part of District Support Teams (DSTs), similar in structure to PRTs but focused on district-level projects.⁹⁵ As Berman, et al. found, the presence of PRTs led to a greater reduction in violence resulting from CERP spending, the impact of PRTs is still relatively unknown, which warrants further research.⁹⁶

Official guidance regarding use of CERP funds was intentionally broad in order to provide flexibility to tactical commanders, but lack of expertise in economic development led to wide variance in outcomes. Many commanders had very well-intentioned plans along the same lines, but many of these plans arguably did not pass cost-benefit test, particularly when these plans did not translate into tactical or strategic success. For example, "Operation Adam Smith," a multi-million dollar business-focused initiative intended "revitalize" the commercial district in

⁹² Crane, et al., "Guidebook for Supporting Economic Development in Stability Operations," RAND Corporation, 2009, p. 26.

⁹³ Markus Gauster, "Provincial Reconstruction Teams in Afghanistan," Marshal Center, January 2008.

⁹⁴ Vijaya Ramachandran and Julie Walz, "The Commander's Emergency Response Program in Afghanistan," Center for Global Development, September 6, 2011.

⁹⁵ Ramachandran and Walz.

⁹⁶ Eli Berman, Joseph H. Felter, Jacob N. Shapiro, and Erin Troland, "Modest, Secure, and Informed: Successful Development in Conflict Zones," *American Economic Review*, 2013.

Baghdad, had little impact.”⁹⁷ Part of the plan involved establishing a business incubator in Baghdad University. Although this well-intentioned effort by the U.S. Army as assisted by expertise from the U.S. Department of Commerce, it is difficult to argue that this was the best use of financial resources.

Numerous other examples exist. For example, a brigade commander developed an initiative to conduct assessments of small businesses in order to promote stability through small business grants.⁹⁸ Another commander used \$5 million (10 percent of his unit’s reconstruction funds) over three months to create a day labor program in Ramadi, which accounted for 70% of new employment in the city.⁹⁹ Such anecdotal examples cannot establish causality, of course, but one wonders in hindsight if the focus on economic development distracted commanders from investing resources in areas that could have made a quantifiable impact to sustainable security conditions. If not, the funds could have simply been conserved for future needs, which is a particular concern in today’s budget-constrained environment.

The Army lacks expertise in program evaluation.

Program evaluation is mandated in doctrine, but given the myriad of conventional and unconventional threats faced by the Army within the current operating environment there is a limited amount of intellectual capital with which to evaluate past operations. The Army’s COIN manual specifies use of an “assessment cell” to track program effectiveness.¹⁰⁰ This is particularly necessary during population-centric operations, since outcomes of similar programs

⁹⁷ Carl J. Schramm, “Expeditionary Economics: Spurring Growth After Conflicts and Disasters,” 2010.

⁹⁸ U.S. Joint Forces Command, “Military Support to Economic Normalization Handbook,” p. II-11.

⁹⁹ Ibid, p. II-4.

¹⁰⁰ FM 3-24, p. 12-8.

may vary greatly from region to region.¹⁰¹ The Center for Army Lessons Learned has accumulated a large CERP data set, but has not applied the necessary amount of statistical analysis required to distill sufficient insights that can be applied to future conflicts.¹⁰² Specialized evaluation expertise is necessary due to the challenge posed by the causality question, as one commander stated: “Even if we can successfully measure an outcome, it’s extremely hard to know what caused the outcome. There are so many things happening at once that causal relationships are next to impossible to identify.”¹⁰³

The Army is not alone in its challenges with evaluation. Within the U.S. government, both USAID and DOS have struggled with program evaluation.¹⁰⁴ As noted earlier, the international development community is still working to close the evaluation gap. A 2010 OECD survey found that lack of human capital was a binding constraint, as people qualified to conduct rigorous impact evaluations are in short supply.¹⁰⁵ Lack of funding is a possible cause of the lack of qualified personnel available to staff the cells. Funding should likely approximate target program fund allocations set by USAID (3 percent) and DOS (3-5 percent).¹⁰⁶ A 2010 OECD survey found that international aid agencies devoted an average of 0.1 percent of budgets to evaluation, which is far too low and results in inadequate evaluations.¹⁰⁷

¹⁰¹ FM 3-24, p. 7-2.

¹⁰² 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.

¹⁰³ Christiaan, Davids, Sebastiaan Ritjens, and Joseph Soeters, “Measuring Progress in Reconstructing Afghanistan,” *Baltic Security and Defence Review*, Vol. 12, Issue 1. 2010, p. 7.

¹⁰⁴ Marian Lawson, “Does Foreign Aid Work? Efforts to Evaluate U.S. Foreign Assistance,” Congressional Research Service, November 19, 2012.

¹⁰⁵ Lawson, p. 20.

¹⁰⁶ Lawson, p. 18.

¹⁰⁷ Lawson, p. 20.

Recommended Solution Approaches (Policy Options)

After identifying the Army's capability gaps, the next step is to propose potential solutions within Doctrine, Education, and Personnel. Options include changes to existing programs or addition of new programs.

DOCTRINE

Research has shown that money can improve conditions on the battlefield if used correctly. Similar to any other weapon, use of "money as a weapon system" requires accurate technical information and user training.¹⁰⁸ Doctrine covering use of economics is headed in the right direction, as indicated by the most recent version of the Afghanistan "Money as a Weapons System" SOP.¹⁰⁹ However, an enduring solution will require a more institutional approach.

Option 1: Update Army Doctrine

The primary way to internalize and communicate the expensive lessons of CERP is to capture them within doctrine, as scholars have recommended.¹¹⁰ To be effective doctrinal changes should address the following four areas.

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

According to ADRP 3-0, "Security is the most immediate concern of the military force."¹¹¹ Establishing a "safe and secure environment" is paramount in laying the foundation for economic development.¹¹² The RCT conducted by Beath, et al. demonstrated this fact, as a minimum threshold of violence was necessary for economic development to occur

¹⁰⁸ FM 3-24, p. 7-2.

¹⁰⁹ U.S. Forces Afghanistan, "Money as a Weapons System-Afghanistan," December 2009.

¹¹⁰ Vijaya Ramachandran and Julie Walz, "The Commander's Emergency Response Program in Afghanistan," Center for Global Development, September 6, 2011.

¹¹¹ ADRP 3-0, p. 1-14.

¹¹² Ibid.

successfully.¹¹³ 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 number of occupation troops was low relative to the local population, U.S. forces suffered the highest casualties, most notably Somalia, Afghanistan, and Iraq.¹¹⁴ The high levels of U.S. troops that occupied both countries were crucial to maintaining civil order during reconstruction in Germany and Japan. In determining what types of projects to undertake, commanders must consider how well they can secure them and the local people.

Using the benefit of hindsight from the Iraq and Afghanistan wars, we can determine what types of effects tactical units can accomplish given the vast amount of other 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.¹¹⁵ 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 time and money. As the Army's stability manual states, immediate security needs create the need for short-term solutions consistent with long-term objectives.¹¹⁶

As mentioned earlier, doctrine explicitly requires that the effects of any economic effort be measured. However, doctrine does not provide sufficient detail regarding how to do this. Security outcomes (measured by incidents of violence) can provide a cost-based metric for commanders and serve unifying outcome variable across complex environments. Using security

¹¹³ 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.

¹¹⁴ Dobbins, et al., *America's Role in Nationbuilding: From Germany to Iraq*, 2003, Rand Corporation, Chapter 9, p. 153.

¹¹⁵ FM 3-14.

¹¹⁶ ADRP 3-07.

as a measure of effectiveness (MOE) both recognizes the Army's comparative advantage in providing security and relies on currently available data (using 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, as economic development objectives are almost impossible to be measure in fragile states in the short to medium term. For example, there has often been an incentive to not start CERP projects toward the end of a unit's rotation since that commander would not receive credit due to the long time frame required for measurement.¹¹⁷

b.) Focus on small, conditional projects informed by local needs.

The details of specific projects will vary greatly by context. However, recent studies have highlighted several clear factors which can guide initial design of economic programs. First, projects should be relatively small. 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. This is good news given the current budget environment, since a given amount of money could direct benefit many more individuals, in contrast to a single large project that may benefit only the local elite and possibly increase violence as insurgents seek to discredit the government.

In order to achieve the desired effect, projects should also be conditional. During COIN operations, a military is working to achieve support from the local population; as a result, aid should be tied to the population's support in reducing violence. While this raises ethical issues in regard to providing humanitarian relief and restoring essential services, it is vital to keep in mind

¹¹⁷ COL (Ret.) Jeffrey Peterson, Phone interview, February 2, 2016.

that without establishing security, further economic progress is not possible. It is possible that in some cases CERP unintentionally incentivized violence when commanders directed projects toward violent areas. In contrast, spending should incentivize stability through conditionality by channeling funds to the parts of the population that are cooperating with security efforts.¹¹⁸ 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.¹¹⁹ In addition to increasing the effectiveness of projects, it will also conserve limited funds by eliminating unwanted projects.

c.) Revise doctrine to minimize counterproductive 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 vehemently avoid counterproductive ones. In any intervention--whether conducted by a military 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 unemployment. Higgins pointed out that focusing on input metrics has been a problem by incentivizing sheer spending rather than spending on the most effective programs.¹²⁰ A large part of the problem was bureaucratic overhead, as the difficulty in obtaining commitment of funds often overshadowed consideration

¹¹⁸ Paul Fishstein and Andrew Wilder, “Winning Hearts and Minds? Examining the Relationship Between Aid and Security,” Feinstein International Center, January 2012.

¹¹⁹ SIGIR, “Learning From Iraq: A Final Report,” March 2013.

¹²⁰ 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.

of effects of projects.¹²¹ 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 the tenuous evidence showing its effect on violence.

d.) Ensure that doctrine is a “living” through its connection to current social science research.

The body of economic doctrine needs to adapt almost as quickly as social science research. The Army maintains systems to ensure its doctrine is regularly 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 studies, staying abreast of current studies is even more important. The application of social science to military operations is a relatively new phenomenon stemming from population-centric warfare, but should be incorporated into doctrinal updates. Due to the lag inherent in updating field manuals, generalized doctrine incorporating the changes mentioned above may be preferable to very specific guidance. CALL can publish supplemental handbooks as needed to incorporate current insights.

LEADERSHIP & EDUCATION

Policy options within education must address both the gaps in both designing and evaluating economic programs and. Well-crafted, hypothesis-driven economic shaping operations will only occur if commanders and staff possess the right intellectual tools with which to conceptualize and evaluate programs. The two primary mechanisms for addressing the education gap are through internal and external education.

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Option 2A: Incorporate use of development economics and program evaluation into professional military education (PME).

The first target audience for tactical economics is the echelon of officers who determine the range of operations available to tactical units--general officers. The second target audience is officers responsible for implementation during stability operations--field grade officers (major through colonel and senior noncommissioned officers). 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), pre-command courses, and sergeant major academy courses. 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.¹²² However, the level of resources required for such an intensive course is not currently justified. An important concern is limited time within PME courses, as adding one subject/module will require removing something else. Further analysis is necessary to determine the relative priority of greater economics training for various target audiences.

Option 2B: Acquire economics and evaluation expertise through external education.

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 attend masters or PhD 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 within the Pentagon. While such “broadening” programs are an important mechanism for educating leaders, the number of officers focusing on social sciences and development economics in particular is

¹²² 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.

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

Executive education is much more informal, depending on education funding possessed by a particular command. It has the advantage of being able to pinpoint specific leaders who require specific knowledge and being able 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 critical information at the cost of five days and \$7,400 per person.¹²³

PERSONNEL

The Army's two expertise gaps similarly lie in designing economic interventions and program evaluation. We 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. Development economics is a small community to begin with. Simply embedding civilian economists within tactical units is probably not the answer, as shown by the Army's experience with the Human Terrain System (HTS), during which social scientists (largely anthropologists) were embedded 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).¹²⁴ Issues included flawed recruiting, insufficient training, poor management, dysfunctional organizational culture, and an unclear mission.¹²⁵ This experience indicates that a better model is for the

¹²³ Center for International Development website. Accessed March 1, 2016.

¹²⁴ 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.

¹²⁵ Ryan Evans, "The Seven Deadly Sins of the Human Terrain System: An Insider's Perspective," *International Relations and Security Network*, July 31, 2015.

military to provide the in-country personnel while researchers provide the reachback capability.

There currently is little organizational appetite within the Army to embed social scientists, making this approach a non-starter. The Army has two general options for acquiring this expertise: internally or externally.

Option 3A: Develop economics expertise internally.

In addition to the professional and executive education options discussed in the previous section, the Army can generate expertise internally through occupational specialties, such as Civil Affairs. As Civil Affairs personnel are responsible for a wide array of mission sets, they often lack sufficient training in economics.¹²⁶ Increasing economics specialization within the force would come at a cost in other areas, as the Army draws down personnel. To develop sufficient competence in highly-specialized fields such as development economics, it would be necessary to generate Army economists through PhD programs. Another option would be to develop new functional area in economic operations and program evaluation. This option is similar to the external education option, in that it involves sending soldiers to civilian graduate schooling, but differs in that those personnel would specialize in economics and evaluation.

Option 3B: Acquire external economics expertise through research grants and relationships.

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 economics expertise. The Army can increase ties with the research community at various levels

¹²⁶ 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.

from senior commander to assistant staff officers. Both formal and informal relationships between tactical officers can feed approved data to researchers, who then can provide analysis back to operational units. Sugai correctly pointed out that tactical units should build such relationships with external experts early, since units will not have time to do so while deployed.¹²⁷

The specifics of these relationships would vary by command, but one technique could be for external researchers to focus on a specific region, which would provide continuity of evaluation as units rotate through deployments. External research grants such as the Minerva Initiative can also continue to draw in expertise to look at specific research questions. However, the number of Minerva grants focused on development economics has been small--only two in 2013.¹²⁸

Stakeholder Analysis

A stakeholder analysis (Appendix E) identifies internal and external stakeholders. Within the Army, Training and Doctrine Command (TRADOC) is central to advancing proposed changes. Internal to TRADOC, the two primary organizations with a stake are the Army Capabilities Integration Center (ARCIC) and the Combined Arms Center (CAC). As an intellectual center, the CAC is sometimes referred to as the “engine of change for the Army.”¹²⁹ It houses CALL and is responsible for writing doctrine and developing military education. Within CAC, the Mission Command Center of Excellence (MCCoE), is responsible for

¹²⁷ Sugai, p. 61.

¹²⁸ The Minerva Initiative website, accessed March 17, 2016.

¹²⁹ GEN (Ret.) David Petraeus, comments during Strategic Leadership Project Launch. Belfer Center, Harvard Kennedy School, February 9, 2016.

addressing AWFC 2 (Shape the Security Environment). ARCIC is responsible for developing capabilities that address the Army's warfighting challenges.

Outside the Army, the academic research community has an interest in the military economic efforts, primarily in the declassified economic data they can receive from the Army. Additionally, the international development community (including USAID) can benefit from studies conducted using Army data. A 2005 estimate of program evaluation for humanitarian aid and reconstruction assistance by a civilian program added 20% to the cost for security overhead.¹³⁰ In many cases, development organizations may not even be able to obtain basic survey data from the population due to violence, which severely limited outcome evaluation. Thus a partnership with the Army could provide significant value to such external stakeholders.

Policy Option Evaluation

The preceding five policy options are largely interconnected and will thus require a holistic implementation approach. Further, the Army is currently deployed to 150 different countries and faces rapidly-changing conventional and unconventional threats in the midst of an uncertain budget environment. Against this backdrop, it is necessary to evaluate the preceding policy options to determine the best blend of options and most effective sequencing for implementation. Recognizing that a finite amount of organizational resources is available, tradeoffs will be necessary and investments will have to be focused on the highest payoff activities. I use the following three evaluation criteria to help determine this:

¹³⁰ OECD, "Evaluating Peacebuilding Activities in Settings of Conflict and Fragility," 2012, p. 70.

Tactical Effectiveness: *Will the policy option make a measureable impact on the ground?*

Operational Adaptability:¹³¹ *Does the policy option provide maximum flexibility for future operating environments?*

Organizational Feasibility - *Can the Army implement proposed change given current mission and budgetary constraints?*

(See Appendix D for detailed description of evaluation criteria.)

The following matrix sums up evaluation of the policy options using a qualitative assessment to estimate a High/Medium/Low rating.

Table 3: Results of Policy Option Evaluation

Evaluation Criteria			
Policy Option	Tactical Effectiveness	Operational Adaptability	Organizational Feasibility
1: Update Doctrine	High	Medium	Medium
2A: Internal Education	Medium	Low	High
2B: External Education	High	High	High
3A: Internal Expertise	High	Medium	Low
3B. External Expertise	Medium	High	Medium

As Table 3 illustrates, the three most attractive policy options are to update doctrine, expand external education, and acquire external expertise. The following recommendations will focus largely on implementing these top three options. Although all five alternatives can add value, the limited amount of organizational resources available makes it advisable to prioritize the top three options. (Appendix F sums up evaluation notes on all five policy options.)

¹³¹ “Unanticipated changes in or an improved understanding of an operational environment may result in commanders reframing the problem and modifying operations to adapt to the changing situation.” ADRP 3-0, p. 2-7.

Priority #1: Expand External Education

Increasing the level of external education emerged as the most attractive policy option. It is high-impact, extremely flexible, and easy to implement. The knowledge provided by civilian graduate programs and executive education) would improve leader ability to both integrate economic programs into operations as well as evaluate the outcomes of economic programs. With the right choice of curricula, external education can extremely responsive to innovation within the development and evaluation fields. The mechanisms for implementation already exist but would require a change focus areas (increased study of development economics) and potential expansion of broadening opportunities for select commanders and staff. The most difficult aspect of this option is documenting the benefits received for the cost in time and money, given numerous competing demands for leader time.

Priority #2: Acquire External Expertise

Acquiring external expertise scored highly in both impact and flexibility. Greater access to expertise within social science can significantly assist commanders and staff in designing and evaluating economic programs. This option could be structured to provide reachback capability so that the right expertise is available during overseas deployments. Flexibility will be high as researchers remain in academia with ready access to the latest theories and methods. The Army can incorporate new ideas and insights into operations and possibly test in the field through hypothesis-based programs. External researchers can help provide continuity in evaluations by observing long term trends within an area. This would require developing relationships with multiple units. Implementation may be challenging due to differences in organizational culture between the military and the research community. However, the previous policy option can help

break down barriers as more leaders gain access to external education and build relationships within academia.

Priority #3: Update Army Doctrine

Changes to doctrine would be far-reaching, as they would impact the entire Army and possibly influence joint doctrine. However, field manuals can only provide general guidelines for designing economic interventions. Similar to more conventional forms of military operations, success will depend on the level of expertise within individual units as they design programs to meet the needs of specific areas of operations. Flexibility is limited due to the long lead time and consensus required to update doctrinal literature. Interpreting social science research can be complex, which makes achieving consensus more difficult. Organizational feasibility is also limited, as the Army's focus is likely to remain on conventional rather than population-centric threats in the near term.

Recommendations

I break down recommendations by time frame (short, medium, and long term) according to the priority assigned to each policy option. This will assist in appropriate sequencing during implementation.

Short Term (1-2 years)

In the short term, further studies can demonstrate the applicability of economic programs to the Army warfighting challenges. This initiative can progress simultaneously on formal and informal fronts. Formal efforts will benefit from a champion at the senior level, preferably within TRADOC. This leader is necessary to legitimize research efforts and shift both organizational and intellectual resources to tactical economics initiatives. A senior leader can also encourage

informal “intrapreneurship,” which can harness intellectual assets both internal and external to the Army with little organizational overhead or additional cost.

1. Expand executive education and broadening programs. Send greater numbers of Army officers to executive education courses focused on development economics and program evaluation. This will increase knowledge for design economic programs help acquire skills in and leader buy-in for an evidence-based approach. It will also provide commanders and staff the intellectual tools they need to properly employ experts in program evaluation.

2. Strengthen ties with the social science research community. Building working relationships (formal and informal) will provide the Army access to some of the top minds who are working to understand many of the same problems facing the military within conflict-affected states. This relationship can be synergistic, as the Army can provide declassified data to researchers, whose incentive to publish research will benefit the Army through greater insights into the effect of economic interventions on conflict.

3. Thoroughly analyze CERP data from Iraq and Afghanistan. This will involve consolidating CERP data from Iraq and Afghanistan and making a declassified version available to both military and civilian researchers. Interviews of both current and former Army personnel with experience employing CERP will also capture vital lessons and provide context for statistical analysis. Research grants may be necessary to accomplish both quantitative and qualitative studies quickly enough to maintain momentum.

4. Begin to update informal doctrine. While a comprehensive doctrinal update will occur along a longer time frame, CALL can achieve a “quick win” by publishing a handbook summarizing the existing clear lessons regarding what has worked and what has not worked with tactical economic programs.

Medium Term (3-5 years)

After the value of tactical economics becomes better understood and accepted, the next step will be to institutionalize it as a doctrinal capability and continue to acquire a higher level of expertise.

1. Formalize relationships with the social science community. As the mutually-beneficial relationship between the research community and the Army becomes more clear, these relationships should be institutionalized through formal research structures. Some level of funding from the military will likely be necessary to sustain this initiative.

2. Revise key doctrinal manuals. As the Army publishes updated versions of FM 3-24 and ADRP 3-07, new insights into economic operations should be incorporated so that the force shifts from a top-down to a coherent evidence-based approach to tactical economics. A component of the doctrinal change should be specifics of a CERP-like program that provides a core capability in tactical economic stabilization during population-centric operations. This should include specific, hypothesis-based interventions with an evaluation plan. Commanders can use economic pilot programs as “scouts” to build knowledge of causal effects in a specific region during a population-centric conflict.

Long Term (6-10 years)

Over the long term, as tactical economic capabilities are tested overseas, it will be possible to evaluate and refine these programs. The Army’s required capabilities are a function of current and future threats. As these threats evolve, it is necessary to adapt in response.

1. Revise Army professional military education (PME). In the long term, PME courses should be adapted reflect doctrinal changes and incorporate design of effective economic

interventions and program evaluation. The amount of time devoted should be commensurate with the target audience and any demonstrated benefit during operations in the intervening years.

2. Establish a “Tactical Economics Center of Excellence.” This institution can be the hub for channeling data and lessons learned from the force to the research community, and disseminating research insights from academia back to the force. It can provide the nexus where researchers and practitioners interact and can pursue a mission of diminishing the conflict evaluation gap. Incentivizing commanders to pursue an evidence-based approach by supporting research efforts can help institutionalize learning and adaptation. The most likely location would be within the U.S. Army Combined Arms Center (CAC).

Conclusion

Carl Schramm, former chairman of the Kauffman Foundation, has noted 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.”¹³² This statement is correct regarding the military’s placement and lack of expertise, however, the causal link between the military’s efforts and economic growth has not been adequately established. Adoption of an evidence-based approach in partnership with the social science community can overcome the latter two issues while capitalizing on the Army’s ability to operate in violent environments. As DOD’s primary ground force, the U.S. Army’s has both a comparative and absolute advantage in providing security on a global scale. By combining this advantage with the right expertise, the

¹³² Carl J. Schramm, “Expeditionary Economics: Spurring Growth After Conflicts and Disasters,” *Foreign Affairs*, May/June 2010.

Army can lead the way in generating data that, when placed in the hands of the right researchers, can generate an array of new insight into conflict.

Focusing on violence reduction as a primary outcome variable can enable tactical units to more effectively establish the security conditions necessary for successful transition to specialized agencies for reconstruction and development efforts. While it is possible that military efforts can lay the foundation for future economic growth, the time frame is too long and the metrics too ambiguous for the Army to operationalize in a cost-effective manner. Focusing on empirically-evaluated outcomes of economic interventions can add granularity to the policy debate and produced tangible results that the future Army, “Force 2025,” can employ in unknown future operating environments. By adopting an evidence-based approach to tactical economics, the U.S. Army can develop a key nonlethal capability that can powerfully shape the security environment and enable it to “win in a complex world.”

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Appendix A - 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. p. 3.

Appendix B - 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 <i>Natural experiment (Regression discontinuity)</i>	-Large reconstruction projects increased insurgent violence. -CERP was most effective when projects were small (<\$50k), troop strength was high, and development expertise was available.
Beath, Christia, and Enikolopov	“Winning Hearts and Minds Through Development: Evidence from a Field Experiment in Afghanistan” (2012)	Afghan National Solidarity Program (NSP) <i>RCT</i>	-Village participation in NSP improved perceptions 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 Civil Conflict” (2014)	Philippine community-driven development (CDD) program (KALAH-CIDSS) <i>Natural experiment (Regression discontinuity)</i>	-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 <i>RCT</i>	-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 <i>Natural experiment (Difference-in-difference)</i>	-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 <i>Observational</i>	-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 <i>Observational</i>	-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 <i>Observational</i>	-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 <i>Observational</i>	-A 1% increase in military aid increased paramilitary attacks by 1.5% -Military aid reduces voter turnout in municipalities where U.S. assistance rises

Appendix C - 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 D - Evaluation Criteria

Criterion and Description	Potential Means of Measurement
Tactical Effectiveness	
<ul style="list-style-type: none"> ● Short to medium effect on security ● Medium to long-term effect on consolidation of gains ● Long term effect on economy, though this will largely fall to development organizations 	<ul style="list-style-type: none"> ● Measures of violence (insurgent attacks, IED detonations, intimidation of civilians, etc.) ● Local support for government ● Economic indicators
Operational Adaptability	
<ul style="list-style-type: none"> ● Can proposed policies be adapted to different regions and contexts? ● Do policy options meet expectations of the Army Operating Concept? 	<ul style="list-style-type: none"> ● Qualitative ranking of alternatives based on adaptability ● External validity of economic interventions as documented in research
Political Feasibility	
<ul style="list-style-type: none"> ● How much “organizational bandwidth” is available to consider proposed changes ● Do proposed changes fit within existing programs or policies? ● Are senior leaders willing to support the proposed changes? 	<ul style="list-style-type: none"> ● Organizational resources available ● Leader buy-in/support as estimated by published literature and interviews ● Amount of change established units would have to experience to implement changes

Appendix E - Stakeholder Analysis

Category	Organizations	Role
U.S. Army	ARCIC (within TRADOC)	Responsible for developing future capabilities and addressing the Army Warfighting Challenges
	CAC (within TRADOC)	Responsible for writing Army Doctrine
	Forces Command (FORSCOM)	Responsible for generating land forces for combatant commanders
U.S. Department of Defense	Joint Requirements Oversight Council (JROC)	Develops joint doctrine
U.S. Government	USAID	Partnership/information sharing (possibly through the Interagency Conflict Assessment Framework)
	State Department	Partnership/information sharing
International Development Community	Development Agencies (World Bank, Millennium Challenge Corporation, etc.)	Best practices for economic interventions and program evaluation. Information sharing
	Academic Research Community	University social science and economics departments
	Research Centers (Center for Global Development, Center for International Development)	Expertise and research initiatives

Appendix F - Policy Option Evaluation Matrix

Evaluation Criteria			
Proposed Changes	Tactical Effectiveness	Operational Adaptability	Organizational Feasibility
1. Doctrine	-Would impact entire Army -Could bring insights of social science to the field	-Doctrine can only be updated periodically -Requires a level of consensus before proceeding	-Requires leader prioritization -Requires investment in time and expertise
2A. Education (Internal)	-Difficult to gain sufficient economics knowledge given limited time and many competing topics -Will diffuse knowledge to the force at rate at which leaders cycle through PME	-Relatively less flexible, as curriculum changes with doctrine	-Requires a level of senior leader consensus to revise military education
2B. Education (External)	-Could provide commanders and staff current knowledge of best practices -Greater familiarity with empirical tools can help create a “learning culture” within the Army	-Offers a high degree of flexibility since soldiers can learn current research and methods (depending on specific programs)	-Relatively easy to send soldiers to seminars and executive education -Can target specific segments of leaders who are interest in and will apply the knowledge. -Army Civil Education (ACS) program exists to send soldiers to graduate programs
3A. Expertise (Internal)	-Embedded “soldier-economists” could incorporate economics knowledge within tactical units	-With connections to academia and continuing education, soldiers can stay up to date on current research and methods	-High opportunity cost of devoting soldiers to economics -Current personnel drawdown makes uniformed personnel more scarce
3B. Expertise (External)	-Commanders would have access to the latest research insights in designing and evaluating programs -Provides access to research networks within academia, potentially increasing collaboration	-Extremely adaptable, as external researchers have access to cutting edge knowledge of research methods and insights -Civilian researchers have incentive to produce cutting-edge research	-Researchers will be willing to work with the Army if it provides data and flexibility -Dependent upon Army leaders placing value on research and building working relationships

