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The Impact of U.S. Troop Deployments on Economic Growth

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Economists have been thinking about what makes nations grow ever since modern economic thinking began, starting with Adam Smith in 1776. The field was quiet in the 1970s and 1980s but took off when comprehensive data and improved computing power became increasingly available during the 1990s.

Now economists have moved beyond the orthodox models that explain growth by looking beyond the supplies of capital and labor and are exploring the intangible factors that make economies grow. The evidence so far suggests quite strongly that factors like economic freedom explain why some nations grow faster than others.

Research into economic growth is relevant to postwar Iraq and the ongoing specter of Islamic fundamentalism, especially if President George W. Bush is correct that promoting stable, prosperous democracies in the Middle East is an essential strategy in winning the war against terrorism. In that sense, economic growth and the role of U.S. troops are intertwined. Rather than asking "When will our troops come home?" policymakers need to ask "What role might U.S. troops play in promoting economic freedom, growth, and stability?"

The authors recently finished a cross-country study of the relationship between the number of U.S. troops deployed to 94 foreign countries and their long-run economic performance. The result is a working paper[1] from The Heritage Foundation's Center for Data Analysis.

HIGHLIGHTS

This paper summarizes the main findings so far. The basic conclusion is that the tens of millions of U.S. troops deployed since 1950 have had a clear and positive impact in the countries where they have been welcome.

- The presence of U.S. troops boosts economic growth in host countries. There is a positive unconditional relationship between troop deployments and growth, based on data from 94 countries, and there is also a positive conditional relationship that factors in other explanatory variables like war, political stability, and initial gross domestic product (GDP) levels. For example, a deployment of 500,000 U.S. troops to a host country spread over five decades (10,000 per year) is associated with an increase of 1 percent annual GDP growth per capita.
- The evidence rejects the hypothesis that the U.S. military is economically exploiting or harming nations where it is deployed. This affirms the non-imperial nature of U.S. deployments in modern history.
- We theorize that the mechanisms driving the troops-growth relationship involve a "security umbrella" effect and an "innovation diffusion" effect. Therefore, we believe that troops provide stability and make investors more willing to invest in a given country. Furthermore, U.S. troops bring with them the relatively successful political and economic ideas of the United

1. Garett Jones and Tim Kane, "U.S. Troops and Economic Growth: Regression Analysis with Robustness Tests," Heritage Foundation *Center for Data Analysis Working Paper*, revised March 7, 2005, at *www.heritage.org/Research/Economy/cdaworkingpaper-01-05.cfm*.

States—ideas that host countries often choose to adopt.

- We are skeptical that the troops-growth relationship can be exploited. Troop deployments are likely to be effective in enhancing growth only when founded upon an alliance with the host country and coupled with many intangibles like diplomatic efforts and cultural relationships.
- Our models indicate that duration of U.S. troop deployments matters more for long-run economic growth than overall force strength. That is, in terms of economic growth, there are diminishing returns for every additional soldier deployed to a foreign country. In addition, the growth benefit of U.S. troop deployments grows stronger over time.

Table 1 CDA 05-03

GDP per Capita and U.S. Troop Levels

	1960 GDP per capita (average)	2000 GDP per capita (average)	Growth (average)
All 94 countries	$3,625	$9,504	1.86%
10 countries with highest troop levels	$4,916	$16,413	3.25%
Next 10 countries	$5,603	$16,872	2.82%
50 countries with lowest troop levels	$2,523	$5,505	1.22%

Sources: The Heritage Foundation; Penn World Tables; and U.S. Department of Defense, Directorate for Information Operations and Reports

SUMMARY EVIDENCE: U.S. TROOPS IMPROVE ECONOMIC GROWTH

Table 1 indicates that the presence of American troops is positively correlated with both GDP growth rates and GDP levels. Countries with high U.S. troop presence during the 1950–2000 period enjoyed GDP per capita levels in 2000 that were nearly double the world average, while the 50 countries with the fewest U.S. troops had income levels that were roughly half the world average. Likewise, countries with the most U.S. troops grew nearly twice as fast as the world average, while countries hosting the fewest troops grew at only two-thirds the world average over four decades.

To give a sense of the magnitudes involved, we note that the top 10 countries hosted 22.2 million U.S. troops from 1950–2000. In contrast, the second set of 10 countries hosted about one-twentieth of that amount: a total of 1.3 million troops during the same period. We define “troop” as one soldier for one year.

We divide the sample of 94 countries into quintiles, sort by deployment size over the half-century, and discover that the troop level and growth variables appear to have the same clear positive relationship, as shown in Chart 1. The top quintile has an average 3.05 percent growth rate and 24,239 troops per year; the second quintile has a slightly lower growth rate and U.S. troop level (2.20 percent and 205 troops); the third quintile is lower in both categories (2.05 percent and 35 troops); the fourth quintile is lower still (1.12 percent and nine troops); and the fifth quintile is the lowest in both (0.84 percent and two troops).

THE THEORY

Our hypothesis is that international deployments of U.S. military personnel exert a positive causal effect on the growth rates of host countries. Japan and Germany experienced miraculous economic expansions in the decades following World War II. In both cases, a U.S. military occupation coexisted with a massive U.S. effort to reconstruct the political and economic systems of these countries.

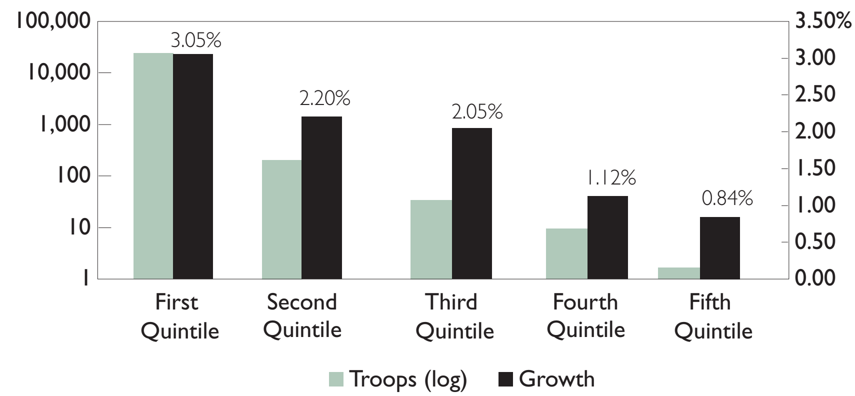
However, most cases of large U.S. engagements cannot be characterized as “occupations.” That is true of the majority of deployments, but also includes the cases of Japan and Germany a decade after World War II ended, when occupations had been replaced by mutually supportive Cold War alliances. Regardless of the strategic rationale for various deployments, the question is, what causal mechanisms run from U.S. troops to better economic performance?

One potential mechanism is the role of the U.S. military as a security umbrella for host nations, which one might think of as a free, guaranteed risk reducer for investors and other economic decision makers. In addition, it is possible that data on U.S. troops—a number that can be precisely measured and reported for each year—may simply be a reliable proxy for good economic and political institutions. Finally, U.S. troop deployments may be an especially effective mechanism for spreading these good economic and political institutions.

Security is one of the most likely mechanisms through which American soldiers enhance the growth potential of an economy. In other words, rational actors are more likely to defer consumption in favor of investment when the probability of payoff rises, which is a probability that is closely tied to the peace and security of area. One could think of this as the "security umbrella" effect.

Chart 1 CDA 05-03

U.S. Troops 1950-2000 and GDP Growth per Capita, by Quintile



Sources: The Heritage Foundation; Penn World Tables; and U.S. Department of Defense, Directorate for Information Operations and Reports.

The security guarantee of U.S. troops is a powerful signal to foreign investors, perhaps even a deciding factor for firms choosing where to locate new factories. American-guaranteed security would therefore spur higher levels of both domestic and foreign direct investment and would lower the risk premium in interest rates. Finally, the presence of American security forces allows a host nation to lower its own defense expenditures, which can result in sizeable savings. This allows the country to use more of its own resources for physical and human capital accumulation.

The importance of institutions for economic growth has long been acknowledged, and this means that growth is more than a sum of ingredient parts. For many years, "technology" was the orthodox description of everything intangible in the growth process. The current consensus is that productivity-enhancing techniques (scientific and sociocultural) are the most important innovations, and their diffusion through the network of nations is of prime importance.

The presence of U.S. troops in an allied host country logically fosters institutions: human rights, stable economies, and the rule of law, if not outright democracy. Often, the promotion of pro-growth institutions is intentional, but the effect is presumably just as powerful (and more common) when unintentional. For example, uniformed American soldiers usually mingle with local populations and are highly visible ambassadors of everything from racial equality to technological prowess.

The current effort in Iraq is the latest in a history of American deployments explicitly aimed at fostering democratic institutions. The presence of U.S. military troops is likely to be closely related to a wider American commitment that involves foreign aid, diplomacy, trade, investment, and a host of other factors. The fact that U.S. troops are much simpler to quantify, and that other factors such as diplomacy and technology diffusion are quite impossible to quantify, means that troop variables may just be serving as a proxy for a wider commitment.

HISTORICAL DATA

To establish the basic relationship, we first report the results of the simplest possible ordinary least-squares (OLS) regression: regressing cross-country growth rates from 1960–2000 on a measure of troops (the variable *log troops*) and a constant. Not only is the comprehensive *log troops* result statistically significant, but it appears to be economically significant as well. The coefficient of *log troops* is 0.227. Therefore, going from one troop (log 1 = 0) to having 10,000 troops in a country from 1950–2000 (log 10,000 = 4.0) is associated with 0.9 percent higher economic growth rate every year.

The coefficient for *presence* (of U.S. troops) is difficult to interpret, but an example may help. France and the Philippines hosted similar numbers of American troops during the latter part of the 20th century: just under 700,000 each. Thus, their *log troop* values are nearly identical—13.44 and 13.42, respectively—but their *presence* values are wide apart because U.S. troop levels were higher in France but for a shorter duration. The *presence* coefficient implies that France had a lesser benefit by 140 x 0.003 = 0.42 percentage points of growth per year.

The working paper includes numerous robustness tests to assess the durability of these preliminary findings. We consider regional dummy variables because U.S. troops were heavily concentrated: 52 percent of deployed troops were in Europe and 41 percent in Asia. We also consider many of the variables associated with political stability, including a dummy variable for war and measures of civil liberties, revolutions and coups, political rights, and even democracy. Almost none of these variables is individually significant when included in our regressions, and they do not diminish the statistical or economic significance of *log troops*.[2]

ANALYSIS

The implications of this research for Iraq are mixed. If our conjectures about the relevant mechanisms are correct, then the positive impact of U.S. troops rests on peaceful, supportive relationships with the local population. Broad hostility among the population toward American soldiers is likely to isolate both groups from each other and diminish the security and diffusion mechanisms that foster growth.

However, if the relationship that we identify between troops and growth holds up to further scrutiny, the implication is that if the number of U.S. troops in a country were increased by 10 percent, growth would increase persistently by a bit less than 0.01 percent. The difference between one soldier and 600,000 boosts growth by 1.17 percent per year. This will be the long-term impact on Iraq's economy if an average of 150,000 U.S. troops are based there for four years and *if the generalized relationship in other countries during the past half-century holds*.

We should be wary of interpreting the results crudely—for example, by suggesting that U.S. troops should be deployed forcibly to countries just to cause faster economic growth there. The data say no such thing. The decision to station U.S. troops abroad must be based on a consideration of all of the possible costs and benefits. The possibility of better economic performance is just one of many factors that policymakers need to consider when deciding where to station U.S. troops.

Further, the benefit of having troops in a country is likely to be felt in that country only after decades of an alliance-based partnership. Our results indicate that policymakers should be thinking about the troops-growth relationship in terms of a 30-year to 50-year time horizon.

In addition, we should note that this study looks at entire nations, not at local communities. As a result, the study does not discuss whether military bases are economically beneficial to local U.S. communities and should not in any way be cited as evidence against base closings.

Instead, the findings are preliminary, and the implications are quite simple.

First, those soldiers who wonder whether their service abroad has meant anything should take heart that there seem to be large improvements in living standards for people who live in countries that have hosted American troops. In the long run, U.S. troop deployments are typically associated with positive economic outcomes.

Second, there seems to be a strong case to be made that the duration of deployments matters more for long-run economic growth than does the intensity of deployments.

Third, the growth payoff takes many decades to become fully effective, suggesting that patience is indeed a virtue in foreign military affairs.

Fourth, there is more unknown than known. This is preliminary research into the troops-growth question, with many unexplored questions, but it is encouraging for the larger challenge of fighting global poverty.

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2. For the full regression analysis, see Jones and Kane, "U.S. Troops and Economic Growth."