Changing Aid Regimes?
U.S. Foreign Aid from the Cold War to the War on Terror

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Abstract: This paper explores how U.S. bilateral economic aid has or has not changed with the advent of the War on Terror. In particular, has the renewed geopolitical role of aid coincided with a reduction of aid to the poorest countries or less weight on need in U.S. aid allocation decisions? We start with an analysis of annual U.S. aid budgets from 1955 to 2006. Controlling for domestic political and economic conditions, we find that the impact of the War on Terror on the aid budget is significantly larger than is immediately apparent. To explore how the emphasis on need may have changed over time, we use country-level panel data on aid allocations to 119 countries across the same time period. This shows that U.S. aid flows – for the poorest as well as other developing countries – increased with the War on Terror. However, after rising for 35 years, the emphasis placed on need has been falling steadily for core aid recipients during the War on Terror.

Key words: Cold War; Foreign Aid; United States; War on Terror

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I. Introduction

Over the last two decades, U.S. foreign policy has been shaped by two spectacular events: the end of the Cold War and the start of the War on Terror. During the Cold War, short term foreign policy decisions driven by the State Department strongly influenced the U.S. aid program (Zimmerman 1993). Anti-communist dictators such as Suharto in Indonesia, Marcos in the Philippines, and Mobutu in Zaire could count on substantial U.S. funding despite widespread corruption, human rights abuses, and often counterproductive domestic policies. In contrast, support for the poor, for emerging democracies, for developmental regimes, and for governments with good human rights records was inconsistent. Many analysts expected – or at least hoped – that the post-Cold War era would bring a long run peace dividend in the form of a reallocation of U.S. bilateral assistance with more focus on developmental or humanitarian objectives.

The attacks of September 11, 2001, abruptly changed this expectation. In some high profile cases, aid reemerged as an important geopolitical tool for the State Department. Aid flows to Afghanistan, Iraq, and Pakistan skyrocketed, and many analysts presumed there would be a wholesale reversion to the Cold War pattern (e.g., Christian Aid 2004). If so, the "inter-war period" (between the Cold War and the War on Terror) represents a brief hiatus, such that the future of U.S. foreign aid can be seen as a return to something like its Cold War past (Buzan 2006).

To identify systematic shifts in U.S. bilateral economic aid, we examine both the aggregate yearly aid budget and country-level aid allocations. In the aggregate analysis, we find that contemporaneous shifts in domestic politics have partly masked the impact of the War on Terror on aid. Over the 1955 to 2006 period, U.S. aid budgets typically have been lower under conservatives or divided governments, yet increased substantially with the advent of the War on Terror. The observed increase in aid since 9/11 can be decomposed into a decrease associated with the liberal-to-

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conservative shift in presidential administrations and a far larger increase specific to the War on Terror time period.

We analyze panel data on country-level aid allocations for 119 countries over the same time period, excluding as atypical the two countries the U.S. invaded during the War on Terror: Afghanistan and Iraq. Estimation results point to two continuing trends and one sharp reversal. The first continuing trend is in the probability that a country is "eligible" for U.S. aid, i.e., whether it receives U.S. aid or not. Starting in the mid 1990s and continuing into the War on Terror, the importance of need as a criterion for aid eligibility fell so that the probability that a higher income (less poor) developing country would receive aid increased over time and approached that for a lower income developing country. The second continuing trend is in the allocation of aid, i.e., how much aid a country receives. Also beginning in the mid 1990s, there are fairly steady and sizeable increases in the expected level of aid per country, especially notable for lower income countries. The one sharp reversal relates to the allocation of aid among core aid recipients, countries that always receive U.S. aid. For the 35 years preceding the War on Terror, the weight given to need in the allocation of aid among these countries trended up. However, since the start of the War on Terror, the weight given to need has trended down rapidly. In short, the growth rate for U.S. aid to lower income core aid recipients has been positive but below that for higher income aid recipients.

This paper brings together two branches of empirical research on the political economy of aid allocation. One branch focuses on changes in aid allocations from one era to the next. A number of papers examine how aid allocation changed with the end of the Cold War (e.g., Ball and Johnson 1996; Berthélemy and Tichit 2004; Boschini and Olofsgård 2007; Dunning 2004; Lai 2003; Meernik et al. 1998); some recent work explores changes since the start of War on Terror (Moss et al. 2005). The other branch investigates the effects of domestic politics on U.S. aid allocation (e.g., Fleck and

Kilby 2006A; Goldstein and Moss 2005; Moss 2007). Our paper is the first to focus on identifying what components of the observed changes in aid budgets and allocations can be attributed to fundamental differences between the three eras – Cold War, inter-war, War on Terror – and what components of those changes can be attributed to other factors (e.g., economic changes, domestic politics).

Our paper is also the first to present a systematic econometric analysis of how the need-orientation of aid has evolved from the end of the Cold War through the War on Terror. These findings are particularly important for the current academic and policy debates about foreign aid and international relations. For example, Lancaster (2000A, 2000B), writing just prior to the War on Terror, expresses optimism that aid could become a more effective tool for both preserving peace *and* alleviating poverty. Yet more recently, Woods (2005) voices concern that the substantial expense of the War on Terror will come from diverting funds away from developmental purposes, and Buzan (2006) considers whether the War on Terror will turn out to be, in effect, like the Cold War. As we show, a careful econometric analysis is essential to identify how aid allocation patterns have evolved, especially because there have been important changes within the inter-war period and within the War on Terror period, not just between periods.

Section II reviews previous research on aid, the Cold War, and the War on Terror, looking first at the determinants of the size of aid budgets, then at factors influencing the allocation of the budget between developing countries. Section III turns to this paper's empirical analysis of the determinants of the size of the U.S. bilateral aid budget. Section IV presents panel analysis of the factors influencing the allocation of U.S. aid among countries. Section V concludes.

II. Previous Findings

Even the earliest econometric studies of donor aid budgets analyzed them as the outcome of a political process (Beenstock 1980; Mosley 1985). Since then, many researchers have examined the effects of donor country partisan politics (e.g., Chong and Gradstein 2008; Imbeau 1989; Lumsdaine 1993; Noël and Thérien 1995; Stokke 1989; Thérien and Noël 2000; Thérien 2002; Tingley 2007). In general, left-leaning governments tend to allocate more funds to development aid than do right-leaning governments. Recent work by Round and Odedokun (2003, 2004) extends this literature, finding positive and significant estimated coefficients for the size of the military, the size of government, and having a divided government[1]. For the G7 countries, however, they find no partisan effect. Furthermore, G7 aid effort had a significant downward trend over time, but no separate post-Cold War decrease.

Two recent studies examine U.S. aid to Africa – from 1961 to 2000 in Goldstein and Moss (2005) and from 1961 to 2004 in Moss (2007). In a time series analysis of real U.S. ODA to Africa, the authors find a significant negative effect of a divided U.S. government (when one party controls both chambers of Congress and the other the administration), a positive trend, and a negative Cold War effect[2]. There is some indication that aid has been higher to Africa under Republicans, but the variation within the period examined is not sufficient to draw firm conclusions.

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[1]The authors argue that a divided government needs to satisfy a more diverse set of interests to pass a budget and hence all elements of the budget, including aid, tend to increase. The link between divided government and larger aid budgets holds for a number of different definitions of government division: constitutional checks and balances, polarization within the ruling party, and strength of the opposition. Odedokun (2003) argues that these pressures may be less at the aid disbursement stage than at the budgeting stage.

[2]One explanation of the divided government effect is that Congress does not trust an administration from the other party to follow congressional preferences when distributing funds. Note that this contrasts with Round and Odedokun's (2003, 2004) conclusions for a larger group of donors, perhaps because the U.S. does not have a parliamentary system.

Boschini and Olofsgård (2007) examine the impact of the end of the Cold War on donor aid budgets using a panel of 17 donors from 1970 to 1997. They also examine the U.S. separately. In both cases, they find a positive partial correlation between aid budgets and Warsaw Pact/Russian military spending during the Cold War but no such correlation after the Cold War. The results suggest that the post-Cold War decline in aid could be linked to aid's reduced role as a geopolitical tool.

Despite the concern about the effects of the War on Terror on aid in the international relations literature (e.g., Woods 2005; Buzan 2006) as well as the economics literature, we have found no previous econometric studies of aid budget levels that examine the effects of the War on Terror. Thus, on this issue, our empirical analysis provides the first careful examination of the evidence.

Turning to the question of how aid is allocated among developing countries, the relevant literature is vast and spans the disciplinary boundaries of economics, political science, and international relations. Since Maizels and Nissanke (1984), most studies include both recipient need and donor interest variables. Recipient need typically includes population, income, and, in more recent work, measures of democracy and human rights. Some studies consider additional humanitarian factors, but data availability places sharp limits on what is feasible. Donor interest variables broadly fall into geopolitical/strategic and economic/commercial categories. Commercial interests are most often captured by trade flows. Researchers have explored a variety of geopolitical variables, including UN voting variables, measures of alliances, military links, arms imports, aid from rival donors, geographically bordering a security threat, colonial ties with the donor, and a

common language with the donor.[3]

A number of previous aid allocation panel studies have examined or touched on the impact of the end of the Cold War. Ball and Johnson (1996) find that the significance of humanitarian factors in the allocation of U.S. food aid among African countries increased in the 1980s, a change they interpret as resulting from the Cold War winding down on that continent. The results in Meernik et al. (1998) indicate that security concerns (reflected in bordering a communist state or hosting U.S. troops) played a smaller role in determining whether or how much U.S. aid a country received after the Cold War. Berthélemy and Tichit (2004) find that overall bilateral aid declined with the end of the Cold War, switched from a bias toward low growth countries to a bias toward high growth countries, and gave less weight to civil and political liberties. In addition, colonial ties became less important while trade ties became more important. Boschini and Olofsgård (2007) explore how the allocation of aid among recipients changed with the end of the Cold War. Using a 1970 to 1994 panel of bilateral aid from all OECD donors, Boschini and Olofsgård find no significant changes. These results are particularly interesting in combination with their results for aid budgets (discussed earlier): if the War on Terror has a similar effect as the Cold War, their work

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[3]There is some but not universal agreement on the appropriate econometric specification. Trumbull and Wall (1994) support using recipient country fixed effects, an approach now taken in many studies that do not focus on time invariant recipient characteristics. Studies often use logs to minimize the influence of outliers, improve the stability of results across specifications and samples, and simplify interpretation. Researchers, particularly those using annual data from individual donors, must deal with zeros (and hence log of zero) in the data for countries that receive no aid in a given year. With these considerations in mind, four approaches are typical: run a regression including the zeros (e.g., Ball and Johnson 1996 [fixed effects], Fleck and Kilby 2006B) or adding a small constant in log specifications (e.g., Alesina and Dollar 2000, Bandyopadhyay and Wall 2007 [fixed effects], Boschini and Olofsgård 2007 [dynamic panel], Kuziemko and Werker 2006 [fixed effects]); estimate a tobit model (e.g., Alesina and Dollar 2000, Berthélemy and Tichit 2004 [random effects], Dollar and Levin 2006); estimate a Heckman selection model (e.g., Berthélemy 2006, Drury et al. 2005, Meernik et al. 1998); or estimate a two part model (e.g., Berthélemy 2006, Berthélemy and Tichit 2002, Fleck and Kilby 2006A, Kilby 2006, Neumayer 2003).

points to an increase in aid budgets, but no clear allocation effect.[4]

Moss et al. (2005) directly examine the impact of the War on Terror by looking at changes in the distribution of USAID funds, comparing 1998-2001 to 2002-2005. In terms of their shares of the overall USAID budget, only a handful of countries saw large percentage point changes. A regression analysis finds little evidence of a major reallocation arising from War on Terror geopolitics. Overall, they conclude that there have been no major changes in aid allocation except for a few recipients that are either important players in the War on Terror (e.g., Iraq and Afghanistan) or were slated for decreases prior to 9/11 (e.g., Egypt and Israel). Although Moss et al.'s data and methods differ from ours, their findings are quite similar to those of our period-by-period analysis in Section IV. However, allowing for within-period changes yields strikingly different results.

III. Time Series Analysis of the U.S. Bilateral Aid Budget

This section examines the relationship between the annual U.S. bilateral aid budget and the end of the Cold War, the beginning of the War on Terror, and the political orientation of the U.S. government. We use data from USAID's *Greenbook* (USAID 2008) as this provides the longest time series available and, hence, better allows us to distinguish between presidential administration effects and other effects. Data on U.S. aid gross obligations are available for fiscal years 1955 to

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[4]Several other studies are worth noting. Kang and Meernik (2004) find that aid declined with the end of Cold War, but also find higher aid in post-conflict situations and during political transitions. Drury et al. (2005) find that eligibility for U.S. disaster relief aid has changed since the end of the Cold War: countries that suffered disasters were more likely to qualify for U.S. relief aid during the Cold War, especially if they were U.S. allies. McGillivray (2005) examines time series data for a number of major aid recipients in Africa and finds aid allocation became more sensitive to economic policies in some recipient countries after the Cold War. Dollar and Levin (2006) compare five-year periods from 1984 to 2003 and find that, while U.S. bilateral aid became somewhat less responsive to democracy and poverty, it ceased favoring countries with poor economic institutions.

2006. Figure 1 presents the data in constant 2006 U.S. dollars.[5]

Several interesting features stand out in the graph. The notable peak in the Vietnam War era reflects substantial economic aid to other regions including Latin America and South Asia. The 1985 peak is relatively broad-based with substantial increases in Central America, the Middle East, and parts of North Africa as well as non-country-specific aid. Following the end of the Cold War, the budget initially increased, going in part to transition economies, but then fell to historically low levels in real terms. Aid increased temporarily with the financial crises of the late 1990s, including a $1.4 billion dollar increase to Russia in 1999. With the advent of the War on Terror, foreign aid levels have again soared, including substantial funds for Iraq, Afghanistan, and important allies (notably Pakistan and Jordan). Looking over the 1955 to 2006 period, aid averaged $16.9 billion per year during the 35 years of the Cold War (1955-1989), $15.2 billion during the 12 inter-war years (1990-2001) and $25.0 billion during the first five years of the War on Terror (2002-2006).

Given that U.S. development aid has long been recognized to be, in part, a tool for serving geopolitical interests, one obvious consideration is the link between war and aid. Indeed, many of the notable increases in the U.S. aid budget appear linked to U.S. involvement in foreign conflicts. Following the literature on aid budgets and aid effort, we also might expect domestic economic and political factors to play a role. To explore these issues, we run regressions with the U.S. bilateral aid budget as the dependent variable. Table 1 provides descriptive statistics, and Appendix Table A2 lists data sources.

The first variable in Table 1, *usaid*, is the same as in Figure 1. U.S. military spending may

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[5]Obligations are conceptually closest to commitments in OECD DAC data. While most aid studies use OECD data, some use Greenbook data, e.g., Kuziemko and Werker (2006), Meernik et al. (1998). Greenbook data follow the government's fiscal year, which shifted from July 1 to October 1 in 1976. We incorporate a separately reported 1976 transition quarter by taking a re-scaled sum the two 1976 values.

reflect the intensity or salience of geopolitical factors; we use military spending as a share of GDP (*mil_budget*) to capture the extent to which the country had shifted to a war footing. This ranges from 3.3 percent of GDP (2000 and 2001) to 9.5 percent of GDP (1958). To capture domestic economic factors that might influence what politicians view as a budget constraint, we include the U.S. GDP growth rate (*growth*)[6]. This ranges from −1.9 percent in 1982 to 7.2 percent in 1984.

To measure political shifts in the U.S., we include political variables that place the president and Congress along a liberal-conservative dimension using Poole's (1998, 2007) common space data[7]. More liberal voting/policy records correspond to negative scores and more conservative voting/policy records correspond to positive scores. The presidents in the sample range from −0.543 (Carter) to +0.581 (Reagan). Congressional scores run from −0.099 (1965-1966) to 0.053 (2005-2006), the smaller range resulting from averaging the scores of many individual members of Congress. In some specifications, we also include Goldstein and Moss's (2005) divided government indicator (*divided_gov*), equal to 1 if one party controls the administration and the other party controls both chambers of Congress[8]. Finally, we include a trend term (*year*) and two period dummy variables to allow for systematic differences in the inter-war (*inter_war*: 1990-2001) and War on

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[6]Pallage and Robe (2001) find that the amount of aid individual developing countries receive is positively correlated with the global business cycle, suggesting that major donors are more generous when their economies are growing. A number of previous studies have considered the donor's fiscal balance (Beenstock 1980, Boschini and Olofsgård 2007, Hopkins 2000, Mosley 1985, Round and Odedokun 2003, 2004) with mixed results. We investigated this with the deficit to GDP ratio; this proved to be statistically insignificant.

[7]The common space data are similar to the widely used congressional data generated by Poole and Rosenthal's NOMINATE algorithm, a technique similar to factor analysis (Poole, 1998; Poole and Rosenthal 1997). We generate average scores for the House and Senate for each Congress and then take the simple average of the two to summarize the location of the Congress as a whole.

[8]Our fifty-two year sample includes 24 years of divided government. Eighteen of 32 years with Republican presidencies had Democratic Congresses; six of 20 years of Democratic presidencies had Republican Congresses.

Terror (*war_terror*: 2002-2006) periods, the primary focus of this paper.[9]

Table 2 reports regression results[10]. In the basic specification (column 1), the estimated coefficient on *mil_budget* is positive and significant, illustrating the link between the aid budget and major geopolitical concerns. The point estimate indicates a substantial effect; a one percentage point increase in the military's share of GDP is associated with a $2 billion increase in U.S. bilateral aid, *ceteris paribus*. The U.S. GDP real growth rate variable should capture the influence of budgetary pressures on aid expenditures. The estimated coefficient for *growth* is positive and fairly sizeable – a 4.3 percentage point increase in growth corresponding to a $1 billion dollar increase – but only marginally statistically significant (p=0.082). Aid budgets have been significantly and substantially lower under conservative presidents and conservative Congresses, *ceteris paribus*. And the estimated impact of partisan politics can be substantial. For example, the estimated direct effect of a shift like that from Carter (−0.543) to Reagan (0.581) is a decrease in aid of $3.4 billion. The estimated effect of a congressional shift the magnitude of the "Republican Revolution" after the 1994 congressional elections (moving from −0.0304 to 0.0326) is a decrease in aid of $1.7 billion[11]. This is consistent with other evidence that conservative Republicans are less supportive of aid in general (e.g., Fleck and Kilby 2001) and humanitarian aid in particular (Fleck and Kilby 2006A).[12]

The last two variables (*inter_war* and *war_terror*) reflect the differences in aid budgets

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[9]Because Greenbook data follow the U.S. government's fiscal year (October to September in this period), the beginning of the War on Terror's influence is clearly in FY 2002.

[10]The reported t-statistics are based on Newey-White heteroskedasticity and autocorrelation robust (consistent) standard errors using one lag; results are essentially the same with more lags (up to 5 examined). The standard errors also are essentially the same if estimated without Newey-West or via a bootstrap method.

[11]An argument could be made for lagging the political variables (e.g., aid this year reflects decisions made last year). Doing so does not substantially alter the estimated coefficients or standard errors.

[12]Results for military aid (rather than economic aid) are also consistent with the standard images of the parties; military aid is significantly higher under more conservative administrations.

between the Cold War and the inter-war periods, and between the Cold War and War on Terror periods, after controlling for differences in military spending and the partisan orientation of government, and allowing for a time trend. The point estimate indicates a $719 million dollar decrease in the aid budget following the end of the Cold War, but the decrease is not statistically significant. In contrast, relative to Cold War levels, the aid budget rose by a statistically significant $10.1 billion above trend with the War on Terror, *ceteris paribus*. If, instead, we compare the War on Terror to the inter-war period, the figure rises to $10.8 billion.

These results suggest that simple averages understate the impact of the War on Terror on the U.S. bilateral aid budget. The War on Terror average was $8.1 billion (rather than $10.1 billion) higher than the Cold War average. The increase estimated holding all else constant is larger in part because of the conservative nature of the George W. Bush administration (*president*=0.47) as compared to the Cold War average (*president*=0.115). Holding other factors fixed, this conservative shift would predict a $1.1 billion decrease in aid. If instead we compare the inter-war and War on Terror periods, the average increased by $9.7 billion from the inter-war period to the War on Terror period (rather than $10.8 billion). Again, this difference could be attributed to the conservative George W. Bush administration as compared to the inter-war average (*president*=−0.24); all else equal, this would predict a $2.2 billion decrease in aid.

Finally, it is worth pointing out that the positive significant estimated coefficient for *year* is conditional on the geopolitical, economic, and political factors included in the regression. Without these controls, there is a downward trend in aid over time that is particularly pronounced if we exclude the War on Terror years. Similarly, the effects of the variables of interest are conditional on the year variable. For example, it is the fluctuations in the military share of GDP around a

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declining trend (rather than the absolute level of the military budget) that predict aid budgets.[13]

Column 2 introduces the divided government dummy. The estimated coefficient for *divided_gov* is negative and statistically significant, mirroring Goldstein and Moss's (2005) results for U.S. aid to Africa. *Ceteris paribus*, the aid budget is $2.7 billion lower when one party controls the presidency and the other controls both chambers of Congress. As one might expect given the limited number of presidential administrations in the sample, there is a relatively large impact on the estimated *president* coefficient, which is cut almost in half. The congressional coefficient estimate is also reduced and *growth* is now significant. Another interesting change is that the coefficient estimate for *inter_war* becomes positive though it remains statistically insignificant.

Note, however, that one could easily argue for a different definition of divided government. If defined as when the House, Senate, and administration are not all controlled by the same party, there are 34 years of divided government, 8 under Democratic presidents and 26 under Republican presidents. Using this definition, divided government has a small and insignificant estimated coefficient (though jointly significant with *president* as the two have a substantial correlation). Why these two definitions should yield such different results is not clear on a priori grounds, so the specification omitting the divided government variable remains a useful baseline.

Very importantly, our main conclusions are not dependent on how we control for political shifts. First, regardless of whether it is liberal-conservative shifts or divided versus undivided government (or a combination of the two) that influences aid budgets, including controls for domestic political shifts is critical for uncovering how much other factors (such as geopolitical changes) have affected the quantity of aid. Second, the coefficient on the War on Terror variable

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[13]A Camp David Accords dummy variable (equal to 1 after 1978) can be substituted for the time trend with similar results.

differs little between the two specifications in Table 2 – nor does it change much when we use the alternative measure of divided government (mentioned in the previous paragraph).

IV. Panel Analysis of Country Allocations

This section examines the allocation of U.S. bilateral aid among potential recipient countries over time and how it changed with the end of the Cold War and the advent of the War on Terror. As noted in Section II, a number of estimation methods are possible. We take an approach similar to Berthélemy (2006). We first estimate a Heckman selection model and evaluate it by testing for independence of the equations. We also compare the estimated coefficients to those obtained by estimating each equation independently (a two part model without fixed effects). Finally, we introduce country fixed effects in the allocation equation.

Examining individual country allocations allows us to control for each country's humanitarian, commercial, and geopolitical characteristics. Because those raising concern over a "new Cold War" have charged that aid is less developmental now than prior to the War on Terror, our main focus will be on whether the need-orientation of U.S. aid allocation has changed. To explore this issue, we introduce interaction terms into a baseline specification to allow for changes in the relationship between aid allocations and recipient-country GDP.

The existing literature provides a wealth of additional candidate variables from which to choose, though we limit ourselves to those that do not unduly restrict the sample[14]. We include a number of variables to capture potential humanitarian factors in aid allocation. These include population, real PPP GDP per capita, the Polity combined autocracy/democracy score, and an

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[14]One important concern is sample selection bias introduced by limited data availability. For example, Fleck and Kilby (2006B) find that availability of infant mortality data is correlated with U.S. trade and bilateral aid. Rosendorff and Vreeland (2006) also demonstrate the non-random nature of inflation and unemployment data availability.

indicator for a political transition (derived from Polity codes).[15] In keeping with much of the literature, we include U.S. exports to capture commercial interests. To measure U.S. geopolitical interests, we include a dummy variable for countries receiving U.S. military aid (as in Boschini and Olofsgård 2007).[16]

Finally, we include the time-varying U.S. characteristics from Section III. These are the military budget (*mil_budget*), GDP growth (*growth*), the political location of the president (*president*) and Congress (*congress*), a divided government indicator (*divided_gov*), and time period dummies (*inter_war* and *war_terror*). As an alternative to this set of variables, we use year dummies in some specifications below.

Our data set covers 1955 to 2006, but we exclude Egypt, Israel, Iraq, Afghanistan, and transition economies as well as country-year observations that lack data. Appendix Table A1 lists the countries covered. We drop Egypt and Israel because their special relationship with the U.S. enshrined in the Camp David Accords has resulted in such high levels of aid that they could overwhelm other patterns in the data. Common practice in the aid allocation literature, this exclusion has some effect in specifications without fixed effects but little impact when country fixed effects are included. We exclude Iraq and Afghanistan for similar reasons, though in practice they

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[15]As a robustness test, we included a variable measuring the number of people killed in natural disasters (EM-DAT 2007). In some specifications, the variable enters with a positive, significant coefficient, but results are driven by a few outliers and its inclusion had virtually no impact on the reported results.

[16]Other potential geopolitical variables include UN voting alignment and, at least since the start of the War on Terror, the size of the Muslim population. A UN voting variable based on all UNGA votes (data from Voeten 2004) yields estimated coefficients that vary in sign across specifications and samples–most likely because many votes are of little importance to the U.S. Using only votes designated important by the U.S. State Department (starting in 1983; see Thacker 1999 and Wang 1999) works well–results are consistent across specifications and samples–but requires dropping the majority of the Cold War period. The percent of the population that is Muslim (from World Christian Database 2006) proves insignificant in all specification except those including period interactions and, even in that case, not very informative; see the discussion below.

lack basic macroeconomic data and cannot be included. We omit transition economies (and their Soviet Bloc predecessors) to avoid potentially confounding compositional effects; again, fixed effects specifications are not sensitive to this restriction.

Table 3 presents summary statistics. The panel includes 4405 observations for 119 countries with an average of 37 years per country, ranging from one to 52[17]. U.S. bilateral aid to country i in year t ($usaid_{it}$) is measured in millions of constant 2006 dollars. The sample mean is $82.8 million with a range from $0 (642 observations for 65 countries) to $4.5 billion (India 1966). Among the 3763 strictly positive observations (117 countries), the mean of *usaid* is $96.9 million, with a minimum of $100,000 (six countries in 2006). Following common practice in the literature, we take the natural log transformation of aid to reduce the influence of high-aid outliers and facilitate interpretation of coefficients. The sample mean for *ln_usaid* is 3 (the equivalent of $20 million) with a range from −2.3 to 8.4.

Table 3 gives population and GDP per capita in log form to match *ln_usaid*. In raw terms, population averages 33.5 million, ranging from 40,130 (Saint Kitts and Nevis) to 1.3 billion (China). PPP GDP per capita in constant 2006 dollars averages $4,898, ranging from $516 (Uganda 1980) to $52,272 (UAE 1981). As a measure of democracy, we use the previous year's value of the "polity2" variable from the Polity IV project. Running from autocracy (−10) to democracy (10), the sample mean is close to 0. Polity2 differs from Polity in that the former interpolates values during periods of transition (Polity code −88). The *polity_transition* variable equals 1 in these cases, in line with Kang and Meernik (2004). Although all of these variables could arguably be used as proxies for the need for humanitarian aid, GDP per capita has the most direct link to poverty.

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[17]The country with the fewest observations is Qatar (1), followed by Cuba (12); the median is 44 observations per country.

As is common in the aid allocation literature, we use the log of U.S. exports to recipient countries as a measure of U.S. commercial interests. Exports average $1.7 billion and range from $112,000 (Comoros 2002) to $134 billion (Mexico 2006)[18]. Turning to our measure of geopolitical interest, in 60% of the observations in our data set, the U.S. gave military aid. When countries received U.S. military aid, they received U.S. economic aid 93% of the time; when they did not receive military aid, the odds of receiving economic aid fall to 74%.

The remaining variables are the same as in the budget analysis and vary only by year, not by recipient. The descriptive statistics are similar to those reported earlier, differing slightly because the panel is unbalanced, primarily due to missing data.

Table 4 reports the baseline results[19]. The first two columns present results from estimating a Heckman selection model[20]. Four variables stand out as statistically significant in the selection equation. Consistent with the humanitarian motive for aid, there is a negative and significant estimated coefficient on *ln_gdp*, indicating that richer countries are less likely to receive U.S. bilateral aid, *ceteris paribus*. The coefficient estimate implies that a ten percent higher GDP per capita is associated with a one percent lower probability of receiving aid. Countries receiving U.S. military aid are significantly more likely to receive economic aid; the estimated coefficient implies a 16 percent higher probability of receiving economic aid for the typical country if it also receives

[18]A number of cases with no U.S. exports recorded are dropped in this log specification (296 in the selection equation and 164 in the allocation equation). Specifications using the level of exports and including these cases yield largely similar results.

[19]All z- and t-statistics in Tables 4-5 are based on cluster-robust standard errors (clustering on countries).

[20]Identification relies on the selection equation normality assumption as we have no a priori theoretical basis for exclusion restrictions. Results do not change in any substantive way if we do impose sensible, empirically-based exclusion restrictions, and the independence result (discussed below) is a feature of all specifications.

military aid. The odds of receiving aid were 5% higher in the inter-war period than during the Cold

War, a change that is even more pronounced (9%) since the advent of the War on Terror.[21]

Turning to the allocation equation, more factors appear to be important. Populous countries

received more aid, though a bias in favor of small countries in per capita terms (frequently noted in

the literature) is evident since the estimated coefficient is significantly less than 1. *Ceteris paribus*,

a one percent higher population is associated with about 0.2 percent higher aid and hence *lower* aid

per capita[22]. The negative and significant estimated coefficient for GDP per capita is again

consistent with a humanitarian motive. A one percent higher income is associated with about one

percent lower aid. The recipient governance variables both enter as positive and significant. A one

point higher polity score is associated with 3 percent higher aid while a one standard deviation

higher polity score is associated with 23 percent higher aid. A political transition (either toward or

away from democracy) predicts a 75 percent higher aid level. The estimated coefficient for U.S.

exports is positive and significant; a one percent increase in U.S. exports to a country is associated

with a 0.26 percent increase in aid[23]. The geopolitical indicator *mil* also enters as significant in the

allocation equation: receiving U.S. military aid is linked to a doubling of U.S. economic aid.

Among the variables constant across countries, several are at least marginally statistically

significant. As at the aggregate level, there is a positive and significant link between the U.S.

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[21]The above probability derivative (for *ln_gdp*) and probability differentials (for *mil*, *inter_war*, and *war_terror*) are evaluated with all other variables set to the sample mean. In addition, there is an issue of collinearity between *ln_pop* and *ln_exports* in this estimation. The variables have a sample correlation of 0.51. We can reject weakly the joint hypothesis that both coefficients are zero (p=0.0999). In an estimation omitting either variable, the other enters with a positive and significant estimated coefficient.

[22]The small country bias remains if we use trade per capita rather than the level of trade, exclude very small countries, exclude very large countries, or exclude both.

[23]Results are essentially the same with a one or two year lag on exports. This argues against the estimated coefficient being driven by substantial reverse causality (e.g., via tied aid), as do the relative magnitudes of aid and trade ($100 million versus $1.5 billion on average).

military budget and aid; one percent more of the U.S. GDP directed to the military budget is associated with 16 percent higher aid. All three U.S. politics variables have the expected signs: the estimated coefficient for the president variable is negative though small in magnitude and statistically insignificant; the estimated coefficient for the congressional variable is negative and marginally significant; and the estimated coefficient for the divided government dummy negative, large in magnitude (associated with a 30 percent drop in the level of aid) and statistically significant. The estimated inter-war coefficient is negative and large (a 23 percent fall in aid), but just misses the 10 percent significance level. Finally, the War on Terror coefficient is essentially zero.

There is little evidence of dependence between the selection and allocation equations. A Wald test fails to reject independence of the selection and allocation equations (p=0.4813). This is underscored by comparing the estimated coefficients of the Heckman selection model with the nearly identical estimates from the two part model presented in the next two columns.[24]

The final column of Table 4 estimates an allocation equation with country fixed effects. As one might expect, the introduction of fixed effects produces some changes in estimated coefficients. These differences do not, however, cause any fundamental changes in the interpretations of the results. The estimated coefficient for population is no longer statistically significant; this makes sense because so much of the variation in population is between countries rather than over time. The income elasticity of aid (i.e., the responsiveness of aid to recipient GDP) increases slightly in magnitude. The estimated coefficient for receiving military aid is somewhat reduced though still large and statistically significant. The impact of the political orientation of Congress increases, with the estimated coefficient now statistically significant. Finally, the estimated coefficient for the inter-

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[24]A two part model is simply separate estimation of a selection equation (here via probit) and an allocation equation (via least squares). For more on the two part model, see Cameron and Trivedi (2005: 544-546, 680-681).

war period is smaller in magnitude and no longer significant.

Has aid become less focused on needy countries during the War on Terror?

We now turn to a major contemporary concern: has the degree to which aid targets needy countries declined as a result of the War on Terror? The logical way to begin is by examining between-period differences in the estimated effects of GDP per capita, the variable that most directly reflects need. To do this, we add two GDP interaction terms, $ln\_gdp_{it}*inter\_war_t$ and $ln\_gdp_{it}*war\_terror_t$. Table 5 reports the results from a two part model with fixed effects in the allocation equation, parallel to columns 3 and 5 in Table 4.

The selection equation in column 1 of Table 5 shows a decline over time in the magnitude of the negative estimated coefficient for GDP. The point estimates indicate that greater need (measured by lower GDP) leads to a higher probability of receiving aid in each period, but the size of this effect declines over time[25]. As we explain in more detail below, the observed decline in need-sensitivity corresponds to an increase in the probability of wealthier countries receiving aid rather than a decrease in the probability of poor countries receiving aid.

Turning to the allocation equation in Table 5, we see an increase over time in the magnitude of the negative estimated effects of GDP. For each period the point estimate of the effect of GDP indicates that greater need (measured by lower GDP) leads to a substantially higher funding level

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[25]Tests of statistical significance reject the null hypothesis that the effect of *ln_gdp* has been the same over time. In particular, the effect during the War on Terror is different: the coefficient on *ln_gdp*war_terror* is marginally significant (p=.0600) and we can firmly reject the null hypothesis that inter-war and War on Terror GDP coefficients are the same (p=.0053). Although when examined individually the period intercepts (*inter_war* and *war_terror*) do not show a statistically significant difference from zero (i.e., a difference from the Cold War era), they are statistically significantly different from each other (p=.0262). In addition, *inter_war* and its GDP interaction are jointly statistically significant, as are *war_terror* and its GDP interaction (p=.0356 and p=.0001, respectively).

(*ceteris paribus*), and the set of point estimates indicate that this effect becomes stronger over time[26].

To determine what has happened to expected aid allocations, one must consider these interaction terms in conjunction with the time period dummies. If the coefficients on *inter_war* and *war_terror* were zero, the observed inter-temporal strengthening of the negative effects of GDP would indicate inter-temporally declining allocations for all aid-receiving countries. But paired with the positive estimated period dummy effects, the GDP coefficients imply cutoff levels: aid-receiving countries with GDP below the cutoff level experience a jump in expected aid allocations between periods, while those with higher GDP experience a fall in expected aid allocations. Compared to the Cold War, the predicted allocations will be (i) larger in the inter-war period for aid-receiving countries with *ln_gdp* below 7.64 (GDP below \$2070 – one third of the sample in this period) and (ii) larger in the War on Terror period for those with *ln_gdp* below 8.24 (GDP below \$3788 – 45 percent of the sample in this period). All aid-receiving countries have a larger predicted allocation for the War on Terror than for the inter-war period.

Although we focus on the variation in the GDP coefficient across periods, the framework of Table 5 would also allow one to examine how the weights on other criteria vary across periods. The focus on GDP fits our primary interest: the changing role of need in aid allocations. Nevertheless, there remains a concern that imposing unchanging coefficients across time for the other variables could influence the GDP coefficient estimates. To check this, we estimated the model interacting the period dummies with all the explanatory variables that differ across countries (*ln_pop*, *polity*, *polity_transition*, *ln_exports*, *mil*). Doing so does not substantially change the across-period pattern

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[26]As the t-statistics in the table show, the inter-war GDP coefficient and the War on Terror GDP coefficient are statistically significantly different from the Cold War GDP coefficient. However, the difference between the GDP coefficients for the inter-war and War on Terror periods is not statistically significant (p=.5629).

of GDP coefficients. Thus, the results are not an artifact of constraints imposed on other coefficients.[27]

To understand better how expected allocations have changed at lower and higher levels of GDP, we can use the results from Table 5 to compare predictions for different levels of GDP. For this discussion, we define lower income as *ln_gdp* one standard deviation below the sample mean and higher income as one standard deviation above the sample mean[28]. All other characteristics of these representative lower and higher income countries are kept the same, i.e., at the sample mean. The results of this simulation are in Table 6.

The numbers in Table 6A are based on the selection equation in Table 5 and allow us to examine the within-era effects of heterogeneity in GDP per capita on the probability of receiving aid. We find for each era a higher predicted probability of receiving aid for lower income than for higher income countries. For the Cold War period, the representative lower income country had a 0.965 probability of receiving U.S. bilateral aid, while the representative higher income country had a 0.701 probability. For the inter-war period, the probabilities are 0.984 and 0.823. And for the War on Terror period, they are 0.990 and 0.958.

Perhaps the most telling comparisons from Table 6A are those within income categories between eras. From the Cold War through the inter-war period to the War on Terror, the probability of a higher income country receiving aid increased from 0.701 to 0.823 to 0.958, while the

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[27]When we re-estimate the equations in Table 5 with the country's percentage Muslim population interacted with period dummies, the differences between the estimated coefficients for the inter-war period and the War on Terror period are small and not statistically significance (p=0.2733 for the selection equation; p=0.8727 for the allocation equation). The only substantial differences in the estimated effects of Muslim population are between the Cold War and the later periods (and only in the allocation equation). This clearly suggests the results are an artifact of the end of the Cold War rather than the start of the War on Terror.

[28]The lower income threshold is $1,329 (similar to Uganda in 1999 or Tajikistan today) and the higher income threshold is $7,976 (similar to Poland in 1987 or Thailand in 1996).

probability for a lower income country increased from 0.965 to 0.984 to 0.990. Thus, although the likelihood of a higher income country receiving aid has increased over time, there is not a corresponding decrease in the likelihood of a lower income country receiving aid.

But what about the levels of aid among countries that receive aid? Table 6B is based on the allocation equation of Table 5, column 2 and, consequently, pertains to the set of countries that receive aid. In each era, a representative lower income country would receive more aid than would a higher income country. For the Cold War era, the lower income country would receive 5.6 times the aid of the higher income country (with aid measured in real dollars). That multiplier rises to 12.2 in the inter-war period, then to 13.5 during the War on Terror. Furthermore, the growth in allocations over time has been positive for the representative lower income aid-receiving country: the expected allocations are 26.6% higher for the inter-war period than for the Cold War, and 80.0% higher for the War on Terror than for the Cold War. This differs from the experience for the representative higher income aid-receiving country: although it also experienced an increase from the inter-war period to the War on Terror, its inter-war allocation was 41.6% below that of the Cold War allocation, and its War on Terror allocation is 25.4% below its Cold War allocation.

Table 6C lists expected aid allocations that are not conditional on receiving aid. These figures show the net effect of the changes in the probability of receiving aid and in the expected allocations among the set of countries receiving aid. For lower income countries, the expected allocations increase substantially, from $40.7 million during the Cold War, to $50.9 million during the inter-war period, and then to $72.5 million during the War on Terror. For high income countries, the expected allocations drop from $4.6 million during the Cold War to $2.9 million during the inter-

war period, and then increase to $4.2 million during the War on Terror[29]. Clearly, the expected aid level of the representative lower income country did not decline with the advent of the War on Terror.

Before concluding, we conduct one final set of empirical experiments: examining year-to-year changes by estimating selection and allocation equations that include a full set of year dummies and annual GDP terms (year dummies interacted with *ln_gdp*). This serves two important purposes. First, the use of period dummies and interactions (as in Table 5) cannot capture year-to-year changes within time periods and so may mask important intra-period policy shifts. Second, including a full set of year dummies addresses a potential concern that our time series variables (period dummies, the U.S. military budget share, and U.S. domestic political variables) are insufficient to capture general fluctuations in the overall level of aid. Figure 2 presents results in a form logically parallel to Table 6.[30]

The top graph (2A) gives the probability of receiving aid by income level for each year. For the representative country with GDP set at the lower level, the probability of receiving aid is near one, consistent with our earlier results in Table 6. With GDP set at the higher level, the probability has increased in recent years but not as a discrete jump at the onset of the War on Terror. Rather, the probability of receiving aid for a higher income country has been rising since 1997. Given the nature of the specification (especially the use of year dummies to replace theoretically grounded variables), one cannot directly infer what *caused* the year-to-year changes. That said, even if one views the results as merely descriptive, they clearly indicate that the War on Terror period has been

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[29]These figures are well below the sample average of nearly $100 million, largely because the logarithmic specification reduces the impact of large values. The sample average of *ln_usaid* is 3, roughly $20 million.

[30]Detailed econometric results available on request.

one with steady (for lower income countries) or increasing (for higher income countries) probabilities of receiving aid.

The middle graph (2B) indicates the expected aid allocation for countries receiving aid. For the representative country with GDP set at the lower level, the expected allocation has increased substantially during the War on Terror, but again not as a discrete jump at the onset of the War on Terror. Rather, a steep decline that started shortly after the end of the Cold War has been reversed and the allocation has been rising since 1996. For the higher income country, there has also been a rise during the War on Terror years – partially reversing a general decline since the mid 1960s – but the amounts (levels and dollar increases) are far smaller than for the lower income country (consistent with Table 6).

The bottom graph (2C) combines the selection and allocation equation results, presenting the *ex ante* expected allocation by income group. These predicted allocations are *ex ante* in the sense that they apply to all countries, not just those that end-up receiving aid. Again following the pattern that started midway through the inter-war period, we see rising expected aid allocations for lower income as well as higher income countries during the War on Terror.[31]

One concern raised by Figure 2A is the sharp increase in the number of higher income countries predicted to get aid in the later inter-war period and in the War on Terror. This pattern is mirrored in the actual data[32]. These changes in sample composition could drive the apparent increase in the responsiveness of aid to need, or even mask other changes, if the additional,

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[31]Figure 2 also reveals some substantial fluctuations in earlier years, most notably the large spike in aid to higher income countries in the 1960s. This was a time period with substantially fewer aid-receiving countries but, within this group, the spike is quite broad-based (not, for example, just a massive increase to Vietnam). These patterns demonstrate that the Cold War period (like the inter-war and War on Terror periods) was not homogeneous, but otherwise do not have a direct bearing on the issues we address here.

[32]It is apparent, for example, when graphing the percent receiving aid for countries in the top 25% of the annual income distribution.

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relatively wealthy aid recipients each get very little aid. To address this, we look separately at countries that always receive U.S. bilateral aid (i.e., that get U.S. aid every year they appear in our sample). We call this group core aid recipients (see Appendix Table A1 for the list of countries). Figure 3 presents estimation results for this restricted sample of 54 countries (45% of countries in the larger sample) and 2240 observations (60% of all observations in the larger sample).

The top graph in Figure 3 demonstrates that the pattern for aid allocation found in Figure 2 holds for the core aid recipients. (Note we use the same variable values across simulations here, so that the only source of variation between Figure 3A and Figure 2B is differences in the coefficient estimates.) The representative country with GDP set at the lower level experiences a sharp decline in aid starting shortly after the end of the Cold War. Again, this pattern reverses after 1996. Also similar to Figure 2, the representative core aid recipient with GDP set at the higher level also gains starting part way through the inter-war period.[33]

The lower graph (3B) gives the ratio of aid across income levels to highlight an important pattern in the upper graph. The numerator in the ratio is expected aid for the lower income level (the upper curve in Figure 3A); the denominator is expected aid for the higher income level (the lower curve in Figure 3A). This is the same measure given in Table 6B. The ratio increased somewhat – though with considerable variation – from the mid 1960s through the early 1990s, indicating increasing focus on need in the allocation of aid to core recipients. The period from about 1993 to 2001 saw a rapid increase in the ratio, suggesting a relatively dramatic increase in the focus on need in the allocation among countries. The ratio peaks in 2001 with the lower income country predicted

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[33]Note that the levels of aid are higher for the core aid recipients than for the unrestricted sample. For example, the 2006 value for lower income is nearly $140 million for core aid recipients as compared to about $100 million for all aid-receiving countries and for higher income is $20 million as compared to $6 million.

to get nearly twenty times more aid than an otherwise equivalent higher income country. Finally, the ratio falls precipitously after the start of the War on Terror. By the end of our sample in 2006, the ratio had fallen by two thirds, retreating to a level not seen since shortly after the end of the Cold War.[34]

This pattern of rising then falling responsiveness to income is hidden by a period-to-period approach. The estimations in Table 5 correctly find that U.S. bilateral aid was more responsive to need in both later periods as compared with the Cold War period. What the estimates fail to show is that these period averages were the outcome of rising and then falling responsiveness to need, particularly for the core aid recipients. The graphs demonstrate that, in terms of U.S. bilateral aid allocations, poorer countries have fared better since the start of the War on Terror because they receive more aid than during either the Cold War or the inter-war period (Figures 2C and 3A). But at the same time, the War on Terror period corresponds to an apparent policy shift that has placed less and less emphasis on need (at least among core aid recipients) so that, *ceteris paribus*, percentage increases in aid to better-off countries outstripped those to poorer countries (Figure 3B).

V. Conclusion

The advent of the War on Terror and the leadership of the George W. Bush administration have clearly reshaped and refocused many aspects of U.S. foreign policy. There is considerable concern in the development community that the renewed importance of foreign aid as a geopolitical tool has undermined – or will undermine – the development orientation of aid. One notable possibility is a re-emergence of Cold War practices, with less emphasis on need and hence declining

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[34]This pattern is also reflected in the estimated income elasticities of aid (the estimated coefficients on the interactions between *ln_gdp* and each of the year dummies in the allocation equation). We present results as predicted levels and ratios of predicted levels to allow simultaneously for the impact of changing estimated coefficients on the year dummies.

funds for poor but geopolitically unimportant countries. In this paper, we analyze changes in aid funding from the Cold War to the War on Terror, assess the impact of these changes on aid to poor countries, and explore new trends in U.S. aid allocation policies.

Our analysis of the overall U.S. aid budget from 1955 to 2006 finds that conservative governments typically provide substantially less economic aid than do liberal governments, all else equal. Yet recent years have witnessed both a shift from a liberal to a conservative government and a huge increase in foreign aid. This suggests that the effect of the War on Terror on the aid budget is *understated* by a simple comparison of budget levels and underscores the enormous impact of the War on Terror on aid.

But what about the allocation of this larger budget? Does the War on Terror signal a return to Cold War aid practices – less funding for poor countries, less emphasis on need – as some scholars have suggested? According to our evidence, as the overall U.S. economic aid budget has increased with the War on Terror, so too has U.S. aid to poor countries of little immediate geopolitical importance. Indeed, since 1996 expected aid to lower income countries has increased steadily. But there *has* been an important shift in another aspect of U.S. aid allocation, one that coincides precisely with the start of the War on Terror. For the 35 years preceding the War on Terror, there was a clear upward trend in the weight given to need in the allocation of aid to core recipients. In the years since, the weight given to need has decreased rapidly and steadily. With the general increase in aid, thus far the decreased weight on need has merely slowed the growth of U.S. aid to poorer countries rather than actually reducing aid levels. But if this policy shift away from need outlives the general increase in the aid budget, U.S. aid to the poorest developing countries will decrease.

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Figure 1: U.S. Bilateral Economic Aid 1955-2006

Cold War   inter-war   War on Terror
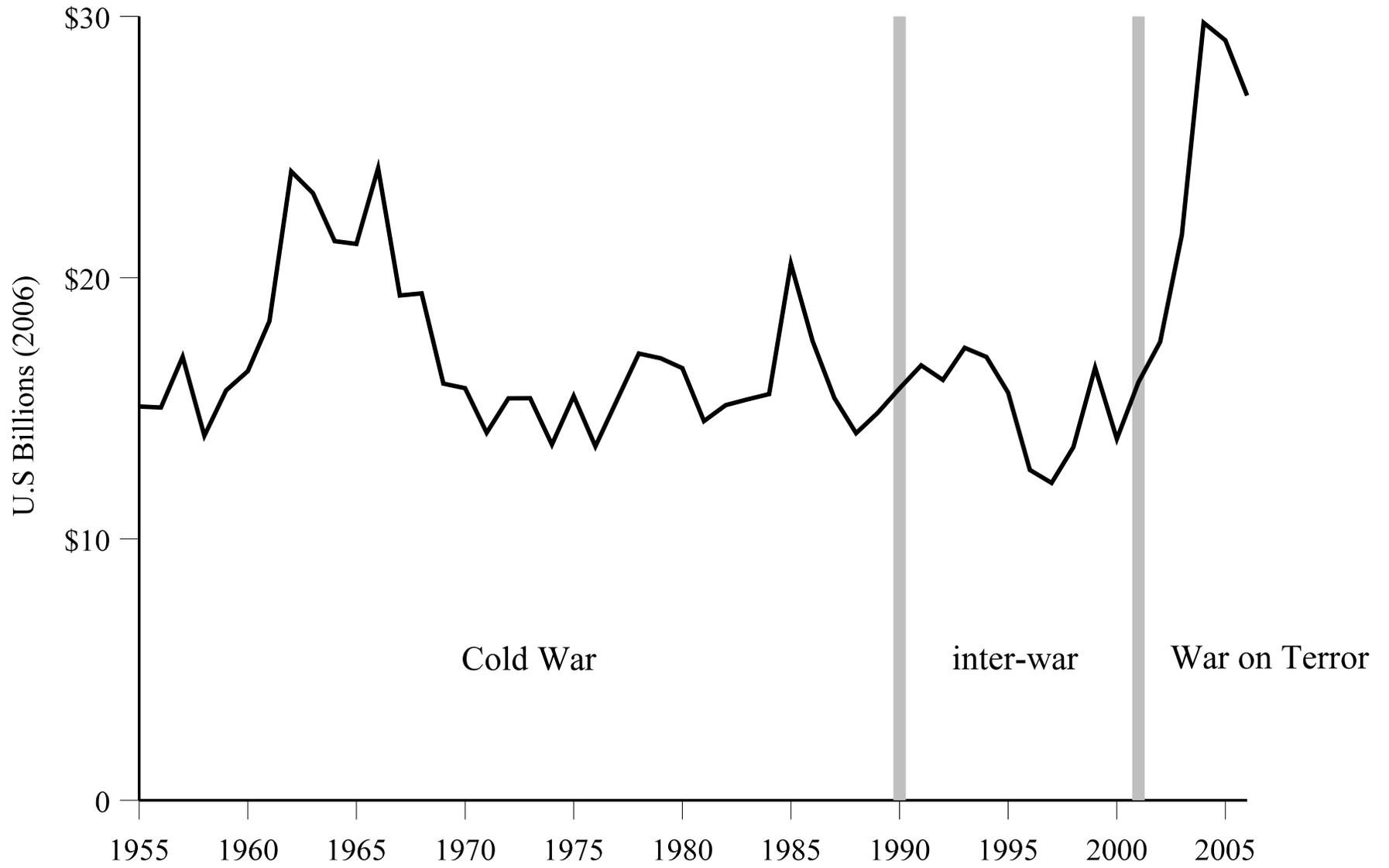
Figure 2: Responsiveness of Aid to Need

2A: Probability of Receiving Aid

2B: Expected Aid for Aid-Receiving Countries

2C: Expected Aid for All Countries
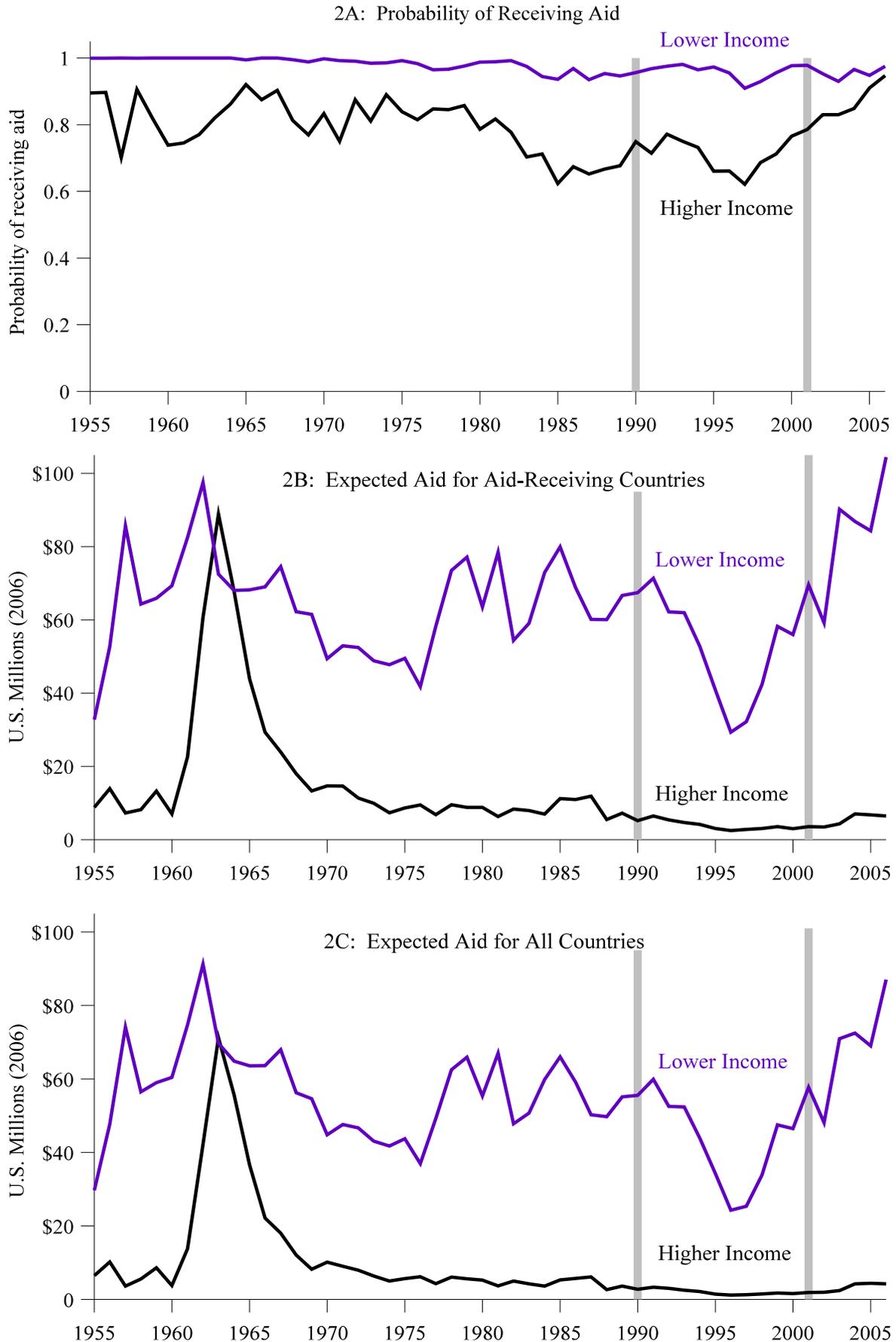
Figure 3: Responsiveness of Aid to Need for Core Aid Recipients

3A: Expected Aid for Core Aid Recipients

3B: Responsiveness to Need
Ratio of Expected Aid for Lower Income over Higher Income Country
for Core Aid Recipients
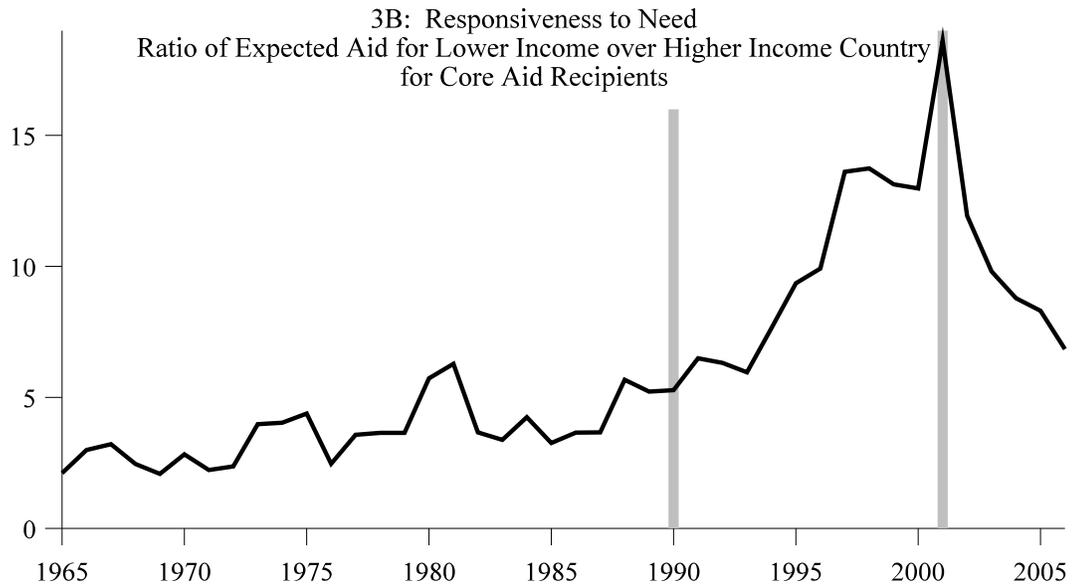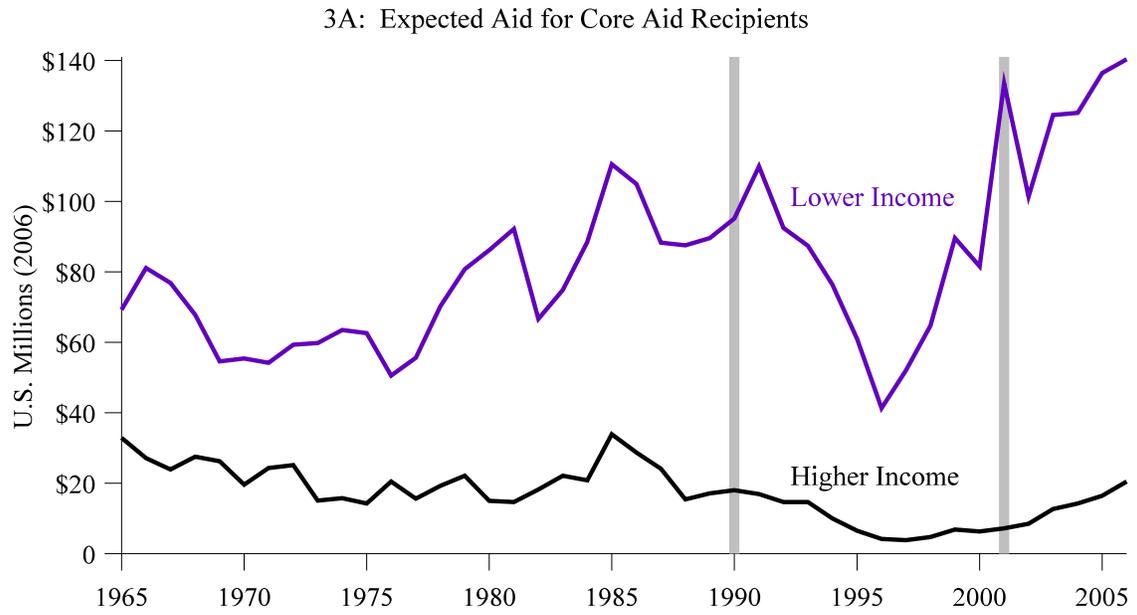
Table 1: Aggregate Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max	Units / Scale
usaid	17.315	3.946	12.148	29.760	2006 billion $
mil_budget	5.952	1.773	3.3	9.5	% of GDP
growth	3.350	2.151	−1.9	7.2	%
president	0.094	0.457	−0.543	0.581	index
congress	−0.022	0.047	−0.099	0.053	index
divided_gov	0.462	0.503	0	1	indicator
inter_war	0.231	0.425	0	1	indicator
war_terror	0.096	0.298	0	1	indicator

52 annual observations, 1955-2006

Table 2: U.S. Aid Budget Regressions

Dependent Variable: usaid

	(1)	(2)
year	0.243*	0.189*
	(2.48)	(2.18)
mil_budget	2.107**	2.105**
	(3.19)	(3.16)
growth	0.233	0.257*
	(1.78)	(2.15)
president	-3.045**	-1.727*
	(-3.75)	(-2.29)
congress	-26.79**	-21.10**
	(-2.99)	(-2.72)
inter_war	-0.719	1.396
	(-0.57)	(1.44)
war_terror	10.11**	9.691**
	(3.31)	(3.53)
divided_gov		-2.718**
		(-4.12)
N	52	52

t statistics in parentheses based on Newey-West
HAC standard errors with 1 lag. Results not
sensitive to number of lags.

* $p<0.05$, ** $p<0.01$

Table 3: Panel Data Descriptive Statistics

Variable	N	Mean	Std. Dev.	Min	Max	Units / Scale
$usaid_{it}$	4405	82.769	240.531	0	4536.099	2006 $ millions
$usaid_{it} > 0$	3763	96.890	257.604	0.1	4536.099	2006 $ millions
ln_usaid_{it}	3763	3.025	2.003	-2.303	8.420	log of 2006 $ millions
ln_pop_{it}	4405	15.555	1.893	10.600	20.995	log of population
ln_gdp_{it}	4405	8.088	0.896	6.247	10.864	log 2006 PPP per capita
$polity_{it-1}$	4405	-0.358	7.022	-10	10	-10 to 10
$polity\_transition_{it-1}$	4405	0.021		0	1	indicator
$ln\_exports_{it}$	4405	5.247	2.300	-2.190	11.807	log of 2006 $ millions
mil_{it}	4405	0.602		0	1	indicator
mil_budget_{t}	4405	5.374	1.526	3.3	9.5	% of GDP
$president_{t}$	4405	0.117	0.465	-0.543	0.581	index
$congress_{t}$	4405	-0.014	0.048	-0.099	0.0530	index
$divided\_gov_{t}$	4405	0.488		0	1	indicator
$inter\_war_{t}$	4405	0.316		0	1	indicator
war_terror_{t}	4405	0.128		0	1	indicator

Table 4: Comparing Aid Allocation Models

	Heckman Selection Model		Two Part Model		Fixed Effects
	Selection	Allocation	Selection	Allocation	Allocation
ln_pop_{it}	0.082	0.206*	0.080	0.205*	1.085
	(1.15)	(2.57)	(1.14)	(2.56)	(1.52)
ln_gdp_{it}	-0.656**	-1.064**	-0.659**	-1.047**	-1.364**
	(-4.47)	(-6.71)	(-4.50)	(-6.52)	(-4.44)
$polity_{it-1}$	0.006	0.030*	0.006	0.030*	0.028*
	(0.46)	(2.22)	(0.46)	(2.23)	(2.22)
$polity\_transition_{it-1}$	-0.080	0.755**	-0.071	0.757**	0.639**
	(-0.31)	(4.99)	(-0.27)	(5.02)	(5.39)
$ln\_exports_{it}$	0.028	0.261**	0.026	0.260**	0.262**
	(0.50)	(4.10)	(0.47)	(4.10)	(3.31)
mil_{it}	0.948**	1.093**	0.942**	1.069**	0.755**
	(7.40)	(8.02)	(7.21)	(7.49)	(6.41)
mil_budget_t	-0.063	0.160**	-0.062	0.162**	0.186**
	(-0.86)	(3.33)	(-0.86)	(3.38)	(4.09)
$president_t$	0.026	-0.014	0.026	-0.016	-0.038
	(0.36)	(-0.18)	(0.37)	(-0.19)	(-0.50)
$congress_t$	-0.004	-2.218	-0.044	-2.198	-2.977*
	(-0.00)	(-1.80)	(-0.03)	(-1.78)	(-2.59)
$divided\_gov_t$	-0.104	-0.296**	-0.104	-0.294**	-0.262**
	(-1.79)	(-5.72)	(-1.79)	(-5.70)	(-5.58)
$inter\_war_t$	0.385*	-0.226	0.380*	-0.233	-0.170
	(2.33)	(-1.62)	(2.31)	(-1.66)	(-1.24)
war_terror_t	1.110**	0.002	1.095**	-0.020	0.117
	(3.82)	(0.01)	(3.75)	(-0.08)	(0.46)
$year_t$	-0.041**	-0.005	-0.041*	-0.004	-0.012
	(-2.59)	(-0.49)	(-2.57)	(-0.41)	(-0.56)
N	4405		4405	3763	3763

Dependent variable in selection equations is a dummy indicating if country received U.S. bilateral aid. Dependent variable in allocation equations is the natural log of U.S. bilateral aid in millions of 2006 USD.

z statistics (columns 1-3) and t statistics (columns 4-5) in parentheses based on cluster-robust standard errors.

* p<0.05, ** p<0.01

Table 5: Changing Role of GDP

| | Two Part Model with GDP Interactions | |
	Selection	Allocation with FE
$\ln\_pop_{it}$	0.083	0.446
	(1.16)	(0.67)
$\ln\_gdp_{it}$	-0.719**	-1.038**
	(-3.65)	(-3.23)
$\quad$ * inter_war$_t$	0.042†	-0.466**
	(0.23)	(-3.40)
$\quad$ * war_terror$_t$	0.393‡	-0.530**
	(1.88)	(-3.14)
polity$_{it-1}$	0.006	0.027*
	(0.52)	(2.24)
polity_transition$_{it-1}$	-0.036	0.565**
	(-0.13)	(4.70)
$\ln\_exports_{it}$	0.022	0.299**
	(0.41)	(3.82)
mil$_{it}$	0.953**	0.719**
	(7.32)	(6.21)
mil_budget$_t$	-0.064	0.205**
	(-0.87)	(4.53)
president$_t$	0.028	-0.039
	(0.39)	(-0.53)
congress$_t$	-0.045	-2.875*
	(-0.03)	(-2.52)
divided_gov$_t$	-0.108	-0.266**
	(-1.79)	(-5.70)
inter_war$_t$	0.018†	3.558**
	(0.01)	(3.25)
war_terror$_t$	-2.330‡	4.367**
	(-1.25)	(3.29)
year	-0.040*	0.003
	(-2.51)	(0.13)
N	4405	3763

Dependent variable in selection equations is a dummy indicating if country received U.S. bilateral aid. Dependent variable in allocation equation is the natural log of U.S. bilateral aid in millions of 2006 USD.

z-statistics (Selection) and t statistics (Allocation) in parentheses based on cluster-robust standard errors (clustering on countries). The allocation equation includes country fixed effects.

* $p<0.05$, ** $p<0.01$; † jointly significant ($p=.0356$); ‡ jointly significant ($p=.0001$)

Table 6: The Changing Role of Need

6A: Probabilities by Income Level and Period

	P(aid|lower income)	P(aid|higher income)
Cold War	0.965	0.701
inter-war	0.984	0.823
War on Terror	0.990	0.958

6B: Aid Allocations to Aid-Receiving Countries by Income Level and Period

	$\frac{E(aid\|lower\ income,\ aid>0)}{E(aid\|higher\ income,\ aid>0)}$	% Δ from Cold War	
		E(aid|lower income, aid>0)	E(aid|higher income, aid>0)
Cold War	5.6		
inter-war	12.2	+26.6 %	−41.6 %
War on Terror	13.5	+80.0 %	−25.4 %

6C: Aid Allocations by Income Level and Period

	E(aid|lower income)	E(aid|higher income)
Cold War	$40.7 million	$4.6 million
inter-war	$50.9 million	$2.9 million
War on Terror	$72.5 million	$4.2 million

Based on Table 5, evaluated at sample means with:
     lower income = sample mean of *ln_gdp* – one standard deviation
     higher income = sample mean of *ln_gdp* + one standard deviation
PPP GDP per capita in constant 2006 dollars.

Appendix

Table A1: Country Coverage

Years in panel estimation sample, including years with and without aid.
* indicates "core aid recipients, " countries that received aid every year they are in the sample.

Country	Years	Country	Years
Algeria	1963-2006	Ecuador*	1955-2006
Angola	1976-2006	El Salvador*	1955-2006
Antigua & Barbuda	1988-2006	Equatorial Guinea	1971-2006
Argentina	1955-2006	Eritrea*	1994-2006
Bahamas, The	1975-2002	Ethiopia*	1955-2006
Bahrain	1980-2005	Fiji	1988-2006
Bangladesh*	1973-2006	Gabon	1964-2006
Barbados	1973-2000	Gambia, The*	1966-2006
Belize*	1982-2006	Ghana*	1961-2006
Benin*	1971-2006	Grenada	1988-2006
Bhutan	1989-2006	Guatemala*	1955-2006
Bolivia*	1955-2006	Guinea*	1961-2006
Botswana*	1971-2006	Guinea-Bissau*	1987-2006
Brazil	1955-2006	Guyana	1967-2006
Burkina Faso*	1971-2006	Haiti*	1967-2006
Burundi*	1964-2006	Honduras*	1955-2006
Cambodia*	1993-2006	India*	1955-2006
Cameroon*	1961-2006	Indonesia*	1960-2006
Cape Verde*	1988-2006	Iran	1955-2006
Central African Republic	1964-2006	Jamaica*	1960-2006
Chad	1971-2006	Jordan*	1955-2006
Chile*	1955-2006	Kenya*	1964-2006
China	1972-2006	Kiribati	1988-2006
Colombia*	1955-2006	Kuwait	1975-2005
Comoros	1979-2005	Laos	1984-2006
Congo (Brazzaville)	1971-2006	Lebanon*	1988-2006
Congo (Kinchasa)*	1961-2006	Lesotho*	1971-2006
Costa Rica*	1955-2006	Madagascar	1961-2006
Cuba	1985-1996	Malawi*	1965-2006
Cyprus	1961-2004	Malaysia	1966-2006
Côte d'Ivoire	1964-2006	Mali*	1971-2006
Djibouti	1990-2006	Malta	1975-2005
Dominica	1988-2006	Mauritania	1964-2006
Dominican Republic*	1955-2006	Mauritius	1969-2006

Country	Years	Country	Years
Mexico	1955-2006	Solomon Islands	1987-2006
Morocco*	1957-2006	South Africa	1955-2006
Mozambique*	1976-2006	South Korea	1955-2006
Namibia	1975-2006	Sri Lanka*	1955-2006
Nepal*	1960-2006	Sudan*	1975-2006
Nicaragua	1955-2006	Suriname	1976-2006
Niger*	1971-2006	Swaziland*	1975-2006
Nigeria	1961-2006	Syria	1962-2006
Oman	1975-2004	São Tomé & Principe	1988-2005
Pakistan*	1955-2006	Tanzania*	1968-2006
Panama*	1955-2006	Thailand*	1955-2006
Papua New Guinea	1976-2006	Togo*	1964-2006
Paraguay*	1955-2006	Tonga	1988-2006
Peru*	1955-2006	Trinidad & Tobago	1963-2006
Philippines*	1955-2006	Tunisia	1961-2006
Qatar	1996-1996	Turkey	1955-2006
Rwanda*	1971-2006	Uganda	1964-2006
Saint Kitts & Nevis	1987-2006	United Arab Emirates	1975-2005
Saint Lucia	1988-2006	Uruguay	1955-2006
Saint Vincent & Grenadines	1988-2006	Vanuatu	1988-2006
Samoa/Western Samoa	1982-2006	Venezuela	1955-2006
Saudi Arabia	1975-2005	Vietnam	1984-2006
Senegal*	1964-2006	Yemen*	1990-2006
Seychelles	1978-2006	Zambia	1965-2006
Sierra Leone*	1964-2006	Zimbabwe	1971-2006
Singapore	1960-2006		

Countries explicitly excluded from sample:
Afghanistan; Albania; Armenia; Azerbaijan; Belarus; Bosnia and Herzegovina; Bulgaria; Croatia; Czech Republic; Egypt; Estonia; Georgia; Hungary; Iraq; Israel; Kazakhstan; Kyrgyzstan; Latvia; Lithuania; Macedonia, FYR; Moldova; Mongolia; Poland; Romania; Russian Federation; Slovakia; Slovenia; Tajikistan; Turkmenistan; Ukraine; Uzbekistan; Yugoslavia.

Table A2: Data Sources

Variable	Description	Source
congress	Average of House and Senate Common Space X coordinate	Poole (2007)
exports	U.S. exports to recipient country in constant 2006 dollars	IMF (2006A, 2006B)
GDP per capita	Purchasing Power Parity measure, in constant 2006 dollars	Heston et al. (2002), World Bank (2008)
growth	GDP percent change based on chained 2000 dollars	U.S. BEA (2007)
mil	U.S. military aid	USAID (2008)
mil_budget	"Consumption Expenditures, Defense" as percent of GDP	U.S. GPO (2007)
polity	POLITY2: autocracy/democracy rating	Polity IV Project (2005)
polity_transition	POLITY=-88 (polity transition)	Polity IV Project (2005)
population	Population	Heston et al. (2002), World Bank (2008)
president	Presidential Common Space X coordinate	Poole (2007)
usaid	U.S. bilateral economic aid in constant 2006 dollars	USAID (2008)