International Relations of the Asia-Pacific Volume 8 (2008) 379–398
doi:10.1093/irap/lcn010 Advance Access published on 24 July 2008

Is there an aid-for-participation deal?: US economic and military aid policy to coalition forces (non)participants

Atsushi Tago

Graduate School of Law, Kobe University, Kobe, Japan.
Email: *tago@dragon.kobe-u.ac.jp*

Abstract

There is an empirical evidence of an aid-for-policy deal between the United States and other states; the United States has utilized aid programs to promote affirmative votes in the UN General Assembly and to maintain an alliance relationship with strategically important states. However, whether there is a systematic evidence of an aid-for-participation deal remains inconclusive. Does the United States generally utilize its foreign aid to reward the contribution of troops to the US-led multinational forces and to punish the lack of contribution? The author argues that US foreign aid is used to prevent free-riding in coalition participation. To test the argument, I examined whether states were punished or rewarded by the United States for their behavior in sending or failing to send troops to 15 post-Second World War US-led coalition forces. The results show that the United States punished states for unexpected nonparticipation, but did not always provide rewards for support.

1 Introduction

The United States often needs coalition partners to win an interstate war, conduct humanitarian intervention, and fight international terrorism. A coalition enables the United States to reduce its military burden and obtain

Received 25 February, 2008; Accepted 12 June, 2008

collective legitimacy for the operation. It is thus very important for the US government to gather as many reliable coalition partners and prevent the partners' defection using political pressures and side payments. Indeed, some well-known historical cases show that the United States secures coalition participation by giving economic and military aid to participants. For instance, huge economic and military assistance was given to coalition participants in the Vietnam War, namely, South Korea (ROK), Philippines, and Thailand (Kahin, 1986, pp. 332–336; Sarantakes, 1999). Arab countries received military equipment and World Bank loans in exchange for sending armed forces against Iraq during the Gulf War in 1991 (Freedman and Karsh, 1993). Moreover, the 'New Europe' states of Albania, Estonia, the Czech Republic, Poland, and Slovakia promised their military presence in Iraq after May 2003 on the condition that they would receive US economic and military assistance (Jacoby, 2006; Weitsman, 2006; Newnham, 2008, pp. 186–188). In contrast, the lack of participation in the coalition in Iraq by the Turkish government resulted in a significant reduction in US military aid from 79.6 million dollars in 2002 to 22.2 million dollars in 2003 (USAID, 2006; Newnham, 2008, p. 187).

These case studies show that there was an aid-for-policy deal or more specifically an *aid-for-participation deal* between the United States (i.e. a coalition leader) and other coalition partners. However, the evidence is based on limited case descriptions and thus is not necessarily sufficient for generalization. In fact, a theory about the aid-for-participation deal must be quantitatively tested by asking two questions: (1) did coalition participation result in a higher chance of obtaining aid from the United States? and (2) did nonparticipation result in a lower chance of receiving aid? To answer the questions, I generate a dataset and see whether the United States systematically differentiates between participants and nonparticipants when providing aid.

The core theoretical argument of this article is simple. It maintains that a state's behavior that is *inconsistent* with the 'expectation' of the US government would be a target of punishment by the United States. If the United States expects a state to join a coalition, but the state fails to meet that expectation, it will be punished and the amount of foreign aid to the state will be reduced significantly or the entire aid may be terminated. Basically, this suggests that the United States utilizes foreign aid as a tool of coalition management to prevent free-riders. Indeed, this proposition will be supported later in the article. On the other hand, the study finds that a reward for coalition participation, which has been widely suggested by previous case studies, is actually not so common.

The article proceeds as follows. Section 2 provides an overview of the relevant literature. It clarifies the contending arguments and problems of previous studies. In Section 3, I elaborate the hypotheses about an aid-for-participation deal. Section 4 explains the research design, and Section 5 shows the results of statistical analyses. Section 6 concludes the article.

2 Literature review

Many scholars of international relations suggest that foreign aid serves as an instrument of national security policy. In particular, most large-N studies focus on the United States after the Second World War and support the argument by using the foreign policy similarity data, which usually consist of roll-call votes on resolutions in the United Nations General Assembly (UNGA). For instance, using data collected for 65 developing countries between 1984 and 1993, Wang (1999) shows statistical evidence that the US government has successfully utilized foreign aid programs to induce foreign policy compliance in the United Nations on issues that are vital to US national interests. Alesina and Dollar (2000) report that a one standard deviation increase in UNGA voting affinity score is associated with a 78% increase in US bilateral aid. Using vector auto-regression techniques, DeRouen and Heo (2004) find that US aid is most often used as a reward for policy concessions; in particular, foreign policy similarity in previous years leads to a greater *economic* aid for most African countries and to a greater *military* aid for a majority of Latin American states.[1] Moreover, Fleck and Kilby's analysis (2006) of panel data from 1960 to 1997 indicates that several key independent variables, including a UNGA voting affinity score, are significant determinants in the allocation of US bilateral aid.

Besides foreign policy similarity in terms of UNGA voting affinity scores, Meernik *et al.* (1998) argue that an alliance relationship with the United States and its military presence (i.e. US bases) are key predictors of aid recipients and aid levels, respectively, but the relationships existed only during the cold war period. This can be interpreted to mean that the United States exchanges aid for an alliance tie and basing rights on foreign soils. Furthermore, Bueno de Mesquita and Smith (2007) offer a rationalist model of an aid-for-policy deal, assuming that leaders want to maximize their time in office. Prospective recipients tend to obtain aid if they have few resources, depend on a small winning coalition and a large selectorate (because a leader must buy political underpinnings from its core supporters), and the policy concession sought by the donor is not too politically costly. The model further suggests that the amount of aid received increases as the issue's salience increases and the domestic resources increase. The argument is mostly supported by an analysis of a data set that covers US bilateral economic aid from 1945 to 2001.[2]

In short, the literature to date has done a decent job of assessing the empirical evidence of aid-for-policy deals. However, these large-N studies have never shown direct evidence of *aid-for-participation deals*, that is, deals

1 They also report that there are no overarching patterns for Asia and the Middle East.

2 In fact, their replication data set ends in the year 2001 but, due to missing data, it appears that they have used data only until 1997.

that involve US foreign aid and other states' participation in US-led coalition military forces. As mentioned above, there are many case studies that connect coalition (non)participation and the increase (decrease) of US economic and military aid. Sarantakes (1999) argues with many diplomatic documents that the ROK deployed its military forces to Vietnam because it could obtain military and economic assistance from the United States. The amount of US military support to the ROK sharply increased to more than 1.6 billion dollars between 1966 and 1970 from about 0.8 billion dollars between 1961 and 1965 (Park, 2003, p. 387). This was a large amount, accounting for 37.1% of the ROK's fiscal expenditures during the same period. Furthermore, Weitsman (2006) adds evidence about if and how much military and economic aid the United States had to provide to induce coalition participation. In May 2005, the US Congress approved a 200 million dollar Coalition Solidarity Fund that supports coalition partners. For instance, Estonia obtained approximately 2.5 million dollars for 40 troops in Iraq and 80 in Afghanistan. Albania received about 6 million dollars for its 100 troops in Iraq and 60 in Afghanistan. In 2005, the United States paid to airlift 2,400 Polish armed forces to Iraq, built camps, and provided Poland with necessary equipment for the mission. Poland also obtained around 57 million dollars in solidarity funds.

These case studies are fine descriptive works about aid-for-participation deals, but they are inevitably biased. Indeed, they are cases that actually have an exchange of aid and troops (i.e. cases are selected based on the dependent variable). Obviously, this is not scientific, and we need better empirical research. In particular, we need a large-N study that enables us to test if an aid-for-participation deal is a general phenomenon or limited to some cases. Before showing the results of statistical analyses, I will outline the basic assumptions of the study and introduce testable hypotheses in Section 3 and follow that with an explanation of the research design.

3 Conditions for reward for participation and punishment for nonparticipation

To generate testable hypotheses, the key assumptions must be clarified. First, the United States (more generally, a coalition leader) often needs more flags in war theater zones, which contributes to the rationalization of the mission and reduces the number of troops that the United States must deploy. The authorization given by international organizations, such as the United Nations Security Council (UNSC) may be the best way to legitimize the mission (Ku and Jacobson, 2003); however, it is not always available. Given that unilateral military action is most likely to be attacked by international society, coalition participation of a variety of states ('Many-Flags') enables the United States to

rationalize the military mission by claiming that the operation is widely supported and not an act of unilateralism. Furthermore, introduction of friendly troops would ease the US military burden for the mission. For instance, it would reduce the number of US combat casualty. For those reasons, the United States often tries to form a coalition. Second, to obtain such support from other states, the United States may utilize its economic and military aid. This is obviously not the only way to motivate other states to join coalition military actions, but it is a very promising tool to give an incentive and capability to side with the United States. Third, the need for many flags may vary across the military operations. For instance, war operation, which is riskier than other types of military operations, may require more states' contribution of combat troops. The United States might prepare larger package of economic and military aid to war coalition participants. Moreover, Tago (2007) argues with some empirical evidence that a state hesitates to support the US-led coalition for intervention into domestic affairs. The United States, therefore, must pay more aid when it seeks coalition partners for such an intervention.

Here, given those assumptions, the most intuitive (sort of 'null') hypothesis is based on the idea that actual participation matters. That is, the United States is more likely to provide a coalition of participating states with its economic and/or military aid than other noncontributors or when the state is not contributing to the US-led joint forces. Most previous case studies have examined whether a state that has sent armed forces abroad to side with the United States obtained new or additional American foreign aid in comparison with other nonparticipants and the time (in years) until the state began to deploy troops (Kahin, 1986; Freedman and Karsh, 1993; Sarantakes, 1999; Jacoby, 2006; Weitsman, 2006).

> *Hypothesis 1*. If a state joins a coalition of US-led forces by deploying its troops, the United States will start to give/add to the amount of foreign aid to the state as a reward for its coalition participation.

Hypothesis 1 is somewhat reasonable but actually lacks the perspective that the United States is a rational actor and will maximize the effects of foreign aid within certain budget constraints. The United States is smart to propose an aid-for-participation deal specifically with contributors without resources that would send troops only in exchange for aid. Indeed, diplomatic records in the US National Archives in College Park (MD) and the presidential libraries help us generate more sensible hypotheses. For instance, at the end of 1965, McGeorge Bundy, a National Security Advisor of the Johnson administration, asked John T. McNaughton, an Assistant Secretary of Defense for International Security Affairs and Robert McNamara's closest advisor, to submit an 'optimist's view' of where the United States could obtain combat

forces for Vietnam.[3] According to this one-page memo, there were four categories of states. In the first category, Secretary McNaughton listed three states, which already had combat troops in Vietnam. The ROK sent around 20,300 troops with a bilateral agreement of economic and military aid from the United States, whereas Australia and New Zealand sent 1,400 troops and 150 troops, respectively, without substantial aid from the United States.[4] As for Australia, Secretary McNaughton considered that it would be possible to obtain two more battalions (2,000 troops) without 'cumshaw' since it has enough capability and motivation to do so. In contrast, the second category included names of states that could soon deploy troops if the United States placed political pressure and delivered 'cumshaw' (300–500 million dollars): Greece, Republic of China, Philippines, and Thailand.[5] They lacked either material capability or political incentives for intervention. The United States was thus thinking about an aid-for-participation deal to obtain their troops for Vietnam. The third category consisted of states that had the possibility to contribute troops to Vietnam in the longer term and, in some cases, involved 'selling our souls and raising hob in various ways'. Germany, Israel, Spain, Turkey, and the United Kingdom were in this category. However, in these cases, the United States could not afford bigger aid packages, so it failed to reach aid-for-participation deals with those five states. Finally, in the last category, Secretary McNaughton listed nine states, Argentina, Brazil, Canada, Chile, India, Japan, Lebanon, Pakistan, and Peru, 'which had capability for military contributions', but they were omitted for 'obvious reasons'. The 'obvious reasons' varied from state to state. For instance, the Japanese constitution has prohibited any offensive military operation abroad since 1946, whereas the Canadian government simply lacked domestic support to join in the Vietnam War.

The memo reveals how the US government officials formed expectations vis-à-vis the contribution of troops from other states and their assessment of aid-for-participation deals (Table 1). Depending on their material capability and willingness, there are some states from which the United States can expect cooperation in multinational military actions without a substantial subsidy from the United States (Group A: Australia and New Zealand), whereas there are others from which it is impossible to expect a contribution (for instance, Group C: Argentina, Canada, and Japan). Between these two groups are states that can send troops if (and only if) the United States gives foreign aid

3 'Memo, John T. McNaughton to McGeorge Bundy, 12/4/1964, Files of McGeroge Bundy', Box 17, NSF, LBJ Library.

4 Australia and New Zealand obtained a small amount of military aid from the United States until 1966 and 1963, respectively. Neither country received economic aid.

5 Greece and the Republic of China did not send their armed forces to Vietnam.

Table 1 The US view of aid-for-participation deals in the Vietnam War: four groups of states

Group	If states are...	Examples are...	The United States...
A	Capable and strongly motivated for participation	Australia, New Zealand	Expects participation with no aid as a subsidy
B	Less capable and somewhat motivated to participate	Israel, Philippines, South Korea, the United Kingdom	Considers giving some aid to induce participation
C	With 'obvious reasons' that prevents participation	Argentina, Canada, India, Japan	Considers not giving aid and expects no participation at all
D	Not even mentioned in the memo for more obvious reasons	Many other states	Considers not giving aid and expects no participation at all

Source: 'Memo, John T. McNaughton to McGeorge Bundy, 12/4/1964, Files of McGeroge Bundy', Box 17, NSF, LBJ Library.

as a subsidy for troops contribution (for instance, Group B: Greece, Israel, Philippines, ROK, and the United Kingdom). Furthermore, there are many other states (Group D) with no chance of participation that are thus not even mentioned in the memo by Secretary McNaughton.

The United States will react quite differently toward each group of states in Table 1 to maximize the effects of reward and punishment. For the group of states that have both enough material capability and incentive to join the coalition (Group A in Table 1), the United States would not recognize the need to give any reward because those states would make a contribution regardless of the aid. However, if these states failed to send armed forces as expected, the United States would consider punishing them. The lack of a punishment could be a signal to the state (and other states with similar capability and interest) that it could free-ride in US-led multinational efforts in the future. The United States must punish the state which could and should have made a contribution and actually failed to send expected forces to a coalition; such a punishment makes it possible to avoid free-riding in future coalitions and the contagion of noncontributions from states with similar capability and incentive conditions. Punishment is thus more likely to be given for the unexpected defection of states that have both capability and incentive for contributing troops.

> *Hypothesis 2a*. If the United States expects a state to join US-led coalition forces, but the state cannot meet such an expectation, the United States will terminate entirely or a part of the foreign aid to that state as punishment for its nonparticipation in the coalition.

However, it must be noted that the punishment can be given only in one type of aid. Cutting both economic and military aid may be too punitive message

to other states. For instance, it would generate severe anti-American sentiment which the United States would like to avoid. Particularly, economic aid, which includes humanitarian assistance such as emergency food aid, may not be used as a tool of punishment because sudden termination of such an aid would be criticized in a recipient state.

On the other hand, reward would be given to the group of states from which the US government could not expect troops contributions unless aid was given (Group B in Table 1). Economic and military aid can encourage the contribution of troops from a state that lacks enough willingness to support the United States. Furthermore, a state that has the incentive but lacks capability requires military aid to form contingents that are deployable to foreign soil. It would be worth expending funds to obtain the cooperation of states in Group B in Table 1, whereas that would not be the case for Groups C and D in Table 1.

Hypothesis 2b. If a state unexpectedly joins in a US-led coalition of forces, the United States will initiate or increase the amount of foreign aid to the state as a reward for its coalition participation.

4 Research design

The hypotheses are tested in line with an analysis by Bueno de Mesquita and Smith (2007). Their analysis is one of the latest studies and covers the longest temporal domain (from 1945 to 2001) among previous studies. It is thus useful to see if coalition participation/nonparticipation makes a difference in obtaining aid from the United States. Specifically, by using the 'Greenbook' of the US Agency for International Development (USAID, 2006), Bueno de Mesquita and Smith examined whether states with a policy concession are more likely to receive any US economic aid and how much they would receive.[6]

In this study, I primarily follow Bueno de Mesquita and Smith's coding schemes for dependent variables. To study punishment and reward not only in economic aid but also in military assistance, there are four dependent variables: a binary variable of military aid-giving for 1 year (a state with US military aid is coded 1; otherwise 0), a binary variable of economic aid-giving for 1 year (a state with US economic aid is coded 1; otherwise 0), the logarithm of the amount of military aid in 1996 constant US dollars for 1 year, and the logarithm of the amount of economic aid in 1996 constant US dollars for 1 year.

There are three independent variables for testing Hypotheses 1, 2a, and 2b. *Three Years after Actual Participation* is a binary variable to test Hypothesis 1. Tago (2007) lists coalition participants of 15 US-led coalition forces from

6 The OECD/DAC data set does not include military assistance and covers only for ODA (official development assistance)-eligible countries. The 'Greenbook' includes both military and economic aid and covers all countries in the world.

1950 to 1999.[7] I use the data and code years of actual participation in the US-led coalition with a 3-year lag.[8] A 3-year lag is utilized because aid policy may be the result of bureaucratic inertia and changes may not be reflected so promptly.[9]

Three Years after Unexpected Nonparticipation and *Three Years after Unexpected Participation* are dichotomous variables for testing Hypotheses 2a and 2b, respectively. The United States' expectation regarding other states' coalition participation is formed by multiple factors, including other states' capability, geographic closeness to theater zones, regime type, alliance ties with the United States, purpose of the military operation, and United Nations/Regional International Organizations' authorization for using force. Indeed, Tago (2007) analyzed such multiple factors by using panel logit techniques. The study finds that major powers and geographically close states are more likely to join US-led coalitions; democratic and alliance partners of the United States tend to follow the United States, in particular, in interstate wars and if the mission has been authorized by the United Nations. Here, we assume that the United States knows the general pattern of state behaviors regarding coalition participation and forms expectations about who will be in and who will be out. Also, if we assume that Tago's model has modest prediction power about the general pattern of coalition membership, we can use his model to calculate a predicted probability of coalition participation for each state in each operation.[10] Then, we can compare the predicted probability with the actual participation record of each state and obtain the following four cases.

Case 1. The predicted probability for a state-year is larger than the baseline value (and thus a state in year t is more likely to join in a coalition than average), and the state actually contributed (as expected) its armed forces.

Case 2. The predicted probability for a state-year is larger than the baseline but a state failed to participate in a coalition.

Case 3. The predicted probability for a state-year is smaller than the baseline but a state actually contributed the armed forces.

7 A data set is available at http://www2.kobe-u.ac.jp/~tago/CV.html.

8 I also estimated with different lags (up to 5 years) and found no significant difference from the results in the later section.

9 Indeed, a 3-year lag fits to the US budget cycles. For instance, see the following document: 'Paper Prepared by the International Security Affairs Committee (on Foreign Economic and Military Assistance Program for 1953–1954), 10/12/1951', *Foreign Relations of the US 1951*, vol. 1, 412–424.

10 Tago (2007)'s original 13 independent variables are used to calculate a predicted probability. I compute a linear prediction (*xb*) by using the STATA 9.0 and replace it into 1 if *xb* is larger than the baseline value of 0; otherwise it is coded 0. There are 18 unexpected nonparticipation state cases and 169 unexpected participation state cases. A STATA do-file for calculating the predicted probability is uploaded on the author's homepage with replication data set.

Case 4. The predicted probability for a state-year is smaller than the baseline and a state (as expected) did not contribute armed forces to the coalition.

Unexpected nonparticipation corresponds to Case 2, and unexpected participation corresponds to Case 3. I code a value of 1 for 3 years after unexpected participation and nonparticipation respectively for each variable; otherwise 0 is coded.[11]

Besides the key independent variables for hypothesis testing, there are 11 control variables; *Lagged Dependent Variable, War Coalition*, *Domestic Intervention, Alliance Tie*, *UN Voting Affinity Score*, *Coalition Size*, *Selectorate Size*, *Capability Score of State i*, *US GDP (logged)*, *Cold War*, and *OECD*.[12]

First of all, *Lagged Dependent Variable* ($t - 1$) is included to handle the autocorrelation problem. I acknowledge that both pros and cons exist to include such a variable (Keele and Kelly, 2006). However, inclusion and exclusion of the variable do not change the estimation results meaningfully so that I decide to report the outcome with the variable.

War Coalition and *Domestic Intervention* are binary variables to code types of the military actions. The need for coalition partners varies across cases, so is the need for supplying aid. A coalition created for war operations – military action against at least one sovereign state with more than 1,000 battle deaths (this is the usual Correlates of War project definition of interstate war) and a coalition created for domestic interventions – military action that took place inside a country's territory without the consent of its government are more likely to be in shortage of coalition partners since they are much riskier and less legitimate types of use of force. In order to induce troops participation, it is reasonable to consider that the United States systematically changes its foreign aid policy during war/intervention operations. I follow Tago (2007) to specify the types of coalitions and code a value of 1 for years of war coalition and intervention coalition, respectively, for each variable; otherwise 0 is coded.[13]

Alliance Tie is a binary variable to code a defense pact relationship with the United States a year prior to t.[14] Meernik *et al.* (1998) argue that a

11 For instance, using this prediction scheme, we can obtain one expected participant (Australia), no unexpected nonparticipant, four unexpected participants (New Zealand, Philippines, ROK, and Thailand) and many other expected nonparticipants in the Vietnam War.

12 Many of those variables – *War Coalition*, *Domestic Intervention*, *Alliance Tie*, and *Capability Score* – were included in the Tago's article (2007) and obtained a high statistical significance. Given that they had strong effects in the 'first-stage equation' on determinants as to who is in a coalition, it is expected that they can be strong predictors in the 'second-tage equation' on the aid-for-participation deal. It is very difficult to make a causal inference on the variables; however, they must be controlled for in the model to avoid an omitted variable bias problem.

13 In Tago's list, a war coalition was created at the Korean War, Vietnam War, and Persian Gulf War while a coalition for domestic intervention was created at the 1983 Grenada intervention, 1991 Iraq no-fly-zone operation, 1993 Somalia intervention, and 1994 Haiti intervention.

14 The Correlates of War alliance data set (v.3.03) is used (http://cow2.la.psu.edu/datasets.htm).

defense alliance tie with the United States is a key predictor of aid receipt and aid level, respectively. The variable *UN Voting Affinity Score* was created by Gartzke and Jo (2006). Their affinity of nation index measures the cohesion for each country-pair year on UNGA roll-call votes. The index ranges from a low of 0 to a high of 1.[15] It is often argued that US aid is used as an inducement to obtain favorable votes in the UNGA (Wang, 1999; Alesina and Dollar, 2000; Fleck and Kilby, 2006).

Coalition Size and *Selectorate Size* are two variables from Bueno de Mesquita and Smith (2007). They argue that the United States is most likely to give aid to states with small winning coalitions and large selectorates. Bueno de Mesquita *et al.* (2003) provides us with the measures of winning coalitions and selectorate size in the recipient state. Winning-coalition size, *W*, is measured as a composite index based on the variables for regime type from the Cross-National-Time-Series Data (Banks, 2002) and for competitiveness of executive recruitment, openness of executive recruitment, and competitiveness of participation from the Polity IV data set. The index is normalized to take values 0, 0.25, 0.5, 0.75, and 1 (larger numbers indicating that a political leader is beholden to a bigger winning coalition). Bueno de Mesquita *et al.* (2003) also create a measure of selectorate size, *S*, which also bears values between 0 and 1. The measure of selectorate size is recoded as $S \times (1 - W)$ since the effect of selectorate size is more important in small winning-coalition regimes where private goods are the focus of political competition.

Capability Score of State i $(t - 1)$ is a variable for controlling the capability of recipient states. Obviously, if a state has more capability, it is less likely to need US aid (here, I use the Composite Index of National Capability (CINC) data set of the Correlates of War project).[16] *US GDP* (*logged*, $t - 1$) is included to control how much the United States is willing and able to pay for foreign aid. I follow Bueno de Mesquita and Smith (2007) to code a US share of world GDP. *Cold War* $(t - 1)$ is coded as 1 through the year 1989 and 0 after to see if a systematic difference exists during and after the cold war. The same variable is included in Bueno de Mesquita and Smith. Finally, the variable *OECD* $(t - 1)$ is added. Obviously, Organization for Economic Cooperation and Development (OECD) members, in other words, wealthy industrialized states, are less likely to receive economic aid from the United States (so is military aid). Therefore, it is probably better to include the variable to avoid an omitted variable bias in the estimation. In fact, exclusion of this variable significantly reduces the goodness-of-fit scores of regressions in the following section.

15 I code affinity score a year prior to *t*. Similarly, I code $t - 1$ values for other controls as well.

16 For instance, Australia and New Zealand at the Vietnam War did not really need an American aid. To control such capability factors, I included the variable.

To estimate if a state receives any US military and economic aid, I conduct a fixed effects (within-groups) panel logit analysis (Hsiao, 2003).[17] I include splines to control temporal dependence of noneventful binary spells (Beck *et al.*, 1998). I also conduct a fixed-effects panel OLS analysis to see how much aid a state obtains from the United States.

5 Results

Table 2 addresses the question of whether any aid is given to a state. The dependent variable for Models 1 and 2 is military aid, and the dependent variable for Models 3 and 4 is economic aid. Models 1 and 3 show coefficients and standard errors of the estimations for the variable *Three Years after Actual Participation*.[18] Models 2 and 4 show coefficients and standard errors of the estimations for the variables *Three Years after Unexpected Nonparticipation* and *Three Years after Unexpected Participation*.

Table 3 addresses the question of how much aid is given to a state. The dependent variable for Models 5 and 6 is the logged amount of military aid; the dependent variable for Models 7 and 8 is the logged amount of economic aid. Models 5 and 7 show the coefficients and standard errors of the estimations for the variable *Three Years after Actual Participation*. Models 6 and 8 show the coefficients and standard errors of the estimations for the variables *Three Years after Unexpected Nonparticipation* and *Three Years after Unexpected Participation*.

The variable *Three Years after Actual Participation* (Hypothesis 1) fails to bear statistically significant coefficients in all of the four Models (1, 3, 5, and 7). If a state sends its armed forces to a US-led coalition, the United States is *no* more likely to give both military and economic aid. This is a surprising finding because previous case studies have listed episodes of American aid-giving as rewards to coalition participants. This study suggests that these case studies selected a limited number of well-known cases. Now, using a large-N study, it is safe to say that coalition participation does not systematically increase the chance of receiving military and economic aid.

In contrast, the coefficient for the variable *Three Years after Unexpected Nonparticipation* (Hypothesis 2a) shows a high statistical significance in Model 2. The odds ratio of the variable in Model 2 is 0.16; this suggests that a state's unexpected nonparticipation results in an 84% decrease from the average probability of obtaining US military aid in the following 3 years.[19]

17 A Hausman test suggests it is more appropriate to use a fixed-effects analysis.

18 A correlation between *Three Years after Actual Participation* and *Three Years after Unexpected Nonparticipation* is 0.72. It might cause a multicollinearity problem so that the two variables are separately analyzed.

19 For comparison, the odds ratio of the variable *OECD* in the same Model 2 is 0.05 (i.e. the OECD members are 95% less likely to obtain US military aid than the non-OECD countries).

Table 2 Results of panel logit regressions: is aid given?

	Model 1		Model 2		Model 3		Model 4	
	Is aid given? Military assistance		Is aid given? Military assistance		Is aid given? Economic assistance		Is aid given? Economic assistance	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Three years after actual participation	−0.02	0.31		—	0.35	0.31		−
Three years after unexpected non-participation		—	−1.83	0.87**		—	−0.18	0.93
Three years after unexpected participation		—	−0.02	0.26		—	−0.13	0.29
Lagged dependent variable	3.57	0.13***	3.57	0.13***	2.56	0.12***	2.56	0.12***
War coalition	−0.51	0.12***	−0.51	0.12***	−0.20	0.14	−0.18	0.14
Domestic intervention	−0.27	0.19	−0.28	0.18	−0.42	0.20***	−0.40	0.20
Alliance tie	1.30	0.60**	1.31	0.60**	0.68	0.49	0.68	0.49
UN voting affinity score	0.03	0.15	0.04	0.15	0.50	0.17***	0.48	0.17***
Coalition size, W: BDM&Smith	0.72	0.29**	0.71	0.29**	0.34	0.38	0.36	0.38
Selectorate size, $S\times(1-w)$: BDM&Smith	0.40	0.25	0.40	0.25	0.12	0.30	0.12	0.30
Capability score of state *i*	−58.57	28.16**	−63.63	27.30**	−47.59	23.10**	−49.61	23.71**
US GDP (logged)	0.45	0.23**	0.45	0.23**	−0.69	0.28**	−0.69	0.28**
Cold war	0.24	0.20	0.27	0.20	0.57	0.22**	0.62	0.23***
OECD	−2.80	0.49***	−2.80	0.48***	1.53	0.41***	−1.56	0.41***
Spline 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spline 2	0.00	0.00**	0.00	0.00**	0.00	0.00**	0.00	0.00**
Spline 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Observations	4704		4704		3660		3660	
Log-likelihood	−1620.1		−1099.1		−870.1		−870.1	

**$p < 0.05$; ***$p < 0.01$ (two-tailed). STATA 9.0 (xtlogit, fe) is used.

This is a significant loss of chance in receiving military aid from the United States. In contrast, it must be noted that the United States would *not* cut *economic* aid to those states. This is somewhat logical and as expected in previous section of this article. It is probably because the termination of an entire

Table 3 Results of panel OLS regressions: how much given?

	Model 5		Model 6		Model 7		Model 8	
	How much given? Military assistance		How much given? Military assistance		How much given? Economic assistance		How much given? Economic assistance	
	Coef.	Robust Std. Err.	Coef.	Robust Std. Err.	Coef.	Robust Std. Err.	Coef.	Robust Std. Err.
Three years after actual participation	0.02	0.15		—	0.14	0.17		—
Three years after unexpected non-participation		—	−0.46	0.31		—	0.00	0.59
Three years after unexpected participation		—	−0.03	0.14		—	−0.18	0.15
Lagged dependent variable	0.77	0.01***	0.77	0.01***	0.63	0.02***	0.63	0.02***
War coalition	−0.24	0.08***	−0.24	0.08***	−0.25	0.08***	−0.24	0.08***
Domestic intervention	−0.08	0.12	−0.08	0.12	−0.10	0.13	−0.09	0.12
Alliance tie	0.33	0.42	0.33	0.41	−0.04	0.37	−0.05	0.37
UN voting affinity score	0.06	0.10	0.06	0.10	0.21	0.12	0.21	0.12
Coalition size, W: BDM&Smith	0.41	0.21	0.40	0.21	0.24	0.20	0.25	0.20
Selectorate size, $S\times(1-w)$: BDM&Smith	0.39	0.17**	0.39	0.17**	0.08	0.18	0.08	0.18
Capability score of state *i*	−21.38	8.20***	−22.80	8.18***	43.86	13.82***	−44.40	13.30***
US GDP (logged)	0.09	0.15	0.09	0.15	−0.32	0.17	−0.31	0.17
Cold war	0.09	0.11	0.11	0.12	0.40	0.12***	0.44	0.12***
OECD	−1.39	0.22***	−1.39	0.22***	−0.86	0.25***	−0.87	0.25***
Constant	−0.39	2.34	−0.33	2.35	7.92	2.56***	7.82	2.56***
Observations	5416		5416		3606		3606	
R^2	0.78		0.78		0.75		0.75	

**$p < 0.05$; ***$p < 0.01$ (two-tailed). STATA 9.0 (xtreg, fe) is used.

economic aid package might convey a too strong message to defector states and generate anti-American sentiment. Economic aid may not be used as a tool for punishing lack of cooperation in security affairs. Also, the United States is no less/more likely to punish the unexpected lack of contribution by reducing the amount of economic aid.

Finally, the variable *Three Years after Unexpected Participation* (Hypothesis 2b) fails to bear a statistical significance in all of the four models. Unexpected participation does not systematically increase the amount of and the overall chance of receiving both types of aid. This result indeed suggests that previous case studies arguing that coalition participation leads to more US aid are biased and their argument cannot be generalized. Reward through military and economic aid may not be so common since the United States can use other policy approaches to pay back unexpected participation (for instance, the United States may lift trade sanctions in exchange for unexpected troops contribution). This can be a reason why we fail to find statistical evidence of reward by military and economic aid for coalition participation.

Here, a descriptive illustration of the United States' attitude toward participants/nonparticipants in the Korean War better elaborates the statistical findings. For instance, the United States did not reward Thailand for its contribution of troops; rather, the State Department was eager to collect the cost for equipment, services, and supplies furnished by the US government to Thai contingents in Korea. William Turner, Charge d'affaires of the US Embassy in Bangkok, reported to the State Department that the prime minister of Thailand wanted the United States to assume the costs of the military operation in Korea.[20] However, Turner denied it and said, 'The U.S. Congress and American people were certainly not disposed to accept any such burden; the American people were carrying an extremely heavy load of taxation, and we felt that other countries should assume their proper share of the burden, particularly countries like Thailand, which were financially sound and easily able to carry such burdens'. This episode tells us that the United States is not the generous leader that previous case studies have illustrated. The US government strongly pressured small, developing states such as Thailand for their contribution.

On the other hand, India was an unexpected nonparticipant in the Korean War coalition. As predicted, it did not receive any military aid, but obtained very limited economic aid during the war. According to a diplomatic document, the State Department pressured the government of India to send ground troops to the Korean peninsula.[21] India, which did not meet with the United States' expectation, was in need of emergency food grain due to droughts and an earthquake. At the request of the New Delhi government, the State Department considered the possibility of economic aid to India, but it encountered opposition from the executive and legislative branches of the US government because India had not cooperated in the US-led coalition

20 'Memorandum of Conversation, by the Charge d'affaires of US Embassy in Thailand (Turner), 28/12/1951', *Foreign Relations of the US 1951*, vol. 6, 1648–1649.

21 'The Secretary of State to the Embassy in Pakistan, 11/5/1951', *Foreign Relations of the US 1951*, vol. 6, 2203–2204.

forces in Korea.[22] For instance, Representative Carroll Reece (Republican, Tennessee) said, during committee hearings, that India must stand for friendship with the United States instead of cooperation with aggressors and claimed that the United States should not provide aid unless India would help the UN forces in Korea (Gary, 1951, p. 59). The State Department had to persuade Congress by pointing out that a democratic India might not be maintained if the United States did not provide economic aid and that the failure to furnish food grain would cause catastrophic damage to India's image on the United States. It was not until after 1957 that the amount of economic aid started to increase; by then, US economic aid to India was limited to the very least (US military aid to India was started from 1961 and lasted over decades with some years of cessation).

Moreover, some interesting findings about the control variables exist across the eight Models in Tables 2 and 3. First of all, *Capability Score of State i* has a strong impact in the models. For instance, one standard deviation decrease (0.017) in the capability score would result in about 12% higher probability of obtaining military aid. The same change would lead to roughly 9% higher probability of obtaining economic aid. Also, it would result in the reduction of around 9 and 11% of the amount of military and economic aid, respectively. Material capability of each country largely determines where and how much aid is provided. Similarly, the capability related variables such as OECD and US GDP hold statistically significant effects in the models. The OECD countries are considerably less likely to obtain both types of aid. A higher US GDP increases the number of states that could obtain its military aid but (surprisingly) reduces the number of states that could obtain its economic aid; the factor has no systematic effect on the amount of both types of aid.

The variables *War Coalition* and *Domestic Intervention* show a contrasting result. The former variable bears a statistically significant negative effect in Models 1, 2, 5, and 6 (military aid equation), whereas the latter has a significant negative effect in Models 3 and 7 (economic aid equation). The United States is not a generous aid-giver when it is leading a war coalition and a coalition for domestic intervention. Furthermore, alliance with the United States increases the chance of receiving both military and economic aid. This basically confirms the analysis of Meernik *et al.* (1998). They found evidence of a loose connection between alliance ties and receipt of US foreign aid, but failed to find a connection about the level of aid. A high UNGA voting affinity score, on the other hand, is related to a higher chance of obtaining economic aid. The odds ratio for the variable is around 1.03, which suggests that an increase in the affinity score from -0.4 to 0.5 leads to a 3% higher chance

22 'The Ambassador in India (Henderson) to the Secretary of State, 28/1/1951', *Foreign Relations of the US 1951*, vol. 6, 2092–2093.

of obtaining economic aid from the United States. This confirms the finding of previous studies that the United States has successfully utilized foreign aid programs to induce foreign policy compliance in UNGA voting.

Finally, Bueno de Mesquita and Smith's argument that there is a relationship between *economic* aid and winning coalition/selectorate size is not clearly supported. There is some statistical significance for the variables in Models 1, 2, 5, and 6. As the size of a winning coalition increases, it becomes more likely that a state will obtain military aid from the United States and that the amount of military aid will increase. This is puzzling since the results are considerably different from what Bueno de Mesquita and Smith found. They found that the United States is most likely to give economic aid to states with small winning coalitions and large selectorates, which my analysis could not confirm. A reason of this puzzling difference might be the inclusion of the variables *UN Voting Affinity Score* and *OECD*, which were not included in Bueno de Mesquita and Smith's study. The inclusion of coalition-participation-related variables (this study's original key independent variables) might have caused multicollinearity and thus the statistical significance of the winning coalition/selectorate size variables was dropped. However, for instance, the correlation between the variables *OECD* and *Coalition Size* and the variables *OECD* and *Selectorate Size* is 0.48 and −0.39, respectively. This is *not* high enough to cause multicollinearity. So far, without being able to identify why the statistically significant relationship between economic aid and winning-coalition/selectorate size in Bueno de Mesquita and Smith's study has partially disappeared in this analysis, I would like to point out that Bueno de Mesquita and Smith's analyses are not as robust as they claim. It is probably safe to withhold final judgment on this variable and leave this puzzle for the future.

6 Conclusion

This study reveals that foreign aid is used to prevent free-riding in coalition participation. In forming a coalition, the United States, a coalition leader, may predict who will be in and who will be out. If a state is expected to contribute troops to a coalition but fails to do so, the United States could impose punishment by not providing any military aid or by reducing the amount of military aid. This is because lack of punishment may encourage free-riding in the future coalitions. In contrast, rewarding foreign aid is not really a general phenomenon. Even if a state deploys its armed forces for a coalition operation, the US may not change its aid policy to reward the state. The Thai government misunderstood this and hoped for a subsidy from the United States during the Korean War (rather, it was Thai government that had to pay the costs of equipment and supplies to the United States). Many case studies that

feature the Vietnam War, Gulf War, and Iraq War participants who have obtained some military and economic aid from the United States in exchange for the contribution of troops have been overemphasized. Our understanding that the United States always buys troops with the provision of military and economic aid must be corrected; such cases are limited to some occasions. The United States is not such a generous coalition leader that it pays a subsidy for every single contribution of troops.

This analysis suggests several avenues for future research. First, can the overall results of the study be supported when the scope of the dataset is expanded? The United States is not the only coalition leader. Other major powers may have been using foreign aid as a tool of punishment and reward for coalition participation/nonparticipation. Further empirical testing is needed. Second, can we test hypotheses by using a different variable for punishment and reward? Aid is one of many ways to impose punishment and give a reward. A coalition leader can provide whatever a contributor lacks in exchange for troops. A leader's policy concession, such as giving a favorable tariff rate or lifting sanctions, would induce deployment of forces by other states. Punishment could be imposed by not supporting a crucial agenda for a state in international conferences. A natural theoretical extension of this study would be an examination of different tools of reward and punishment. Finally, is multilateral aid used for punishment and reward? This study focusses on US bilateral aid, but some case studies suggest that the United States created incentives for the contribution of troops by assuring multilateral aid from the World Bank. Multilateral aid, which is usually considered to be more neutral, may be utilized by a coalition leader. An expanded dataset is needed to answer this question as well.

Acknowledgements

I thank Ben Fordham, Erik Gartzke, Daigo Ikuta, Atsushi Ishida, Ken Masujima, Tosh Minohara, Kengo Soga, Philip Streich, and Risa Torii for their comments. I am grateful to the editors and two anonymous reviewers of IRAP whose careful readings have greatly improved this article. Obviously, any mistakes in the article are mine. The STATA data files used in this article can be obtained at http://www2.kobe-u.ac.jp/~tago/cv.html.

Funding

This work was supported by KAKENHI (20730117).

References

Alesina, A. and Dollar, D. (2000) 'Who gives foreign aid to whom and why?', *Journal of Economic Growth*, 5(1), 33–63.

Banks, A. (2002) *Cross-National Time Series Data Archive*; available at http://www.databanksinternational.com

Beck, N., Katz, J.N. and Tucker, R. (1998) 'Taking time seriously in binary time-series cross-section analysis', *American Journal of Political Science*, 42(4), 1260–1288.

Bueno de Mesquita, B., Smith, A., Siverson, R.M. and Morrow, J.D. (2003) *The Logic of Political Survival*. Cambridge, MA: MIT Press.

Bueno de Mesquita, B. and Smith, A. (2007) 'Foreign aid and policy concessions', *Journal of Conflict Resolution*, 51(2), 251–284.

DeRouen, K. and Heo, U. (2004) 'Reward, punishment or inducement?: US economic and military aid, 1946–1996', *Defence and Peace Economics*, 15(5), 453–470.

Fleck, R.K. and Kilby, C. (2006) 'How do political changes influence US bilateral aid allocations? Evidence from panel data', *Review of Development Economics*, 10(2), 210–223.

Freedman, L. and Karsh, E. (1993) *The Gulf Conflict 1990–1991: Diplomacy and War in the New World Order*. Princeton, NJ: Princeton University Press.

Gartzke, E. and Jo, D.-J. (2006) *The Affinity of Nations Index, 1946–2002*. Version 4. New York, NY: Columbia University.

Gary, H.G. (1951) 'The question of grain for India', *Far Eastern Survey*, 21, 57–60.

Hsiao, C. (2003) *Analysis of Panel Data*, 2nd edn. Cambridge: Cambridge University Press.

Jacoby, W. (2006) 'Is the New Europe a good substitute for the old one?', *International Studies Review*, 8(1), 178–197.

Kahin, G.McT. (1986) *Intervention: How America Became Involved in Vietnam*. New York: Knopf.

Keele, L. and Kelly, N.J. (2006) 'Dynamic models for dynamic theories: the ins and outs of lagged dependent variables', *Political Methodology*, 14(2), 186–205.

Ku, C. and Jacobson, H.K. (2003) *Democratic Accountability and the Use of Force in International Law*. Cambridge: Cambridge University Press.

Meernik, J., Krueger, E.L. and Poe, S.C. (1998) 'Testing models of U.S. foreign policy: foreign aid during and after the cold war', *Journal of Politics*, 60(1), 63–85.

Newnham, R. (2008) 'Coalition of the bribed and bullied?' U.S. economic linkage and the Iraq war coalition', *International Studies Perspectives*, 9, 183–200.

Park, K. (2003) 'The Vietnam War and the 'Miracle of East Asia', *Inter-Asia Cultural Studies*, 4(3), 372–398.

Sarantakes, N.E. (1999) 'In the service of Pharaoh?: The US and the deployment of Korean Troops in Vietnam 1965–1968', *Pacific Historical Review*, 68(3), 425–449.

Tago, A. (2007) 'Why do states join US-led Military Coalitions?: The compulsion of the coalition's missions and legitimacy', *International Relations of the Asia-Pacific*, 7(2), 179–202.

USAID. (2006) *US Overseas Loans and Grants, Obligations and Loan Authorizations July 1, 1945 – September 30, 2006*; available at http://www.qesdb.cdie.org/gbk/index.html.

Wang, T.Y. (1999) 'U.S. foreign aid and UN voting: an analysis of important issues', *International Studies Quarterly*, 43(1), 199–210.

Weitsman, P. (2006) 'The high price for friendship', *New York Times*, August 31.