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# BIDDING FOR ALLIES: US ECONOMIC AID TO CENTRAL ASIA IN WARTIME

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**ABSTRACT**
*The literature on foreign aid has long argued that economic aid from the United States is primarily used to promote its security interests. However, there remains disagreement about the effectiveness of economic aid to support security goals such as recruiting and strengthening allies. There is also a lack of research looking specifically at how economic aid is used to recruit and reward allies during war. This research uses panel data on US aid allocations to Afghanistan and the countries that surround it to estimate the determinants of US economic aid just prior to and during the US led war between 2001 and 2014. Overall, US basing and military logistics supply needs are the major factors influencing economic aid allocations in the region. Less despotic regimes tend to be favored with higher aid allocations. There is no evidence that aid is allocated according to the economic needs of the recipient country.*

Can foreign aid buy allies? Realist international relations scholars (e.g. Morgenthau[1], Liska[2], Schelling[3]) have long argued that foreign aid is essentially bribery meant to solidify alliances and buy policy concessions and has little to do with altruism. But other realists, like Stephen Walt[4] have argued that aid is not likely to be effective at inducing a recipient to ally with a donor. He argues that, since aid is only offered and accepted when both parties already believe it is in their interest,[5] aid is more often used by major powers to strengthen weaker allies against a common threat than to recruit allies to one side or another.

[1] H. Morgenthau, "A Political Theory of Foreign Aid," The American Political Science Review, Vol. 56, No. 2 (June 1962), pp 301-309.
[2] G. Liska. *The New Statecraft: Foreign Aid in American Foreign Policy*. Chicago: University of Chicago Press. 1960.
[3] T. Schelling. "American Foreign Assistance," World Politics, Vol. 7, No. 4, July 1955. pp. 606-626.
[4] S. Walt, "Alliance Formation and the Balance of World Power," International Security, Vol. 9, No. 4, Spring 1985, pp. 3-43.
[5] Walt, p. 28.

For Walt, donor countries were unlikely to wield enough leverage from providing foreign aid because superpower security competition ensured that aid from one donor could be replaced by aid from the competitor.

Walt, writing during the Cold War, was looking at a different international political environment than what predominates today. In a bipolar world with rival states competing for influence and allies, economic aid would provide only limited leverage over states willing to auction their allegiance to the highest bidder. However, the threat of international terrorism by primarily non-state actors is qualitatively and quantitatively different from interstate security competition between rival great powers. Terrorism largely springs from unstable or failed states, often clustered near one another. Before 2001, there was no clear security rationale for providing foreign aid to such states because they had little value as alliance partners in terms of military or economic power, and hence little leverage to demand foreign aid from the large donors.

The targeting of international terrorism by Western powers has altered the playing field for states located near states occupied by or harboring terrorists. Military action against terrorist organizations requires reasonably close access for basing and logistics supply operations. While terrorism is not the existential threat that a competing superpower would be, the domestic political imperative to actively prevent future attacks means that terrorism target states (the United States, in particular) are highly motivated to militarily pursue terrorist threats wherever they are. This requires allies in volatile regions. Most other great powers are also threatened by terrorism and are not inclined, in the short term, to interfere or compete for the recipient states allegiance. In other words, the alliance value of states located near terrorist threats has increased substantially even though these states have little power. The lack of superpower competition increases the leverage that large donors enjoy when looking for policy concessions from weak states because aid can no longer be easily replaced. In a world without competing bidders, foreign aid may now be an effective means of buying cooperation and creating alliances, albeit temporary, even where overall national interests do not align.

## Aid During Wartime

When the US decides to prosecute wars in distant parts of the globe, coalitions of allies need to be recruited to facilitate the movement and supply of troops and equipment. Foreign aid, both economic and military, are key tools that are available to incentivize cooperation from

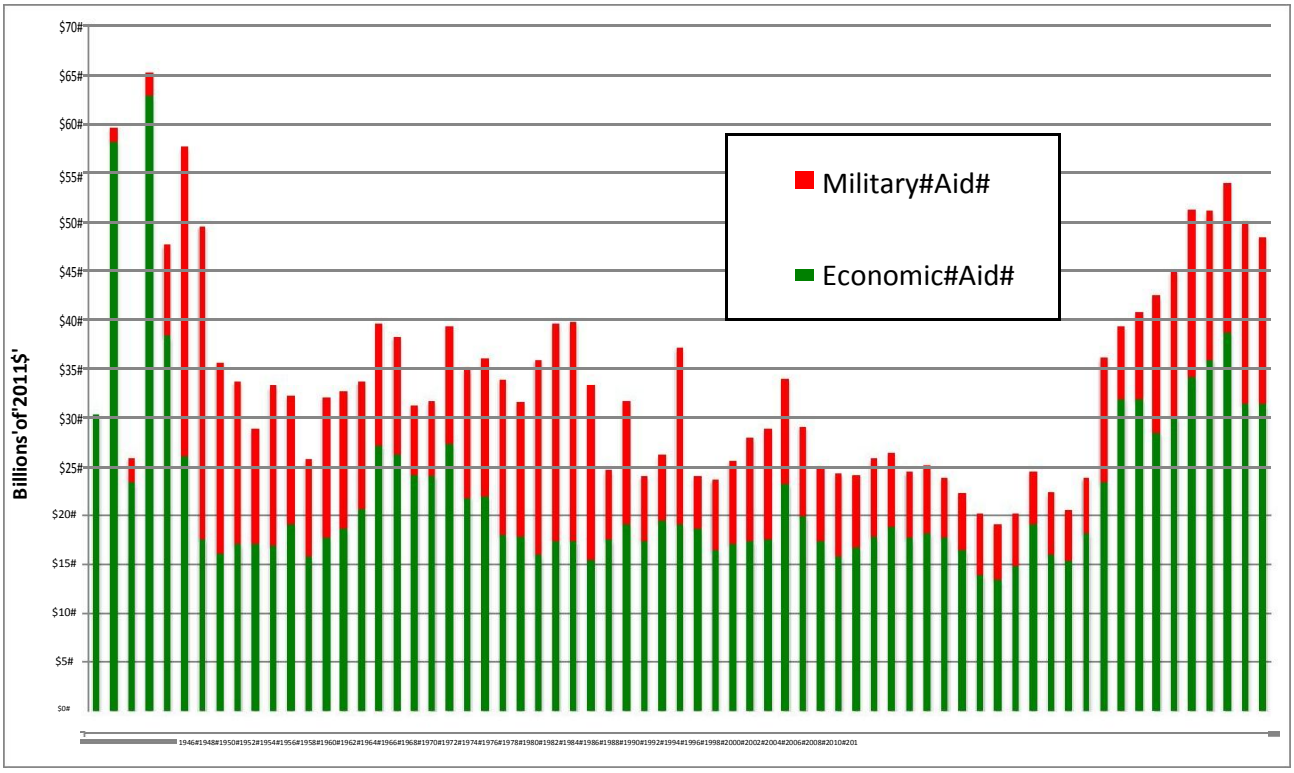
potentially reluctant states. Several studies have demonstrated that US foreign aid policy was dominated by security and ideological concerns,[6][7][8] but few studies have quantitatively analyzed the use of foreign aid to secure temporary cooperation during a military conflict. This paper looks at US aid policy before and after the start of the 2001 invasion of Afghanistan to determine what factors influenced US foreign aid policy. Data on US foreign aid to Central Asian states is used to determine whether US foreign economic aid was primarily targeted at securing allies to the exclusion of other interests during military interventions.

Since the end of WWII and throughout the Cold War, the US used foreign aid as a means to bolster the economies and military capabilities of friendly states with particular emphasis on states that border key threats. Immediately following World War II, this meant high levels of foreign aid to Europe to resist Soviet influence and counter perceived threats to states that had not yet recovered from the war. During the cold war, the largest recipients of US foreign aid were states that were party to a conflict or potential participants in conflicts in which the US had a perceived interest (see Appendix 2). Changes in the security environment explain much of the change in US economic aid policy over time. During periods when the US is engaged in military conflicts, economic aid tended to increase along with military aid (see Figure 1). In the post-cold war period when aid policy was being pushed to target economic development and poverty reduction, there was a clear reduction in both economic and military aid. Only since the terrorist attacks in September 2001 has US economic and military aid increased. This increase was the likely result of two major factors. First, the wars in Iraq and Afghanistan required cooperation from countries near conflicts and foreign aid is one of the tools available to solidify alliances and maintain coalitions to support military objectives. Second, the need for post conflict reconstruction and recovery necessitated very high levels of foreign aid in both Iraq and Afghanistan.

[6] Schraeder, Peter J., Hook, Stephen W., and Taylor, Bruce. "Clarifying the Foreign Aid Puzzle: A comparison of American, Japanese, French and Swedish Aid Flows." World Politics. No. 50, (January 1998), pp. 294-323.
[7] Banfield, Edward C., *American Foreign Aid Doctrines*, Washington DC: American Enterprise Institute for Public Policy Research, 1963, p. 4.
[8] Alesina, A. and Dollar, D., "Who gives foreign aid to whom and why?", Journal of Economic Growth, Vol. 5, (March 2000), pp. 33-63.

FIGURE 1: US FOREIGN AID, 1946-2012
(CONSTANT 2011$)

Source: US Agency for International Development



## Hypothesis and Predictions

In order to better understand how foreign aid is used by the US during military conflicts, the war in Afghanistan was selected for detailed quantitative analysis of economic aid allocations. Afghanistan and Central Asia overall are relatively unimportant to US economic interests and the US has not, with the exception of Pakistan, played a dominant role in the international and security relations of most of these states. To prosecute the war in Afghanistan, the US needed to gain access to supply and logistics facilities in multiple small, relatively poor countries with which it has had only limited relations. The US initiated substantial economic aid for ex-Soviet Central Asian states between 1991 and 1993 to assist in their transition to more market based economies and to bolster them as independent states apart from Russia. It did not establish or maintain military facilities in Central Asia and its only significant ongoing military relationship in the region was with Pakistan. These factors make the case of aid to Central Asia during the Afghanistan conflict attractive for the purpose of demonstrating and assessing the use of economic aid to buy temporary military cooperation.

The war in Iraq is also a potential case study. However, the US maintains multiple bases in the Middle East, Europe and Turkey which were utilized for military supply and logistics support so the need for new supply and logistics facilities was limited. The existing military facilities near Iraq that were available to the US are in countries that are relatively wealthy (Saudi Arabia, Bahrain, UAE, Qatar) and are therefore, not normally targets of US economic aid. It is unlikely that economic aid allocations would be as useful for ally recruitment in the countries around Iraq compared to those in Central Asia. Further, US long term interests in securing oil shipments coming from the Persian Gulf and in the security of Israel means that its aid purposes in that region are complex and multifaceted such that aid meant to engender military cooperation in the Iraq War could be difficult to discern in the data. Therefore, the 2001-2014 war in Afghanistan provides the most attractive case for analyzing the use of economic aid to buy security cooperation.

I expect that US economic aid to Central Asia was allocated primarily for the purpose of securing allies for the war in Afghanistan from late 2001 to 2014. The main hypothesis is that economic aid was an incentive to secure military basing rights, supply lines into Afghanistan, and to ensure military cooperation in bordering countries. This is largely consistent with the

realist interpretation of the use of foreign aid in international relations. The alternative hypotheses are that economic aid was provided to promote democratic values or economic development in the recipient countries. Views that correspond to liberal and constructivist notions respectively on the use of foreign aid in international relations.

If the main hypothesis is true, the following predictions logically follow:

1) Countries with US military bases or logistics support facilities should receive more economic aid than countries without them. Countries that received substantial military aid should also receive more economic aid, implying that military aid and economic aid have similar or overlapping purposes during military conflicts.
2) The increase in economic aid to countries in the Afghanistan region should be higher than the increase in economic aid across all countries. The prediction would reflect a concentration of US economic aid on militarily important countries reflecting an increased targeting of economic aid to promote US security interests during periods of conflict.
3) Democracy and human rights should not be significant factors in determining US aid allocations in the region. Military operations require access and logistics support and the best locations for logistics support are determined by geography rather than regime characteristics. During military conflicts, I expect that promoting democratic values will not be a major consideration in the allocations of US economic aid.
4) Poorer states should not receive more aid than richer states implying that providing economic benefits to the recipient is unlikely to be the purpose of US economic aid in this region.

## Empirical Analysis

*A Model of Economic Aid*

A panel regression was estimated to test the determinants of economic aid allocations in the countries affected by the Afghan War. Bi-lateral development aid could be allocated for a variety of reasons including: (1) to promote the security interests of the donor, (2) to promote

the commercial interests of the donor, (3) to promote the values and norms of the donor, and (4) to promote the economic and social development of the recipient. Reasons 1, 2 and 3 assume aid is given in the self-interest of the donor, while 4 assumes that aid has an altruistic component. If economic aid is altruistic, aid should target poorer countries with higher levels of poverty. GDP per capita (GDP_CAP) should be a significant factor in the allocation of economic aid if aid is altruistic. Economic aid from the US is unlikely to be commercially oriented in the case of Central Asian countries because none, with the exception of China, is a significant trading partner with the United States. For example, excluding China, Pakistan is the largest market for US exports in the region but still ranks only 69$^{th}$, lower than US exports to Luxembourg.[9] For this reason, commercial factors are not expected to be significant and are not included in the model. If strategic factors are important, the location of military supply and logistics facilities (BASE) and the level of military cooperation between the US and the recipient country as indicated by the level of US military aid (MIL_AID) should be major determinants of economic aid. If US norms and values are important in the allocation of economic aid, aid flows should reward democracy and openness in the recipient country (FREE_RATE).

*Notes on Data Sources*

Data on US foreign aid, both military (MIL_AID) and economic (ECON_AID), are from the US Agency for International Development (USAID) for the period 1997-2013. I select 1997 as the first year to provide several years of data before military action began at the end of 2001. This ensures that there is some within-country variation in the variables that indicate the existence of military supply and logistics facilities. The countries that potentially received aid related to the war in Afghanistan are: Afghanistan, Azerbaijan, China, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan. Data on population and GDP are from the World Bank World Development Indicators data set and used to compute GDP per capita in constant 2013 USD. Accurate GDP estimates for Afghanistan are not available for 1997 – 2000. The values for these years were assumed to be the same as 2001 to reflect the stagnant economic conditions that probably prevailed during that period. The Freedom Rating was collected from Freedom House (https://freedomhouse.org) and is the average of the political rights and civil liberties indicators. The Freedom Rating takes a value between 1 and 7 with 1 indicating the freest countries and 7 being the most repressive. All of

the countries in the region score relatively poorly. The existence of bases and logistics facilities were coded as dummy variables based on published accounts of base openings and closings. The assumptions behind the BASE variable is in the following section. The full data set is in Appendix 1.

## Base and logistics support facilities

The US needed allies near Afghanistan in order to effectively supply and support troops and military operations. Bases, logistics facilities and supply routes are key elements in launching and sustaining any military campaign. The main facilities and supply routes in the region were as follows:

> **Pakistan:** Rail and roadway transport from the Port of Karachi to Kandahar and Kabul. Pakistan leased the Shamsi Air Base to the US from 2001 to 2011 when the lease was terminated by Pakistan in retaliation for the Salala Incident in which a Pakistani border point was bombed by US forces. The removal of the US from Shamsi was largely a face saving action for Pakistan. It is not clear if Pakistan continued to provide access to other bases after 2011, but materials and supplies continued to travel to Afghanistan from Pakistani ports after the US apologized in 2012.[10] The base variable for Pakistan is coded to

[9] US Department of Commerce. US International Trade in Goods and Services, Annual Revision for 2013. Washington DC. 2013.

[10] CNN, 2012. Pakistan reopens NATO supply routes to Afghanistan. 4 July. (http://edition.cnn.com/2012/07/03/world/asia/us-pakistan-border-routes/index.html?hpt=hp_t1)

reflect this continued logistics cooperation. Pakistan received large aid allocations to engender cooperation throughout the war and continues to receive substantial aid from the US.

**Kyrgyzstan:** The Manas Air base was established at the international airport in Bishkek in late 2001 and primarily used as a transit point for troops. Substantial foreign aid was provided in addition to rent.[11] The lease on this base was terminated in 2014 as active military operations drew to a close. The lease on the base was controversial from the start but proposals to close it prior to the end of the war were answered with offers of much higher rent payments to Kyrgyzstan which succeeded in preserving the base. Economic aid also increased during the base lease period.

**Uzbekistan:** Karshi-Khanabad (K2) base was used from 2001 to 2005. Political fallout from the 2005 Andijan Massacre[12] led to closure of this base. Supplies were again routed through Uzbekistan's Navoi Airport from 2009 but relying on South Korea to manage logistics.[13] The data are coded to reflect the closure in 2005 and reopening of logistics operations in 2009. The US Congress also placed restrictions on foreign aid to Uzbekistan due to the Andijon issue.[14]

**Turkmenistan:** According to media reports, the US unofficially financed improvements to multiple airfields in Turkmenistan[15] and used these facilities to transit weapons and military equipment into Afghanistan after the closure of the K2 facility in Uzbekistan.[16] The model is coded to reflect military logistics support in Turkmenistan from 2005 until 2014.

[11] Eurasia Review. 2014. US Military Departure from Manas: Stirring a New Game in Central Asia - Analysis. 9 July. (http://www.eurasiareview.com/09072014-us-military-departure-manas-stirring-new-game-central-asia-analysis/)

[12] Human Rights Watch. 2014. Uzbekistan: Andijan Massacre Case Not 'Closed'. 13 May. (http://www.hrw.org/news/2014/05/12/uzbekistan-andijan-massacre-case-not-closed)

[13] D. Tynan. 2009. Uzbekistan: Karimov Gives Washington Air Base it Needs for Afghan Operations. Eurasianet.org. 10 May. (http://www.eurasianet.org/departments/insightb/articles/eav051109a.shtml)

[14] M. Olcott. Central Asia: Carving an Independent Identity among Peripheral Powers, p. 240. In D. Shambaugh and M. Yahuda (eds). International Relations of Asia. Lanham: Rowan and Littlefield Publishers, Inc. 2008.

[15] C. Fitzpatrick. 2010. Turkmenistan: Secret US Base for Afghanistan, Iraq, Iran Campaigns. Center for Research on Globalization. 2 August. (http://www.globalresearch.ca/turkmenistan-secret-u-s-base-for-afghanistan-iraq-iran-campaigns/20411)

[16] C. Munoz. 2012. Military base issues limit Pentagon's options for post-war Afghanistan. The Hill. 6 May. (http://thehill.com/policy/defense/225609-basing-issues-limit-us-options-for-post-war-afghanistan)

*Estimation procedures*

The model is estimated using panel regression least squares for the period 1997 to 2013, the last year in which data for all variables was available. The model was estimated using cross section fixed-effects to reflect the likelihood that country specific factors affect aid allocations in ways that are not reflected in the other included variables. For example, Afghanistan contains bases but is also the war site. Iran borders Afghanistan but was under US sanctions for the entire period. China borders Afghanistan but US interests with respect to China are clearly broader than cooperation in Central Asia. Pakistan also has a long and complicated history with the US as an aid recipient and partner in anti-terrorist operations, often within Pakistan itself. These factors are country specific and distinct from US policy towards the smaller central Asian countries that were formerly part of the Soviet Union and distinct from the war in Afghanistan. Country cross-section fixed effects are essential to capture these variations which will affect aid policy and allocations. The model is estimated using White's robust cross-section standard errors to address heteroskedasticity.

As a check on the robustness of the results, a separate model was estimated by panel least squares incorporating dummy variables for Afghanistan (WAR_SITE), Iran (SANCTIONS), and for countries that border Afghanistan (BORDER_AFG) rather than cross-section fixed effects. This specification displayed some serial correlation so the model was also estimated including a first-order autoregressive term to correct for first order serial correlation, again using White's robust cross-section standard errors.

*Estimation Results*

All regression outputs are given in Appendix 3. Overall, all of the regressions perform well explaining between 87 and 88% of the variation in economic aid from the US to the 10 countries. In the fixed effects model (Model 1), all variables except for GDP_CAP are significant at the 95% level. The specification without fixed effects (Model 2) is similar with all coefficient estimates on the key variables (BASE, MIL_AID, and FREE_RATE) reasonably close to the coefficients in the fixed effects model. The coefficient on GDP_CAP, however, is a different sign (positive rather than negative) and significant in the model specification without fixed effects. The non-fixed effects model correcting for first order serial correlation (Model 3) is again similar with only slight changes to the coefficient

estimates. Overall the results of the models are consistent and robust. The predictions are addressed using the estimation results from Model 1.

**Prediction 1**

The regression results indicate that the existence of military bases and logistics facilities (BASE) is a key determinant of economic aid (ECON_AID). On average, acceptance of a US military support facility results in about $241,000,000 in annual additional economic aid. Military aid is also a significant predictor of additional economic aid. The coefficient on MIL_AID indicates that for every extra dollar of military aid, countries received about $0.30 in added economic aid. Prediction 1 is confirmed.

**Prediction 2**

During a military conflict, military aid would be expected to increase a great deal in order to bolster military cooperation and build the military capacity of cooperating states. Economic aid would only be expected to increase over and above its normal budgetary increases over time if economic aid were addressing security related purposes. To address this prediction, the amount of economic and military aid given to the states surrounding Afghanistan is compared to the total US economic and military aid program over time. The data show that, even excluding Afghanistan itself to remove the impact of aid for post-conflict reconstruction and recovery, the 10 Central Asian countries affected by the War in Afghanistan received substantially more economic and military aid in the 2002-2012 period compared to the 1997-2001 period. The results are in the following table:

TABLE 1: AVERAGE ANNUAL AID TO AFGHANISTAN REGION VS. REST OF THE WORLD

(CONSTANT 2011$)

| | 1997-2001, annual average | | 2002-2012, annual average | | % Increase in annual aid between periods | |
|---|---|---|---|---|---|---|
| **Country** | **Economic** | **Military** | **Economic** | **Military** | **Economic** | **Military** |
| Afghanistan | $59,813,270 | $- | $2,275,397,971 | $4,392,065,041 | 3704% | N/ |
| Azerbaijan | $42,385,562 | $- | $55,665,815 | $9,608,190 | 31% | N/ |
| China | $17,420,793 | $- | $62,549,318 | $69,902 | 259% | N/ |
| Iran | $8,908 | $- | $2,903,760 | $2,476 | 32497% | N/ |
| Kazakhstan | $51,701,868 | $3,553,174 | $112,350,605 | $26,654,295 | 117% | 650% |
| Kyrgyzstan | $49,746,021 | $2,645,352 | $60,042,197 | $15,649,901 | 21% | 492% |
| Pakistan | $92,414,444 | $826,404 | $874,862,783 | $394,847,829 | 847% | 47679% |
| Tajikistan | $52,065,516 | $- | $53,236,207 | $11,088,807 | 2% | N/ |
| Turkmenistan | $9,582,306 | $1,517,884 | $12,062,060 | $3,767,524 | 26% | 148% |
| Uzbekistan | $43,167,926 | $3,924,145 | $50,554,841 | $11,342,112 | 17% | 189% |
| Regional Totals | $418,306,614 | $12,466,958 | $3,559,625,556 | $4,865,096,078 | **751%** | **38924%** |
| Ex. Afghanistan | $358,493,344 | $12,466,958 | $1,284,227,585 | $473,031,038 | **258%** | **3694%** |
| Rest of World | $15,245,444,325 | $5,580,670,819 | $26,778,748,389 | $8,560,272,891 | **76%** | **53%** |

Source: US Agency for International Development

The data indicate that states near Afghanistan have received much larger increases in US economic aid than the rest of the world. Excluding Afghanistan, the countries in the region saw over 3 times the increase in US economic aid (258% increase vs. 76%) as the rest of the world. The US appears to have increasingly allocated its economic aid program on supporting military and strategic goals since 2001. Prediction 2 is confirmed.

**Prediction 3**

The coefficient on the Freedom Rating (FREE_RATE) is negative and highly significant which indicates that states with a better (lower) Freedom Rating tend to receive more economic aid. Since the freedom rating is an ordinal measure, the coefficient on this variable does not have a specific interpretation apart from its sign, but it does appear to be the case that the US economic aid allocations are affected by events perceived as threatening to international norms. Prediction 3 is

not confirmed. Though US economic aid is affected by human rights and democracy in the recipient country, none of the countries in this study have "good" Freedom Ratings. Only Pakistan (4.5) and Kyrgyzstan (briefly 4.5) achieved ratings better than 5.5, the cutoff between "partly free" and "not free" as defined by Freedom House. All other countries were in the "not free" category for the entire analysis period with little year-to-year variation. The US was forced to choose between countries that are predominantly undemocratic and often hostile to international norms. But even when buying allies in a military conflict, human rights and democracy conditions swayed economic aid allocations. One example of this dynamic is US aid to Uzbekistan where US domestic politics played a role in the decision to reduce aid after a massacre of civilians in that country in 2005.[17] However, security concerns and the need to support the war in Afghanistan eventually broke down domestic opposition. The Congressional Research Service indicated the following:

> "In late 2009, Congress permitted (P.L. 111-84, §801)—for the first time since restrictions were put in place—the provision of some assistance on national security grounds to facilitate the acquisition of supplies for U.S. and NATO operations in Afghanistan from countries along the Northern Distribution Network." (footnote 17, p. 21).

This easing of restrictions was aimed at Uzbekistan to allow aid to resume with the ultimate goal to help ensure military cooperation. So while human rights conditions in recipient countries influence US economic aid allocations, this effect can be temporary if operational needs are powerful enough.

[17] J. Nichol. 2013. Uzbekistan: Recent Developments and US Interests. Congressional Research Service. 21 August. P. 4.

The significance of this variable does not necessarily imply that the purpose of US economic aid was to promote democracy and human rights. It is quite possible that the US punished particularly egregious regime behavior (Uzbekistan), but appeared to pay little attention to overall regime characteristics. For example, Turkmenistan was provided substantial economic and military aid despite its extremely poor human rights and democracy conditions. Extreme violations of international norms appear to have caused reductions in aid, but merely being a despotic regime does not appear to have been an impediment to receiving aid at the outset.

**Prediction 4**

The regression results are ambiguous with respect to economic benefits to the recipient. The coefficient on GDP_CAP is small and negative implying that poorer countries receive more aid all else being equal. However, the variable is not significant in the fixed effects model. In the other model specifications, the coefficient on GDP_CAP in the recipient country switches signs to positive and is significant which implies that wealthier countries receive more aid. It is, however, unlikely that the US is specifically targeting aid at higher income countries. GDP_CAP is most likely correlated with other factors better captured by the cross-section fixed effects than through the GDP_CAP variable in Model 2 and Model 3 which would explain why the sign on GDP_CAP changed and why the coefficient is insignificant in the fixed effects model. Further, GDP_CAP is increasing in most years for most countries at a time when the US overall aid budget was increasing. The significance of the GDP_CAP coefficient in the non-fixed effects models may reflect a degree of correlation between growing aid budgets and overall economic growth. This effect would not reflect a policy decision but simply reflect the tendency of the two series to grow simultaneously. On balance, the fixed effects model provides the more credible estimate which implies little or no effect of recipient country poverty on US aid allocations to Central Asia. This finding contradicts the notion that altruistic concerns are a factor in US economic aid allocations. Prediction 4 is confirmed.

**Conclusions**

Overall, this analysis has demonstrated that economic development aid has been used to support the war in Afghanistan by compensating surrounding countries for the establishment

of military bases and logistics facilities needed by the US to prosecute the war. The primary purpose of US economic aid to countries surrounding Afghanistan was to buy alliance partners to support the war. The evidence reviewed here suggests that foreign aid was reasonably effective at securing cooperation between Central Asian countries and the United States. Bases and logistics supply facilities were established and maintained in numerous countries in Central Asia and the existence of those facilities determined to a large extent the allocation of economic aid. When host countries (namely Kyrgyzstan) requested the closure of military logistics and supply facilities, additional aid was effective at extending the needed cooperation. When hosts (namely Pakistan and Uzbekistan) demanded closures, alternatives were found with new partners willing to accept US largess in both military and economic aid. There is no evidence that economic need was a major factor in aid allocations.

On the other hand, contrary to prediction 3, violations of human rights and democratic freedoms affected US economic aid allocations even when security concerns were predominant. Regimes with better Freedom Ratings tend to receive significantly more aid than states with worse ratings.

**Future Research**

US influence in Central Asia is likely to wane along with its aid program after the war. The need for allies to support military operations will end and US economic assistance is likely to be reallocated away from Central Asia where Russia and China have more active and historical security and economic interests. Russia has been active in pushing Central Asian countries to close US bases and used its own aid program and debt cancellations to push Central Asian states away from US influence. China is also actively promoting its interests in Central Asia through the Shanghai Cooperation Organization, which has increasingly taken on security dimensions, and economically through its "New Silk Road" program. The competition for influence in this region is increasing and foreign aid will be a key tool in that competition. Further research on the use of aid by emerging donors like Russia and China would help to improve our understanding of the ambitions of these regional great powers and the role of Central Asian states in a rapidly changing international system.

## APPENDIX 1: MAIN DATA SET, 1997-2013 (CONSTANT 2013$)

| Country | Year | Econ_Aid ($ millions) | Mil_Aid ($ millions) | Pop (millions) | GDP ($ millions) | GDP_Cap | Base | Free_rate |
|---|---|---|---|---|---|---|---|---|
| Afghanistan | 1997 | $44.41 | $- | 19.02 | $4,950 | $260.24 | 0 | 7 |
| Afghanistan | 1998 | $11.49 | $- | 19.50 | $4,950 | $253.89 | 0 | 7 |
| Afghanistan | 1999 | $47.08 | $- | 19.99 | $4,950 | $247.66 | 0 | 7 |
| Afghanistan | 2000 | $70.50 | $- | 20.60 | $4,950 | $240.35 | 0 | 7 |
| Afghanistan | 2001 | $108.43 | $- | 21.35 | $4,950 | $231.88 | 0 | 7 |
| Afghanistan | 2002 | $503.26 | $64.46 | 22.20 | $8,250 | $371.58 | 1 | 7 |
| Afghanistan | 2003 | $787.43 | $422.08 | 23.12 | $8,947 | $387.04 | 1 | 6 |
| Afghanistan | 2004 | $1,682.50 | $644.91 | 24.02 | $9,041 | $376.42 | 1 | 6 |
| Afghanistan | 2005 | $1,189.69 | $822.86 | 24.86 | $10,052 | $404.31 | 1 | 5.5 |
| Afghanistan | 2006 | $1,262.10 | $2,122.05 | 25.63 | $10,610 | $413.94 | 1 | 5 |
| Afghanistan | 2007 | $1,204.17 | $4,258.33 | 26.35 | $12,068 | $457.99 | 1 | 5 |
| Afghanistan | 2008 | $2,837.05 | $6,679.87 | 27.03 | $12,504 | $462.54 | 1 | 5 |
| Afghanistan | 2009 | $3,107.89 | $6,408.18 | 27.71 | $15,132 | $546.11 | 1 | 5.5 |
| Afghanistan | 2010 | $4,285.44 | $7,157.37 | 28.40 | $16,408 | $577.79 | 1 | 6 |
| Afghanistan | 2011 | $3,238.27 | $10,600.37 | 29.11 | $17,411 | $598.21 | 1 | 6 |
| Afghanistan | 2012 | $3,587.41 | $9,704.28 | 29.82 | $19,924 | $668.05 | 1 | 6 |
| Afghanistan | 2013 | $2,653.93 | $1,879.58 | 30.55 | $20,310 | $664.76 | 1 | 6 |
| Afghanistan | 2014 | $1,574.19 | $- | 31.63 | $20,842 | $658.98 | 1 | 6 |
| Afghanistan | 2015 | $976.26 | $- | - | $- | $- | 0 | 6 |
| Azerbaijan | 1997 | $6.48 | $- | 7.84 | $12,872 | $1,642.25 | 0 | 5.5 |
| Azerbaijan | 1998 | $40.37 | $- | 7.91 | $14,160 | $1,789.41 | 0 | 5.5 |
| Azerbaijan | 1999 | $47.73 | $- | 7.98 | $15,207 | $1,905.03 | 0 | 5 |
| Azerbaijan | 2000 | $71.67 | $- | 8.05 | $16,895 | $2,099.18 | 0 | 5 |
| Azerbaijan | 2001 | $45.91 | $- | 8.11 | $18,568 | $2,289.19 | 0 | 5.5 |
| Azerbaijan | 2002 | $59.41 | $10.64 | 8.17 | $20,536 | $2,513.02 | 0 | 5.5 |
| Azerbaijan | 2003 | $71.31 | $7.23 | 8.23 | $22,836 | $2,773.39 | 0 | 5.5 |
| Azerbaijan | 2004 | $70.09 | $4.28 | 8.31 | $25,166 | $3,029.63 | 0 | 5.5 |
| Azerbaijan | 2005 | $65.84 | $12.01 | 8.39 | $31,809 | $3,790.51 | 0 | 5.5 |
| Azerbaijan | 2006 | $56.33 | $7.94 | 8.48 | $42,784 | $5,042.53 | 0 | 5.5 |
| Azerbaijan | 2007 | $59.35 | $4.98 | 8.58 | $53,500 | $6,234.54 | 0 | 5.5 |
| Azerbaijan | 2008 | $40.47 | $4.33 | 8.76 | $59,264 | $6,762.65 | 0 | 5.5 |
| Azerbaijan | 2009 | $53.68 | $4.27 | 8.95 | $64,841 | $7,247.03 | 0 | 5.5 |
| Azerbaijan | 2010 | $54.13 | $4.22 | 9.05 | $67,988 | $7,508.95 | 0 | 5.5 |
| Azerbaijan | 2011 | $49.06 | $22.23 | 9.17 | $68,033 | $7,416.63 | 0 | 5.5 |
| Azerbaijan | 2012 | $32.45 | $24.54 | 9.30 | $69,530 | $7,479.74 | 0 | 5.5 |
| Azerbaijan | 2013 | $31.10 | $5.88 | 9.42 | $73,560 | $7,811.79 | 0 | 5.5 |
| Azerbaijan | 2014 | $13.21 | $- | 9.54 | $75,198 | $7,884.19 | 0 | 6 |

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|---|---|---|---|---|---|---|---|---|
| Azerbaijan | 2015 | $3.59 | $- | - | $- | $- | 0 | 6 |
| China | 1997 | $3.60 | $- | 1,230.08 | $2,139,268 | $1,739.14 | 0 | 6.5 |
| China | 1998 | $3.75 | $- | 1,241.94 | $2,306,844 | $1,857.46 | 0 | 6.5 |
| China | 1999 | $57.70 | $- | 1,252.74 | $2,482,621 | $1,981.76 | 0 | 6.5 |
| China | 2000 | $7.73 | $- | 1,262.65 | $2,691,938 | $2,131.98 | 0 | 6.5 |
| China | 2001 | $13.77 | $- | 1,271.85 | $2,915,378 | $2,292.23 | 0 | 6.5 |
| China | 2002 | $29.35 | $0.03 | 1,280.40 | $3,180,154 | $2,483.72 | 0 | 6.5 |
| China | 2003 | $33.47 | $- | 1,288.40 | $3,498,977 | $2,715.75 | 0 | 6.5 |
| China | 2004 | $44.93 | $- | 1,296.08 | $3,851,850 | $2,971.93 | 0 | 6.5 |
| China | 2005 | $45.96 | $- | 1,303.72 | $4,287,496 | $3,288.66 | 0 | 6.5 |
| China | 2006 | $51.16 | $0.08 | 1,311.02 | $4,831,001 | $3,684.92 | 0 | 6.5 |
| China | 2007 | $67.27 | $- | 1,317.89 | $5,515,187 | $4,184.88 | 0 | 6.5 |
| China | 2008 | $106.90 | $0.11 | 1,324.66 | $6,046,557 | $4,564.63 | 0 | 6.5 |
| China | 2009 | $64.98 | $0.16 | 1,331.26 | $6,603,699 | $4,960.49 | 0 | 6.5 |
| China | 2010 | $99.17 | $0.20 | 1,337.71 | $7,293,586 | $5,452.31 | 0 | 6.5 |
| China | 2011 | $87.23 | $0.21 | 1,344.13 | $7,971,881 | $5,930.89 | 0 | 6.5 |
| China | 2012 | $61.35 | $- | 1,350.70 | $8,581,934 | $6,353.72 | 0 | 6.5 |
| China | 2013 | $97.44 | $0.08 | 1,357.38 | $9,240,270 | $6,807.43 | 0 | 6.5 |
| China | 2014 | $26.78 | $- | 1,364.27 | $10,360,105 | $7,593.88 | 0 | 6.5 |
| China | 2015 | $1.56 | $- | - | $- | $- | 0 | 6.5 |
| Iran | 1997 | $- | $- | 62.54 | $202,055 | $3,230.69 | 0 | 6.5 |
| Iran | 1998 | $- | $- | 63.71 | $207,593 | $3,258.23 | 0 | 6.5 |
| Iran | 1999 | $- | $- | 64.86 | $211,607 | $3,262.59 | 0 | 6 |
| Iran | 2000 | $- | $- | 65.91 | $222,491 | $3,375.62 | 0 | 6 |
| Iran | 2001 | $0.04 | $- | 66.86 | $230,655 | $3,449.95 | 0 | 6 |
| Iran | 2002 | $0.30 | $0.01 | 67.73 | $247,990 | $3,661.60 | 0 | 6 |
| Iran | 2003 | $1.85 | $0.01 | 68.54 | $265,634 | $3,875.43 | 0 | 6 |
| Iran | 2004 | $12.31 | $- | 69.34 | $279,139 | $4,025.53 | 0 | 6 |
| Iran | 2005 | $1.29 | $- | 70.15 | $292,045 | $4,163.01 | 0 | 6 |
| Iran | 2006 | $3.69 | $- | 70.98 | $309,258 | $4,357.18 | 0 | 6 |
| Iran | 2007 | $4.99 | $- | 71.81 | $333,456 | $4,643.64 | 0 | 6 |
| Iran | 2008 | $3.36 | $- | 72.66 | $335,391 | $4,615.83 | 0 | 6 |
| Iran | 2009 | $0.72 | $- | 73.54 | $348,605 | $4,740.15 | 0 | 6 |
| Iran | 2010 | $1.30 | $- | 74.46 | $369,138 | $4,957.38 | 0 | 6 |
| Iran | 2011 | $1.35 | $- | 75.42 | $380,212 | $5,040.97 | 0 | 6 |
| Iran | 2012 | $0.97 | $- | 76.42 | $391,618 | $5,124.25 | 0 | 6 |
| Iran | 2013 | $0.59 | $- | 77.45 | $368,904 | $4,763.30 | 0 | 6 |
| Iran | 2014 | $- | $- | 78.14 | $415,339 | $5,315.06 | 0 | 6 |
| Iran | 2015 | $- | $- | - | $- | $- | 0 | 6 |
| Kazakhstan | 1997 | $13.41 | $2.58 | 15.33 | $79,108 | $5,159.08 | 0 | 5.5 |

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|---|---|---|---|---|---|---|---|---|
| Kazakhstan | 1998 | $54.24 | $3.82 | 15.07 | $77,605 | $5,149.17 | 0 | 5.5 |
| Kazakhstan | 1999 | $64.21 | $3.11 | 14.93 | $79,700 | $5,338.81 | 0 | 5.5 |
| Kazakhstan | 2000 | $66.91 | $2.69 | 14.88 | $87,511 | $5,879.66 | 0 | 5.5 |
| Kazakhstan | 2001 | $60.02 | $5.57 | 14.86 | $99,325 | $6,684.78 | 0 | 5.5 |
| Kazakhstan | 2002 | $68.71 | $17.38 | 14.86 | $109,058 | $7,339.58 | 0 | 5.5 |
| Kazakhstan | 2003 | $69.75 | $10.17 | 14.91 | $119,201 | $7,995.22 | 0 | 5.5 |
| Kazakhstan | 2004 | $85.77 | $5.28 | 15.01 | $130,644 | $8,702.08 | 0 | 5.5 |
| Kazakhstan | 2005 | $72.74 | $6.93 | 15.15 | $143,317 | $9,461.70 | 0 | 5.5 |
| Kazakhstan | 2006 | $122.55 | $5.56 | 15.31 | $158,652 | $10,363.91 | 0 | 5.5 |
| Kazakhstan | 2007 | $97.92 | $17.89 | 15.48 | $172,772 | $11,157.93 | 0 | 5.5 |
| Kazakhstan | 2008 | $120.66 | $3.25 | 15.67 | $178,473 | $11,386.56 | 0 | 5.5 |
| Kazakhstan | 2009 | $96.98 | $13.55 | 16.09 | $180,615 | $11,223.39 | 0 | 5.5 |
| Kazakhstan | 2010 | $330.73 | $18.16 | 16.32 | $193,800 | $11,873.82 | 0 | 5.5 |
| Kazakhstan | 2011 | $90.25 | $109.70 | 16.56 | $208,334 | $12,583.17 | 0 | 5.5 |
| Kazakhstan | 2012 | $93.12 | $98.88 | 16.79 | $218,751 | $13,027.55 | 0 | 5.5 |
| Kazakhstan | 2013 | $108.74 | $61.41 | 17.04 | $231,876 | $13,609.75 | 0 | 5.5 |
| Kazakhstan | 2014 | $30.51 | $- | 17.29 | $212,248 | $12,276.39 | 0 | 5.5 |
| Kazakhstan | 2015 | $5.82 | $- | - | $- | $- | 0 | 5.5 |
| Kyrgyzstan | 1997 | $31.75 | $1.44 | 4.70 | $3,699 | $787.69 | 0 | 5 |
| Kyrgyzstan | 1998 | $49.57 | $2.27 | 4.77 | $3,778 | $792.16 | 0 | 5 |
| Kyrgyzstan | 1999 | $67.93 | $2.57 | 4.84 | $3,916 | $809.01 | 0 | 5.5 |
| Kyrgyzstan | 2000 | $59.89 | $1.77 | 4.90 | $4,128 | $842.81 | 0 | 5.5 |
| Kyrgyzstan | 2001 | $39.89 | $5.18 | 4.95 | $4,348 | $879.28 | 0 | 5.5 |
| Kyrgyzstan | 2002 | $50.86 | $28.32 | 4.99 | $4,347 | $871.10 | 1 | 5.5 |
| Kyrgyzstan | 2003 | $67.64 | $6.11 | 5.04 | $4,653 | $922.61 | 1 | 5.5 |
| Kyrgyzstan | 2004 | $46.99 | $6.14 | 5.10 | $4,980 | $975.57 | 1 | 5.5 |
| Kyrgyzstan | 2005 | $50.02 | $9.66 | 5.16 | $4,971 | $962.93 | 1 | 5.5 |
| Kyrgyzstan | 2006 | $41.52 | $9.25 | 5.22 | $5,125 | $982.19 | 1 | 4.5 |
| Kyrgyzstan | 2007 | $39.71 | $17.26 | 5.27 | $5,563 | $1,055.98 | 1 | 4.5 |
| Kyrgyzstan | 2008 | $47.74 | $28.90 | 5.32 | $6,031 | $1,133.88 | 1 | 4.5 |
| Kyrgyzstan | 2009 | $56.58 | $6.36 | 5.38 | $6,205 | $1,152.60 | 1 | 4.5 |
| Kyrgyzstan | 2010 | $119.23 | $15.86 | 5.45 | $6,176 | $1,133.57 | 1 | 5.5 |
| Kyrgyzstan | 2011 | $57.75 | $16.73 | 5.51 | $6,543 | $1,186.56 | 1 | 5 |
| Kyrgyzstan | 2012 | $78.60 | $29.07 | 5.61 | $6,538 | $1,165.93 | 1 | 5 |
| Kyrgyzstan | 2013 | $41.29 | $14.00 | 5.72 | $7,226 | $1,263.45 | 1 | 5 |
| Kyrgyzstan | 2014 | $62.93 | $- | 5.83 | $7,404 | $1,269.14 | 1 | 5 |
| Kyrgyzstan | 2015 | $5.08 | $- | - | $- | $- | 0 | 5 |
| Pakistan | 1997 | $59.94 | $- | 133.60 | $125,069 | $936.16 | 0 | 6 |
| Pakistan | 1998 | $38.09 | $- | 137.14 | $128,258 | $935.24 | 0 | 6 |
| Pakistan | 1999 | $108.67 | $2.73 | 140.58 | $132,952 | $945.74 | 0 | 6 |

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|---|---|---|---|---|---|---|---|---|
| Pakistan | 2000 | $29.76 | $1.22 | 143.83 | $138,616 | $963.74 | 0 | 6 |
| Pakistan | 2001 | $224.73 | $0.18 | 146.86 | $141,364 | $962.60 | 1 | 5.5 |
| Pakistan | 2002 | $945.36 | $95.80 | 149.69 | $145,923 | $974.81 | 1 | 5.5 |
| Pakistan | 2003 | $366.89 | $324.77 | 152.42 | $152,994 | $1,003.77 | 1 | 5.5 |
| Pakistan | 2004 | $374.75 | $103.87 | 155.15 | $164,268 | $1,058.76 | 1 | 5.5 |
| Pakistan | 2005 | $452.89 | $375.71 | 157.97 | $176,863 | $1,119.59 | 1 | 5.5 |
| Pakistan | 2006 | $631.26 | $368.54 | 160.91 | $187,789 | $1,167.07 | 1 | 5.5 |
| Pakistan | 2007 | $520.88 | $382.81 | 163.93 | $196,864 | $1,200.92 | 1 | 5.5 |
| Pakistan | 2008 | $476.01 | $462.04 | 167.01 | $200,214 | $1,198.83 | 1 | 5.5 |
| Pakistan | 2009 | $736.24 | $510.95 | 170.09 | $205,883 | $1,210.41 | 1 | 4.5 |
| Pakistan | 2010 | $1,845.45 | $976.55 | 173.15 | $209,191 | $1,208.15 | 1 | 4.5 |
| Pakistan | 2011 | $1,305.82 | $700.36 | 176.17 | $214,940 | $1,220.10 | 1 | 4.5 |
| Pakistan | 2012 | $1,179.10 | $78.39 | 179.16 | $222,478 | $1,241.79 | 1 | 4.5 |
| Pakistan | 2013 | $786.29 | $13.05 | 182.14 | $232,287 | $1,275.30 | 1 | 4.5 |
| Pakistan | 2014 | $694.90 | $- | 185.04 | $246,876 | $1,334.15 | 1 | 4.5 |
| Pakistan | 2015 | $271.96 | $- | - | $- | $- | 0 | 4.5 |
| Tajikistan | 1997 | $32.57 | $- | 5.94 | $922 | $155.27 | 0 | 6 |
| Tajikistan | 1998 | $47.50 | $- | 6.01 | $1,320 | $219.55 | 0 | 6 |
| Tajikistan | 1999 | $51.30 | $- | 6.09 | $1,087 | $178.28 | 0 | 6 |
| Tajikistan | 2000 | $47.78 | $- | 6.19 | $861 | $139.11 | 0 | 6 |
| Tajikistan | 2001 | $75.68 | $- | 6.29 | $1,081 | $171.84 | 0 | 6 |
| Tajikistan | 2002 | $64.00 | $9.60 | 6.40 | $1,221 | $190.68 | 0 | 6 |
| Tajikistan | 2003 | $58.56 | $1.05 | 6.53 | $1,554 | $238.01 | 0 | 5.5 |
| Tajikistan | 2004 | $58.78 | $2.82 | 6.66 | $2,076 | $311.55 | 0 | 5.5 |
| Tajikistan | 2005 | $56.81 | $12.18 | 6.81 | $2,312 | $339.76 | 0 | 5.5 |
| Tajikistan | 2006 | $43.06 | $7.52 | 6.95 | $2,830 | $406.96 | 0 | 5.5 |
| Tajikistan | 2007 | $31.18 | $7.51 | 7.11 | $3,719 | $523.06 | 0 | 5.5 |
| Tajikistan | 2008 | $46.50 | $28.09 | 7.28 | $5,161 | $709.44 | 0 | 5.5 |
| Tajikistan | 2009 | $50.23 | $2.43 | 7.45 | $4,979 | $668.62 | 0 | 5.5 |
| Tajikistan | 2010 | $72.79 | $17.42 | 7.63 | $5,642 | $739.73 | 0 | 5.5 |
| Tajikistan | 2011 | $34.56 | $8.56 | 7.81 | $6,523 | $834.66 | 0 | 5.5 |
| Tajikistan | 2012 | $37.18 | $26.01 | 8.01 | $7,633 | $953.06 | 0 | 5.5 |
| Tajikistan | 2013 | $38.36 | $8.51 | 8.21 | $8,508 | $1,036.58 | 0 | 6 |
| Tajikistan | 2014 | $37.84 | $- | 8.30 | $9,242 | $1,114.01 | 0 | 6 |
| Tajikistan | 2015 | $3.60 | $- | - | $- | $- | 0 | 6 |
| Turkmenistan | 1997 | $4.13 | $1.04 | 4.34 | $10,784 | $2,487.13 | 0 | 7 |
| Turkmenistan | 1998 | $7.35 | $1.06 | 4.40 | $11,550 | $2,627.78 | 0 | 7 |
| Turkmenistan | 1999 | $16.05 | $1.52 | 4.45 | $13,456 | $3,024.12 | 0 | 7 |
| Turkmenistan | 2000 | $10.71 | $1.69 | 4.50 | $14,191 | $3,152.67 | 0 | 7 |
| Turkmenistan | 2001 | $9.73 | $2.29 | 4.55 | $14,808 | $3,253.23 | 0 | 7 |

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|---|---|---|---|---|---|---|---|---|
| Turkmenistan | 2002 | $8.16 | $0.49 | 4.60 | $14,846 | $3,227.28 | 0 | 7 |
| Turkmenistan | 2003 | $10.98 | $1.11 | 4.65 | $15,331 | $3,298.45 | 0 | 7 |
| Turkmenistan | 2004 | $9.92 | $0.94 | 4.70 | $16,098 | $3,427.37 | 0 | 7 |
| Turkmenistan | 2005 | $8.37 | $6.93 | 4.75 | $18,197 | $3,832.73 | 1 | 7 |
| Turkmenistan | 2006 | $10.98 | $0.66 | 4.80 | $20,193 | $4,205.45 | 1 | 7 |
| Turkmenistan | 2007 | $14.31 | $5.12 | 4.86 | $22,426 | $4,616.10 | 1 | 7 |
| Turkmenistan | 2008 | $15.82 | $10.51 | 4.92 | $25,722 | $5,230.62 | 1 | 7 |
| Turkmenistan | 2009 | $12.34 | $1.38 | 4.98 | $27,292 | $5,481.40 | 1 | 7 |
| Turkmenistan | 2010 | $18.96 | $10.91 | 5.04 | $29,802 | $5,910.74 | 1 | 7 |
| Turkmenistan | 2011 | $8.35 | $3.41 | 5.11 | $34,183 | $6,693.72 | 1 | 7 |
| Turkmenistan | 2012 | $12.05 | $0.35 | 5.17 | $37,978 | $7,341.59 | 1 | 7 |
| Turkmenistan | 2013 | $8.22 | $0.28 | 5.24 | $41,851 | $7,986.70 | 1 | 7 |
| Turkmenistan | 2014 | $4.96 | $- | 5.31 | $47,932 | $9,031.51 | 1 | 7 |
| Turkmenistan | 2015 | $1.44 | $- | - | $- | $- | 0 | 7 |
| Uzbekistan | 1997 | $14.03 | $1.75 | 23.67 | $20,333 | $859.14 | 0 | 6.5 |
| Uzbekistan | 1998 | $18.56 | $2.70 | 24.05 | $21,208 | $881.77 | 0 | 6.5 |
| Uzbekistan | 1999 | $49.48 | $2.90 | 24.31 | $22,119 | $909.83 | 0 | 6.5 |
| Uzbekistan | 2000 | $41.39 | $2.99 | 24.65 | $22,960 | $931.42 | 0 | 6.5 |
| Uzbekistan | 2001 | $92.59 | $9.29 | 24.96 | $23,924 | $958.34 | 0 | 6.5 |
| Uzbekistan | 2002 | $147.38 | $51.75 | 25.27 | $24,881 | $984.55 | 1 | 6.5 |
| Uzbekistan | 2003 | $109.53 | $20.01 | 25.57 | $25,926 | $1,014.03 | 1 | 6.5 |
| Uzbekistan | 2004 | $53.62 | $1.39 | 25.86 | $27,923 | $1,079.58 | 1 | 6.5 |
| Uzbekistan | 2005 | $49.99 | $0.05 | 26.17 | $29,877 | $1,141.79 | 1 | 6.5 |
| Uzbekistan | 2006 | $55.54 | $- | 26.49 | $32,058 | $1,210.28 | 0 | 7 |
| Uzbekistan | 2007 | $19.41 | $- | 26.87 | $35,104 | $1,306.53 | 0 | 7 |
| Uzbekistan | 2008 | $16.37 | $- | 27.30 | $38,263 | $1,401.44 | 0 | 7 |
| Uzbekistan | 2009 | $18.59 | $- | 27.77 | $41,362 | $1,489.60 | 0 | 7 |
| Uzbekistan | 2010 | $31.10 | $7.04 | 28.56 | $44,878 | $1,571.23 | 1 | 7 |
| Uzbekistan | 2011 | $17.74 | $14.27 | 29.34 | $48,603 | $1,656.58 | 1 | 7 |
| Uzbekistan | 2012 | $34.95 | $31.10 | 29.77 | $52,589 | $1,766.23 | 1 | 7 |
| Uzbekistan | 2013 | $34.37 | $8.88 | 30.24 | $56,796 | $1,878.09 | 1 | 7 |

## APPENDIX 2: LARGEST RECIPIENTS OF US ECONOMIC AND MILITARY AID (CONSTANT 2011$)

| Year | Economic Aid | | Economic and Military Aid | |
|---|---|---|---|---|
| | Largest Recipient | Total | Largest Recipient | Total |
| 1946 | Italy | $4,146,407,777 | Italy | $4,146,407,777 |
| 1947 | United Kingdom | $33,361,008,429 | United Kingdom | $33,361,008,429 |
| 1948 | Germany | $6,895,224,913 | Germany | $6,895,224,913 |
| 1949 | United Kingdom | $12,660,498,037 | United Kingdom | $12,660,498,037 |
| 1950 | United Kingdom | $7,629,430,812 | France | $9,263,227,236 |
| 1951 | France | $3,298,762,688 | France | $13,053,318,852 |
| 1952 | United Kingdom | $2,557,351,724 | France | $12,339,585,329 |
| 1953 | United Kingdom | $2,929,109,606 | France | $4,323,351,507 |
| 1954 | Asia (not specified) | $4,979,600,723 | Asia (not specified) | $6,531,489,395 |
| 1955 | Vietnam | $2,257,384,411 | China (Taiwan) | $3,677,989,189 |
| 1956 | Korea, South | $2,630,844,522 | Korea, South | $5,819,796,607 |
| 1957 | India | $2,389,942,793 | Korea, South | $4,763,720,258 |
| 1958 | Korea, South | $1,853,441,542 | Korea, South | $2,536,814,313 |
| 1959 | India | $2,262,838,675 | Korea, South | $2,921,667,774 |
| 1960 | India | $4,224,273,605 | India | $4,224,404,157 |
| 1961 | India | $2,996,579,587 | Korea, South | $3,228,596,961 |
| 1962 | India | $4,360,045,607 | India | $4,398,894,498 |
| 1963 | India | $3,916,935,537 | India | $4,272,817,622 |
| 1964 | India | $3,630,788,361 | India | $3,874,775,209 |
| 1965 | India | $3,835,145,409 | India | $4,007,046,673 |
| 1966 | India | $5,133,210,805 | Vietnam | $8,121,588,674 |
| 1967 | India | $3,185,734,793 | Vietnam | $6,787,556,555 |
| 1968 | India | $3,367,712,552 | Vietnam | $9,483,976,163 |
| 1969 | India | $2,433,276,165 | Vietnam | $9,924,515,592 |
| 1970 | Vietnam | $2,304,547,185 | Vietnam | $9,711,280,617 |
| 1971 | Vietnam | $2,650,461,501 | Vietnam | $11,298,106,636 |
| 1972 | Vietnam | $1,998,446,434 | Vietnam | $13,162,073,300 |
| 1973 | Vietnam | $2,113,304,108 | Vietnam | $16,020,732,240 |
| 1974 | Vietnam | $2,571,050,662 | Israel | $9,957,915,372 |
| 1975 | Egypt | $1,316,365,500 | Vietnam | $2,879,891,873 |
| 1976 | Egypt | $3,318,204,548 | Israel | $8,908,334,562 |
| 1977 | Egypt | $2,802,832,448 | Israel | $5,378,709,299 |
| 1978 | Egypt | $2,727,863,218 | Israel | $5,183,069,995 |
| 1979 | Egypt | $2,912,646,075 | Israel | $12,822,286,624 |
| 1980 | Egypt | $2,869,138,128 | Israel | $4,393,035,152 |
| 1981 | Egypt | $2,531,331,983 | Israel | $4,845,687,343 |
| 1982 | Egypt | $2,231,954,851 | Israel | $4,623,463,194 |
| 1983 | Egypt | $2,017,789,611 | Israel | $4,988,943,174 |
| 1984 | Egypt | $2,137,443,961 | Israel | $5,052,569,329 |
| 1985 | Israel | $3,656,501,521 | Israel | $6,281,614,790 |
| 1986 | Israel | $3,479,149,012 | Israel | $6,636,113,870 |
| 1987 | Israel | $2,141,959,335 | Israel | $5,354,898,337 |
| 1988 | Israel | $2,075,462,687 | Israel | $5,188,656,717 |
| 1989 | Israel | $1,997,931,034 | Israel | $4,994,827,586 |
| 1990 | Israel | $1,918,764,678 | Israel | $4,913,777,703 |
| 1991 | Israel | $2,862,189,586 | Israel | $5,712,181,603 |
| 1992 | Israel | $1,824,525,700 | Israel | $4,637,099,920 |
| 1993 | Israel | $1,770,511,841 | Israel | $4,889,840,041 |

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|---|---|---|---|---|
| 1994 | Russia | $2,382,937,294 | Israel | $4,338,739,060 |
| 1995 | Israel | $1,704,949,939 | Israel | $4,258,887,219 |
| 1996 | Israel | $1,846,195,496 | Israel | $4,359,510,855 |
| 1997 | Israel | $1,867,273,583 | Israel | $4,325,383,600 |
| 1998 | Israel | $1,722,722,416 | Israel | $4,147,436,401 |
| 1999 | Russia | $2,058,506,791 | Israel | $4,025,273,062 |
| 2000 | Colombia | $1,350,745,580 | Israel | $5,031,924,231 |
| 2001 | Israel | $1,082,247,188 | Israel | $3,613,374,629 |
| 2002 | Egypt | $1,123,042,893 | Israel | $3,489,832,961 |
| 2003 | Iraq | $4,639,613,603 | Poland | $4,698,923,709 |
| 2004 | Iraq | $9,034,249,232 | Iraq | $10,365,941,953 |
| 2005 | Iraq | $7,291,101,036 | Iraq | $8,999,195,154 |
| 2006 | Iraq | $4,736,043,012 | Iraq | $10,832,768,101 |
| 2007 | Iraq | $4,019,680,174 | Iraq | $8,529,338,791 |
| 2008 | Iraq | $3,370,119,947 | Afghanistan | $9,480,007,639 |
| 2009 | Iraq | $3,237,402,636 | Afghanistan | $9,301,420,750 |
| 2010 | Afghanistan | $4,676,659,842 | Afghanistan | $11,743,702,471 |
| 2011 | Afghanistan | $2,716,012,390 | Afghanistan | $13,167,575,733 |
| 2012 | Afghanistan | $3,325,530,961 | Afghanistan | $12,885,458,961 |

Source: US Agency for International Development

## APPENDIX 3: REGRESSION RESULTS

### *Model 1: Panel regression with cross section fixed effects*

Dependent Variable: ECON_AID
Method: Panel Least Squares
Date: 03/25/16 Time: 11:48
Sample: 1997 2013
Periods included: 17 Cross-sections included: 10
Total panel (balanced) observations: 170
White cross-section standard errors & covariance (d.f. corrected)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 9.97E+08 | 4.64E+08 | 2.149976 | 0.0331 |
| FREE_RATE | -1.56E+08 | 76570084 | -2.034063 | 0.0436 |
| MIL_AID | 0.305408 | 0.047591 | 6.417277 | 0.0000 |
| BASE | 2.41E+08 | 53758398 | 4.474834 | 0.0000 |
| GDP_CAP | -945.6526 | 3471.340 | -0.272417 | 0.7857 |

Effects Specification: Cross-section fixed (dummy variables)

| | | | |
|---|---|---|---|
| R-squared | 0.877546 | Mean dependent var | 2.51E+08 |
| Adjusted R-squared | 0.867341 | S.D. dependent var | 6.55E+08 |
| S.E. of regression | 2.39E+08 | Akaike info criterion | 41.49761 |
| Sum squared resid | 8.88E+18 | Schwarz criterion | 41.75585 |
| Log likelihood | -3513.297 | Hannan-Quinn criter. | 41.60240 |
| F-statistic | 85.99582 | Durbin-Watson stat | 1.613883 |
| Prob(F-statistic) | 0.000000 | | |

***Model 2: Panel regression with no fixed effects***

Dependent Variable: ECON_AID
Method: Panel Least Squares
Date: 03/23/16 Time: 15:18
Sample (adjusted): 1997 2013
Periods included: 17
Cross-sections included: 10
Total panel (balanced) observations: 170
White cross-section standard errors & covariance (d.f. corrected)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 7.37E+08 | 2.47E+08 | 2.990783 | 0.0032 |
| FREE_RATE | -1.39E+08 | 49112341 | -2.832297 | 0.0052 |
| BASE | 1.60E+08 | 23985096 | 6.686642 | 0.0000 |
| GDP_CAP | 8948.836 | 3728.745 | 2.399959 | 0.0175 |
| MIL_AID | 0.285882 | 0.046751 | 6.115033 | 0.0000 |
| WAR_SITE | 8.28E+08 | 2.29E+08 | 3.623699 | 0.0004 |
| BORDER_AFG | 1.86E+08 | 62988465 | 2.955965 | 0.0036 |
| SANCTIONS | -1.16E+08 | 28168278 | -4.117476 | 0.0001 |

| | | | |
|---|---|---|---|
| R-squared | 0.869738 | Mean dependent var | 2.51E+08 |
| Adjusted R-squared | 0.864109 | S.D. dependent var | 6.55E+08 |
| S.E. of regression | 2.42E+08 | Akaike info criterion | 41.48884 |
| Sum squared resid | 9.45E+18 | Schwarz criterion | 41.63640 |
| Log likelihood | -3518.551 | Hannan-Quinn criter. | 41.54872 |
| F-statistic | 154.5204 | Durbin-Watson stat | 1.486312 |
| Prob(F-statistic) | 0.000000 | | |

***Model 3: Panel regression with no-fixed effects and first order autoregressive process***

Dependent Variable: ECON_AID
Method: Panel Least Squares
Date: 03/23/16 Time: 15:21
Sample (adjusted): 1998 2013
Periods included: 16
Cross-sections included: 10
Total panel (balanced) observations: 160
White cross-section standard errors & covariance (d.f. corrected)
Convergence achieved after 17 iterations

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 7.74E+08 | 2.61E+08 | 2.970165 | 0.0035 |
| FREE_RATE | -1.43E+08 | 51303133 | -2.783136 | 0.0061 |
| BASE | 1.67E+08 | 38693727 | 4.319440 | 0.0000 |
| WAR_SITE | 9.69E+08 | 3.77E+08 | 2.573123 | 0.0110 |
| GDP_CAP | 7161.822 | 3996.715 | 1.791927 | 0.0751 |
| BORDER_AFG | 1.79E+08 | 69103147 | 2.584510 | 0.0107 |
| MIL_AID | 0.239917 | 0.074927 | 3.202021 | 0.0017 |
| SANCTIONS | -1.22E+08 | 34492007 | -3.537193 | 0.0005 |
| AR(1) 0.349507 | 0.160353 | 2.179607 | 0.0308 | |

| | | | |
|---|---|---|---|
| R-squared | 0.880886 | Mean dependent var | 2.65E+08 |
| Adjusted R-squared | 0.874576 | S.D. dependent var | 6.73E+08 |
| S.E. of regression | 2.38E+08 | Akaike info criterion | 41.47057 |
| Sum squared resid | 8.57E+18 | Schwarz criterion | 41.64354 |
| Log likelihood | -3308.645 | Hannan-Quinn criter. | 41.54081 |
| F-statistic | 139.5869 | Durbin-Watson stat | 2.003117 |
| Prob(F-statistic) | 0.000000 | | |

Inverted AR Roots .35