Burden-Sharing in the Funding of the UNHCR: Refugee Protection as an Impure Public Good

Word Count: 9,294

Abstract:

We apply the theory of collective action and alliance behavior first developed by Olson and Zeckhauser (1966) and later extended by Sandler in a series of studies to test whether the nature of refugee protection influences state motivations to provide contributions. We investigate whether refugee protection can be viewed as a pure public good with the concomitant problem of free riding leading to sub-optimal outcomes, or whether contributions provide states private benefits which transform the nature of the good. Using a Heckman selection model, we test for the determinants of state contributions to the UNHCR and find that refugee protection offers several private benefits indicating that it can best be understood as an impure public good. We conclude, however, that even when states are able to secure these private benefits, it does not necessarily lead to the optimal provision of refugee protection.

In his first formal address, United Nations High Commissioner for Refugees (UNHCR) António Guterres expressed gratitude to donor governments and stressed the need for greater burden-sharing in order to finance the organization's expanding mandate: "The same gratitude is due to the limited number of major donors who have been carrying the bulk of our funding burden. We will do our best to progressively enlarge our funding base with new relevant country donors . . . .That, of course, is and will not be immediately enough to avoid the appeals I have made to our major donors to explore ways of making additional contributions" (Guterres 2005). For all international organizations, financing is a concern which influences their mandate as well as relationship with member-states. However within the international organizations literature, the issue of funding has been a peripheral concern as much of the focus has been on the factors leading to the creation of organizations and whether international organizations are autonomous actors which influence the behavior of states. As a consequence, Väyrynen argues that the issue of funding "has received scant attention in research, even though it is a critical aspect of . . . performance" (2001, 163).

The lack of research on the financing of international organizations is somewhat surprising given that budgetary issues have figured so prominently in discussions concerning reforms at the United Nations (UN) as well as the activities of the newly formed International Criminal Court. Indeed, financing is central to the debate as to whether these organizations are simply a tool of states or autonomous actors. For international organizations such as the UNHCR, the issue of funding is even more critical as 98% of its budget comes from voluntary contributions (the rest from the UN). While the UNHCR receives private and non-governmental funding, the overwhelming majority of its budget comes from donor governments.

The funding of the UNHCR is an important issue as over time, the mandate and the regional breadth of the organization has significantly increased (Barnett 2001; Loescher 2001). While the initial focus of the UNHCR was to protect refugees fleeing communist states and assist in the re-location efforts to the West, de-colonization starting in the late 1950s, and especially in the 1960s, significantly expanded the regional focus of the organization (as well as the type of refugee of concern). More recently, there has been a heated debate within the organization as to the level of assistance it should render to internally displaced persons (IDPs). Budgeting for refugee protection is a particularly difficult task as outbreaks of civil and international war can lead to unpredictable and significant population movements. For all these reasons, securing donor government funding has been a major UNHCR concern.

In this article, we examine why some states provide contributions to the UNHCR while other states do not and assess which factors explain state behavior in the funding of the organization. We apply the theory of collective action first developed by Olson (1965) to account for interest group behavior and later extended to international organizations by Olson and Zeckhauser (1966) to test whether the nature of refugee protection influences state motivations to provide contributions. As Russett and Sullivan argue, the theory of collective action "is made to order for the student who wants to know why *nation-states* behave as they do" (1971, 846). We identify the costs and the benefits to states that chose to provide financial contributions to the UNHCR in an effort to determine why states contribute as well as the level of state contribution. We investigate whether refugee protection can be viewed as a pure public good with the concomitant free riding problems identified by Olson, or whether contributions provide states private benefits which transform the nature of refugee protection into an impure public good. We find that refugee protection offers several private benefits which transforms the calculations

made by states in the provision of refugee protection. Thus while there is a significant measure of free riding behavior among many states, the private benefits offered by refugee protection changes the contribution calculation which alters the nature of refugee protection from a pure public to an impure public good.

The Theory of Collective Action in International Relations: Understanding State Motivations beyond Pure Public Goods

Olson's (1965) theory of groups defines the characteristics of a public good as non-rivalrous and non-excludable. The consumption of the good by one individual does not reduce the amount of the good available to others, and no one can be excluded from consuming the good. Based on the rational behavior of individuals, Olson concludes that the provision of a public good will likely be assumed by those members of the group who are best able to provide the good. Other members will tend to free ride and benefit from access to the good without contributing to its provision. While initially developed to account for interest group formation and success, the theory of collective action within the international relations literature has been primarily used to understand the contributions made by states in the provision of defense (with most of the focus on member-state behavior within the North Atlantic Treaty Organization or NATO). Olson and Zeckhauser (1966) were the first to argue that defense within NATO exhibits the characteristics of a pure public good. They focus on the share of gross national product that states allocate to defense to develop a measure of burden-sharing among alliance members. They conclude that economic size was the primary factor explaining the contribution patterns of states. In accordance with collective action predictions, they found that members with larger economies in the alliance (particularly the US) were contributing a disproportionate amount to provide for this good. Smaller states were free riding on the defense offered by wealthier states. This so-

called "exploitation hypothesis" concerning the behavior of smaller states was an indication that defense provision was a pure public good.

Later research on NATO defense spending challenged these findings. Sandler and his colleagues in a series of studies (Sandler and Forbes 1980; Murdoch and Sandler 1982; Sandler and Hartley 2001) argue that the nature of defense within the NATO alliance has changed from a pure public good to an impure public good or "joint product model" which includes a mixture of public and private (state-specific) benefits. Sandler and Forbes (1980) calculate the private benefits accrued to NATO member-states through a composite measure (including the member's share of NATO population as well as exposed borders). They conclude that as the alliance changed its mission from deterrence to a strategy of flexible response in the late 1960s, European allies were forced to engage in greater burden-sharing which transformed defense from a pure public good and served to decrease free riding behavior. Oneal (1990a and 1990b) disputes this finding and argues that Greece, Turkey and Portugal were "exceptional cases" affecting the relationship between defense burden and economic size since they were pursuing private benefits from their military expenditures. With the exclusion of these three countries from analysis, he finds a pattern of state behavior that closely resembles Olson and Zeckhauser's earlier research.

In an effort to expand the use of collective action theory to public goods other than defense, Kwon (1998) studies the contributions of states to the UN and the Organization for Economic Cooperation and Development Official Development Assistance Program (ODA). He identifies domestic and systemic variables which influence state behavior and the nature of ODA contribution levels. He argues that contributions to the UN and to the ODA exhibit patterns similar to those of NATO described by Sandler and his colleagues. He concludes that the lower burden-sharing by larger, wealthier states is due to changes in the international system. More

recently Shimizu and Sandler (2002) apply collective action theory to an analysis of state contributions to peacekeeping efforts. They find that peacekeeping burdens are much more correlated with the size of donor economies since the end of the Cold War. They argue that new security threats in the post-Cold War era are influencing wealthier states to engage in greater burden-sharing lending new support to the exploitation hypothesis.

Much of the previous research has focused on organizations which have defined member contribution levels (generally as a function of negotiated assessments). However as previously noted, UNHCR funding is not calculated by a pre-determined formula negotiated among states but based almost exclusively on voluntary contributions. Olson (1971) points out that international cooperation can occur through independent contributions where states agree to cooperate for some specified purpose and then individually determine the extent of cooperation. However, the voluntary nature of UNHCR funding combined with the unpredictability of refugee movements places enormous strains on the organization. Olson (1971, 869) summarizes the problem for an agency such as the UNHCR when he asks whether "an organization supported through independent contributions [can] provide an optimal supply of the collective goods for which it is expected to be responsible?"

While the nature of the good can influence state behavior, it is important to keep in mind that the characteristics of the organization also affect state behavior. International organizations which provide more private benefits to members should be able to increase contribution levels as burden-sharing becomes more equal, and thus states should engage in less free riding behavior. If there are few private benefits that the organization can provide, then states will be reluctant to burden-share leading to sub-optimal outcomes. To be able to determine whether the UNHCR

provides such benefits requires an understanding of its history and mandate, and we provide a cursory examination of these issues below.

The Mandate and the Funding of the UNHCR

Given recent refugee population movements in lesser-developed countries (LDCs), it is often forgotten that the early work of the UNHCR was in primarily developed, Western states. However as low-cost, small weapons became widely available in LDCs by the late 1960s, refugee policy became intertwined with conflict and post-conflict recovery. Patrick argues that the post-conflict environment and concomitant refugee crises confronted "donors . . . [with] what game theorists term a 'dilemma of common interest': they may be tempted to enjoy the diffuse gains of stability and growth while letting others shoulder the burdens of peace building" (2000, 41). Refugee crises since the 1960s have altered the nature of the UNHCR from an apolitical, coordination agency to an operational organization charged with assisting states in eliminating refugee problems (Barnett 2001).

These changes have affected the refugees of concern to the UNHCR as well as its budgetary needs. For example in the early 1950s, the UNHCR's refugees of concerned totaled no more than 1 million with an operating budget of approximately $300,000. By the first year of our study (1995), the number of UNHCR "refugees of concern" was over 15 million with a budget of approximately $550 million (Cunliffe 1995). By the mid-2000s, the UNHCR's budget surpassed $1 billion. While Hveem (2002) presents data which show that by the mid-1990s, more than half of all global aid was channeled through multilateral agencies, with the UNHCR one of the largest recipients, Loescher argues that "[o]ne of the UNHCR's most significant weaknesses is its dependence on *voluntary* contributions to carry our existing and new programs. The flow of

assistance from donor governments is neither reliable nor always in the most appropriate form" (1994, 367-368).

As a consequence, one of the costs to an organization in which burden-sharing might be concentrated among a small group of states is the perception that donor finance leads to state-capture. In the case of the UNHCR, "some have also discounted the UNHCR as a mere policy tool of the United States, its major donor state" (Hartigan 1992, 711).[1] In essence, those states that provide the public good allow the free riding behavior of other states in order to dominate the policy-making of the organization (a private benefit). Whether this characterization of UNHCR policy-making is accurate requires an understanding of state behavior, refugee protection as a pure public good and the possible private benefits. The next section lays out the logic of our research design to test whether refugee protection is a pure public good or joint product and assess state motivations to contributing to the UNHCR.

Research Design and Data

We cannot directly test if refugee protection is a pure or an impure public good (joint product model); however, we can test how state commitments to the financing of the UNHCR reflect states' views of the good. We use cross-sectional time series data to test two models concerning the nature of refugee protection. Model 1 includes variables that are used as indicators of refugee protection as a pure public good while Model 2 includes additional private benefits (a joint product model). If refugee protection is a pure public good, then we anticipate the additional private benefits variables in model 2 to be insignificant. However if refugee protection also includes significant excludable private benefit variables, then the nature of the good has been transformed into an impure public good.

We examine the contributions provided by all UN member-states to the UNHCR during the period from 1995-2005. Most of the literature on alliance theory and public goods has focused on the *amount* of the contribution to the organization. Thus, many studies tend to model the provision of the public good as a static, one-shot game. However, the first decision point in the allocation of assistance (no matter its form) is the decision *whether or not* to provide a contribution. Indeed, Sandler and Hartley suggest that a first step in providing a dynamic element to the economic theory of alliances is to devise a two-stage game in which the "first stage can involve the alliance membership decision, while the second stage can concern the level of . . . spending" (2001, 887). Following this logic, we conceptualize UNHCR funding as a two stage process: The first stage involves the decision whether to provide a contribution, and the second stage requires the donor state to determine the contribution amount (for both model 1 and 2).

We use a Heckman selection model to evaluate the interdependency of the decision to provide a contribution (stage 1) and the amount (stage 2). When the estimation errors in the first and the second stage are correlated, the Heckman procedure becomes the model of choice. If ρ is significantly different than 0, a Heckman model is the only efficient and unbiased estimator in light of our theoretical model. We use a likelihood ratio and Wald test to examine whether ρ differs from 0. In the first stage, the probit selection equation is produced through maximum likelihood estimation. The predicted probabilities from the first stage estimation are saved and transformed into the reciprocal of the Mills ratio, known as the non-selection hazard rate or lambda. In the second stage, which is estimated by OLS regression, the hazard rate is included as an independent variable. The hazard rate summarizes the selectivity effect and addresses the probability of any country being selected into the second stage sample (Reed 2000). The Heckman technique provides consistent estimates for the second stage outcome equation by

normalizing the mean of the errors to zero. This corrects for the influence of the selection stage on the amount stage, and it addresses the threat to statistical inference that might occur if we assumed that the two stages were independent when in fact they are linked.

Dependent Variables

In the first stage of model 1 (pure public) and model 2 (joint product model), a dummy dependent variable is created which measures whether a state contributed to the UNHCR during the calendar year. This variable measures whether a donor provided a contribution to the UNHCR irrespective of the amount of the assistance.[2] For the second stage test of each model, the dependent variable is the logged amount of the donor's real dollar contribution.[3] Contribution amounts for the years 1995-2001 were calculated based on reports provided by the UNHCR to the UN General Assembly while amounts for the years 2002-2005 were obtained from the UNHCR's *Global Reports*.[4]

Pure Public Good Independent Variables:

One of the difficulties when selecting independent variables which measure pure public and private goods in the funding of international organizations is the relative lack of conceptualization of the costs and the benefits involving financing. The Olson and Zeckhauser (1966) model, and much of the research since, involves a limited number of public good variables, applied almost exclusively to military alliances. Moreover as Addison, McGillivray and Odedokun (2004) note, relatively few studies have explored multilateral aid agencies. We include independent variables associated with refugee protection as a pure public good based on the exploitation hypothesis developed by Olson and Zeckhauser (1966). To test for the pure "publicness" of refugee protection, we chose variables based on Olson's (1965) argument that actors with greater endowments will bear a disproportionate burden in providing the collective

good. Within the literature on the economics of alliances, the most common, if not exclusive, endowment variable has been the size of the member's economy. Since Olson and Zeckhauser (1966), virtually all studies have conceptualized the testing of publicness in this manner. Therefore, a GDP variable was included to determine if financing the UNHCR is a function of the size of the donor's economy. The GDP variable is created by using World Bank data from 1995-2005 in which GDP is reported in real dollars. Since there is considerable variation in GDP which creates a skewed distribution, we log the variable.

If refugee protection is a pure public good, then the contribution made by a state is a substitute for the contribution made by other states due to the nonexcludability of the benefits. In this case, each state's contribution decision is dependent on the amount contributed by others.[5] Sandler (1993) terms this contribution by others as a "spill-in." The logic of a spill-in is that as alliance members provide an increasing amount for the public good, then individual members have a greater incentive to free ride. Sandler argues in terms of defense spending that "free riding may result if there is little need for poorer allies to provide military expenditures in excess of spillins. Consequently, unequal burden sharing based on national income levels is expected" (1993, 451-452). Spill-in calculations imply that alliance members have information as to the contribution amounts of others. Given the difficulty of determining member contributions during current budgetary processes, we argue that spill-in is a retrospective calculation based upon members' prior contributions. Since the total amounts given in the past fiscal year are widely reported within the UNHCR in order to solicit more funding, we define spill-in as the total contribution amount of other states in the previous year minus the member state's contribution in the current year.[6] The larger the contribution of other state's in the previous year should *ceteris paribus* lead to a reduced member contribution in the current year due to the spill-in.

A third variable for the pure public good aspect of refugee protection is the democratic record of the state. Research in international relations theory has identified evaluative or prescriptive norms as a powerful influence on state behavior. Finnemore and Sikkink argue that "because norms by definition embody a quality of 'oughtness' and shared moral assessment, norms prompt justifications for action" (1998, 892). We conceptualize "oughtness" as a responsibility that not only provides socially acceptable justifications for actions but also requires action on the part of the state. For example, Murdoch and Sandler (1997) argue that different types of regime (so-called "tastes") have an influence on the provision of public goods. They find that autocratic states are less likely to support environmental protocols as these types of regimes are less interested in the long-term global consequences to ozone depletion.

Given that the mission of the UNHCR is to protect the human rights of refugees against forced repatriation and increasingly assist IDPs, we hypothesize that those states which are more democratic are more likely to bear a greater burden to contribute to the UNHCR in order to promote the rule of law in relation to refugee protection. As Barnett argues, "because domestic order is best secured through democratic practices, the rule of law at home provides for the foundation of the rule of law abroad . . . [d]emocracy is increasingly treated as a principle of international order" (2001, 249). Indeed Suhrke argues that in refugee protection, "the logic of burden-sharing starts from the premise that helping refugees is a jointly held moral duty and obligation under international law" (1998, 398). Similar to other studies which measure democratization and good governance, we use Freedom House rankings to operationalize democratic practices for the period 1995-2005. Freedom House reports the level of democracy in a state based on a political rights and a civil liberties category. The measures range from one (free) to seven (not free). We collapsed the political rights and the civil liberties category into

one measure. We test whether donors with lower scores (more free) are more likely to provide a contribution to the UNHCR (as well as provide a larger contribution).

Private Benefit Independent Variables:

We identify private benefit independent variables by whether refugee protection is either partially rival among the contributors or else partially excludable by the providing state. Partial rivalry occurs when the benefits available to other users of a good declines as the number of users or the extent of use increases whereas excludable benefits are not shared equally among contributors (or for that matter non-contributors). Our joint product model includes the public good variables as well as private benefits associated with refugee protection. As Sandler argues, "some public goods provide more than one type of benefit that can differ in terms of their non-rivalry and non-excludability" (1997, 45). Thus, if refugee protection exhibits a joint product model which includes pure public good outputs and private benefit outputs, then refugee protection "needs to be placed somewhere within a range of goods between purely public and purely private benefits" (Betts 2003, 277).

We begin our discussion of the private benefit variables with a variable which measures the number of refugees within the state. Numerous case studies have reported that states with growing refugee populations turn to the UNHCR in order to provide logistical and technical expertise. For example, Hartigan (1992) notes that Mexican and Honduran officials looked to the UNHCR to assist with refugee populations in the 1980s and serve as an international fundraiser for their refugee populations. Because of the UNHCR's technical expertise and relationship with non-governmental organizations (NGOs), states with refugee populations use contributions to the UNHCR to further their own needs. While countries such as Chad or the Democratic Republic of Congo do not have resources to place at the disposal of the UNHCR *vis-à-vis* their refugee

populations, many other states use the organization as a conduit for financing refugee camps and eventual repatriation. The refugee variable was constructed based on data drawn from the *UNHCR Statistical Yearbook* as well as reports of the High Commissioner to the UN General Assembly. This variable is the number of refugees within the state which are "of concern to the UNHCR." Because of the considerable variance among states in the number of refugees, the variable is logged.[7] We hypothesize that those states with larger refugee populations are more likely to contribute and to provide a larger amount of financing to the UNHCR.[8]

A related second variable concerns the number of refugees at the state's border. We argue that states with larger refugee populations at their border are more likely to contribute in order to avert significant refugee migration into their state. As Betts notes (2003), state-specific security benefits assist in explaining UNHCR contributor motivations. In an exhaustive study on the financing of humanitarian activities, Smillie and Minear argue that "humanitarianism is located within competing and sometimes inconsistent domestic and foreign policy priorities . . . disproportionate spending is likely to flow to emergencies that are closer to donor countries than those that are farther away" (2003, 7). More specifically in the case of the UNHCR, Thielemann and Dewan argue that "we can also expect relatively more benefits from refugee protection measures accruing to countries closer to a refugee-generating conflict" (2006, 359). In constructing this variable, we sum all the refugees that border a state.[9] Data on the number of border refugees was collected from the *CIA World Factbook*.

One means by which states can exclude others from the benefit of refugee protection is through earmarking contributions. Each year, the UNHCR's annual program budget highlights the strategic priorities of the organization, and an annual pledging conference is convened at which donors commit to fund activities. When contributing to the UNHCR's budget, states can

specify where and how their contributions are used. So-called "tight" earmarking involves specifying specific states and activities while "light" earmarking specifies a geographic region (Loescher, Betts and Milner 2008). Earmarking is a common practice of donor states, and in the last two years of this study (2004-2005), only 20% of contributions were unrestricted with over 50% being tightly earmarked. Betts (2003) argues that UNHCR earmarking among European Union (EU) member states reflects the security concerns as well as historical linkages between states which ultimately transforms the contribution into a private benefit. We include a variable for the percentage of earmarked contribution. Because the UNHCR does not report tight and light earmarking consistently for the time period under investigation, our variable is a composite of all forms of earmarking for the period 1999-2005.

Throughout its existence, the UNHCR has relied on NGOs for operations. Indeed, Ferris (2003) argues that the UNHCR was never intended to be an operational organization but rather work with and through NGOs. As a consequence, much of the UNHCR's budget is channeled through NGO operational partners. In any given year, a third of the UNHCR's budget is allocated to NGOs. Given the budgetary and operational importance of NGOs to the UNHCR, it has since the 1980s held annual formal consultation meetings with NGOs. These consultations are structured into regional and thematic panels in which operational and funding issues are addressed. For example at the 2005 consultation, 183 NGOs were represented, and all NGOs are identified in the consultation program with a country of origin.

Not surprisingly, many donor states "insist of the use of their nationals in humanitarian programs, or will be more generous if their nationals are placed in key positions" (Smillie and Minear 2003, 11). In terms of the UNHCR, Ferris (2003) notes that many donor governments fund programs on condition of an expatriate presence. Contribution conditionality provides the

state a private benefit not only because of the requirement to use donor NGOs, but also "because of the visibility that their work [donor NGOs] commands on the home front" (Smillie and Minear 2003, 11). We include an NGO variable which calculates the number of donor NGOs which were present at the annual consultation.[10] We hypothesize that a larger number of consulted donor NGOs leads a state to provide to a larger contribution. Thus, refugee protection at the operational level through a donor NGO provides a private benefit to the state.[11]

Control Variables: *Repeated Nature of the Game*

As previously mentioned, the choice to contribute to the UNHCR as well as the amount is not a static, one-shot game. Contribution and amount decisions have to be made every year, turning the decision into an infinitely repeated game. The repeated nature of the choice makes observations that occur in different periods interdependent. Therefore, we have included control variables for temporal dependence in both the first and the second stage of each model. Typically when using probit with this form of data, time dummies or cubic spline variables are included as a control for temporal dependence.[12] However, Carter and Signorino (2006) have shown that splines can be difficult to interpret and problematic when specifying the knots. Instead, they advocate the use of controls labeled t, t^2 and t^3 which serve as a Taylor series approximation to the hazard. Following this method, we have created a duration variable (t) which measures the number of years since the last contribution as well as two other controls based on this variable (t^2 and t^3) as part of the first stage for both models. For the second stage decision of the amount to contribute, we included a lag control variable that measures the amount that the state contributed to the UNHCR in the previous year.

Empirical Analysis and Discussion

For the pure public good and joint product models, the results demonstrate the superiority of a Heckman selection model over competing specifications. Both the likelihood ratio test (first stage) and the Wald test (both stages) are highly significant which allows for a rejection of the null-hypothesis that all coefficients jointly equal zero. The Wald test indicates that correlation is highly significant, and lambda is statistically significant. This confirms the need for the selection bias correction of the Heckman model. In time series analysis, the risk of autocorrelation must be considered. When reporting regression results for time series, it is standard to report the Durbin-Watson test for autocorrelation. However this test requires that the model not include lagged values of the dependent variable as one of the explanatory variables (which we have in the second stage). Therefore to deal with potential autocorrelation in the errors, we use the robust Huber/White sandwich estimator. If there is autocorrelation in the error term, clustering at the panel level will produce consistent estimates of the standard errors. Therefore, we report panel robust standard errors for both models.

Refugee Protection as a Pure Public Good:

As shown in Table 1, the variables in the first stage of model 1 are highly significant, and the model is rather robust with a pseudo R^2 just under 50%. Since the probit coefficients reported for the selection stage have no interpretive meaning, we calculate the marginal effects for each variable which indicates the change in the probability of the dependent variable for every one-unit change in an independent variable, holding all other variables constant at their mean value. The GDP variable is highly significant which accords with the earlier work of Olson and Zeckhauser (1966) as well as more recent work on burden-sharing in military alliances (Oneal 1990a; Oneal 1990b). States with a larger economy are more likely to provide a contribution to the UNHCR. The marginal effects statistic indicates that for every unit increase in GDP, there is

a corresponding 21% increase in the probability of a country contributing to the UNHCR. In addition, the democratic characteristics of the donor state are associated with the decision to fund the UNHCR. Because of Freedom House's coding scheme, the negative relationship indicates that those donor states with a better record (lower score) on political rights and civil liberties are more likely to provide a contribution to the organization. We interpret this result to indicate that those donor states which are more democratic are more inclined to provide assistance in order to promote human rights and the rule of law in regards to refugee and more recently to IDP protection. In addition, all three time controls are significant indicating that contribution decisions are a repeated game.

[Table 1 about here]

The results are consistent between the first and the second stage of model 1. In the second stage, the GDP variable is once again highly significant indicating that burden-sharing for this organization is concentrated among states with a larger economy. As reported in the Appendix, states such as Laos, Lebanon and Madagascar provided a contribution to the UNHCR; however, the amounts which they provided were rather minimal and fit within the exploitation hypothesis (for example, these three states combined provided less than $10,000 to the UNHCR during the entire eleven-year period under investigation). The democracy variable also continues to be an important burden-sharing characteristic—donors with a better democratic record are more likely to make a larger contribution. A cursory examination of the amounts contributed by donor states reported in the Appendix shows that while states such as Algeria, Saudi Arabia and the United Arab Emirates often contributed to the UNHCR, the largest donors were highly democratic. Of the top fifteen donors during the eleven years under investigation, all were classified by Freedom House as "free" with an average score of two.

The spill-in variable which measures the state's contribution as a function of the spill-in of other states is significant and in the expected direction. As other states increase their contribution amounts to the UNHCR, individual states decrease their contribution, exhibiting free riding behavior. Our previous amount control variable is also highly significant indicating that the decision to contribute is a repeated game—states use their previous contribution amount as a baseline for future contributions. The results from the first and the second stage of the model indicate that refugee protection exhibits features of a pure public good. Suhrke (1998) suggests that the activity of the UNHCR regarding displaced persons can be regarded as an international public good from which all states benefit. However as Betts argue, "[a]pplying the joint-product model to refugee protection offers complementary insights" (2003, 279). Thus, model 2 more fully explores the public good and private benefits of refugee protection.

Refugee Protection as a Joint Product Model:

The joint-product model implies that a good provides multiple benefits which vary in their degree of publicness. Therefore "the extent of publicness in the presence of joint products depends on the *ratio of excludable benefits* . . . to total benefits" (Sandler and Hartley 2001, 876). Therefore if private benefit variables included in model 2 are significant, then the nature of refugee protection has been transformed from a pure to impure public good. Results reported in Table 2 bear out that refugee protection is indeed best understood as an impure public good conferring several private benefits. In the first stage of model 2, the public good variables are once again highly significant. The marginal effect GDP statistic indicates that for every unit increase in GDP, there is a corresponding 13% increase in the probability of a country contributing to the UNHCR. The level of democracy is also highly significant and in the expected direction, maintaining the same marginal effect (2%) as in model 1. Once again, all

three time control variables are significant indicating that previous contributions are a good predictor of future donor behavior. However the addition of the three private benefit variables not only contributes to a better fit of the model (pseudo R^2 value of .65), but the NGOs variable is highly significant while the number of refugees is just barely insignificant (.12). The marginal effect NGO statistic indicates that for every unit increase in the variable, there is a corresponding 5% increase in the probability of a country contributing to the UNHCR (the second highest marginal effect of any of the independent variables).

[Table 2 about here]

The importance of the private benefit variables becomes even more apparent in the second stage decision of the amount to contribute. While GDP and the level of democracy continue to be highly significant indicating that there is a free riding among states (the exploitation of hypothesis), spill-in is no longer significant in the model demonstrating that states are not using the contribution amounts of others to determine their level of funding when private benefits are also considered. Moreover, three of the four private benefit variables are significant in the second stage. While states with a significant refugee population are once again no more likely to provide a larger contribution to the UNHCR than those states with fewer refugees, states that had significant refugees populations at their border were more likely to contribute larger sums. This finding echoes Betts argument that state-specific security private benefits increase a state's willingness to contribute to the UNHCR. As he argues, it "is unsurprising that if recipient states wish to contain the 'asylum threat' they can most efficiently do so by focusing contributions on the most prevalent states of origin" (2003, 289).

The NGO and earmark variables are both highly significant and in the expected direction. States that have a larger number of NGOs consulted by the UNHCR, and those states that use

extensive earmarking are more likely to provide a larger contribution. The significance of these variables indicates that states use their contribution to target either specific policies, regions/states or the use of their donor NGOs in the delivery of refugee protection. Thus, there are several private, excludable benefits that earmarking can provide. For example, Betts (2003) finds that EU members, such as Britain and Belgium, provide UNHCR earmarked contributions to former colonies. The control variable for the previous contributed amount is once again significant demonstrating the need to consider that contributions are a repeated game. Overall, the joint product model provides a better explanation of the contributions of states to the UNHCR. While there is free riding behavior as demonstrated in the significance of the GDP and democracy variables, the additional variables in the second stage of model 2 indicate that there are several excludable private benefits which provide an incentive for states to contribute, and thus transform refugee protection into an impure public good.

Tests of Robustness and Endogeneity

While the likelihood ratio and Wald test are highly significant indicating the need for the Heckman selection bias correction, we conducted several robustness checks to probe the soundness of the findings. First, we re-estimated the models using alternative estimation techniques. We initially ran separate probit and OLS tests for model 1 and 2. Results from these tests are consistent with the results obtained using the Heckman technique. Only the spill-in variable in model 1 becomes insignificant when using OLS. For model 2, all variables remain significant with the same signs for both stages. Next, we ran the models using the Heckman selection and Heckman two-step technique. While there were changes in the coefficients and standard errors (thus the use of panel robust standard errors), the significance and signs of all the variables were the same. As a second robustness check, we considered alternative measures of

democracy and GDP. We ran the tests using the Polity IV dataset "Polity2" variable as a measure of democracy and a GDP variable constructed as state GDP in a given year as a percentage of global GDP. The use of these different measurements did not change our results.

Finally, we considered the issue of endogeneity. Instrumental variables provide a means for testing whether there is an endogeneity problem. The results from both models show that countries that have a larger GDP provide a larger contribution amount to the UNHCR. One of the possible underlying causes of the contribution level could be the state of the global economy. That is, states condition their contributions based on an overall assessment of the health of the world economy. When there is an expectation of future global growth, states may be much willing to provide larger contributions, and when there is a contraction in the world economy, states may reduce contributions to prepare for future economic problems. Since the UNHCR's budget is almost entirely based on voluntary contributions, these global economic calculations could have a significant effect. Büthe and Milner (2008) note that an instrument is often hard to identify since it must have two qualities: It must be a good predictor of the endogenous explanatory variable in question (in our case GDP) and not be correlated with the error term and thus the dependent variable (contribution amount). World GDP is reasonably correlated with state GDP ($r = 0.279$) but not correlated with the contribution amount ($r = 0.009$). If we add this variable directly to model 1 and 2 (*i.e.*, as a regressor), it is not significant which indicates that it has no effect on the contribution amount. The Hausman specification test evaluates the null hypothesis that there is no significant difference between estimates obtained from the instrumental variable. Based on the Hausman test, endogeneity does not appear to be a major issue in our empirical findings as the chi-square = 0.061 (p-value = 0.800).

Conclusions

Our findings suggest that states regard refugee protection by the UNHCR as an impure public good with a number of private benefits. Our findings accord well with the previous literature that argues that "[m]ost states seem to contribute to refugee protection because of a combination of norms and interests" (Loescher, Betts and Milner 2008, 94). The results from the joint product model do not dispute that there is free riding behavior exhibited by many states at the expense of those with larger economies. Contributors such as the US, Japan, Sweden and the Netherlands are well-aware of the significant absolute financial burden that they bear. Instead, our results show that while states with larger economies and a higher level of democracy disproportionately contribute to the UNHCR, these same states are able to direct their contributions in order to receive excludable, private benefits. While these private benefits create a "market-based" incentive structure for state contributions, this does not imply that a joint product model leads to optimal state behavior. The significant free riding behavior of economically smaller and less democratic states is a factor in the UNHCR's budgetary difficulties in providing refugee protection. As Betts argues, "the joint-product model still entails the public goods initially identified, and that their presence will still lead to incentives for sub-optimal provision" (2003, 293).

Another related issue is the *nature* of private benefits can equally lead to sub-optimal outcomes in the provision of public goods. Contributions to the UNHCR are influenced by private benefits that may have little to do with the refugee emergency or humanitarian crisis at hand. The use of earmarks and donor NGOs highlights that states provide larger contributions due to their own domestic and foreign policy priorities that may not be linked to larger humanitarian issues. Therefore even when the good of refugee protection is provided, significant strings may be attached that can actually undermine the provision of the good. Whitaker (2008) provides an interesting case study of donor motivations and UNHCR budget cuts in Tanzania.

Due to the genocide in Rwanda as well as the civil wars occurring in the Great Lakes region of Africa, Tanzania by the mid-1990s hosted almost 1.5 million refugees. Whitaker argues that while the number of refugees of concern in Tanzania remained at very high levels throughout the 1990s and into the 2000s, the foreign policy concerns of donor governments lead to significant reductions in the UNHCR's annual operating budget in the country. The use of earmarks by the largest contributors forced the UNHCR to re-direct its efforts. Therefore, the market-based incentives that private benefits create do not necessarily translate into a more optimal provision of the public good. These private benefits may translate into larger contributions, but "market failures" in regards to the allocation of resources can still occur. Betts (2003, 294) considers that the "crucial question with respect to assessing any form of permanent refugee regime structure, including burden-sharing, is therefore no longer simply 'does it overcome collective action failure?' but also 'will it actively promote norms of solidarity and human rights with states?'"

One of the interesting implications of this study is that organizations which provide public goods must move beyond states to secure a broader donor base. Ted Turner's $1 billion contribution to the UN in 1997 and the increasing philanthropy of the Gates Foundation to agencies such as the UNHCR point to new areas of research concerning burden-sharing and private benefits. In 2006, the UNHCR created a Private Sector Fund Raising Section which in that year raised almost $22 million from voluntary private contributions (Loescher, Betts and Milner 2008). As the funding sources of international organizations expand, the question remains what impact this will have on the mandate of international organizations and ultimately the behavior of states in the provision of public goods and securing private benefits.

Notes

[1]Hartigan (1992) notes that several studies have found no correlation between the UNHCR's field priorities and US foreign policy interests.

[2]King and Zeng (2001a; 2001b) have shown that binary dependent variables in which observations of the event are substantially less than no event can cause severe estimation problems. However in the case of our first test, the number of event observations is over 30% and does not represent a rare event data problem.

[3]Often in the data set, the amount of the donor contribution is zero, and thus a logged transformation of the dependent variable would be invalid. Therefore, we add one to all the contribution amounts prior to logging in order to retain as much data as possible. The addition of this constant term in the dependent variable only changes the intercept and does not bias the coefficients.

[4]While we calculate the contribution in terms of the absolute financial burden, Väyrynen (2001) notes that the contribution calculated in relative terms (per capita) shows that small industrialized states such as Sweden, Denmark and Norway engage in significant burden-sharing.

[5]We want to thank one of the anonymous reviewers for making this vital point.

[6]Because this variable is based on the previous year amount, 1995 serves as a starting point, and thus calculations are made for 1996-2005.

[7]Many states had no refugees reported of concern to the UNHCR, and thus a logged transformation would be invalid. Therefore similar to the dependent variable for the amount of the contribution, we add one to all the refugee populations prior to logging. This same procedure was also done in the creation of the border refugee variable.

[8]We would have preferred a direct measure for the amount of finance spent by the UNHCR rather than this surrogate. However for many of the years under investigation, the UNHCR's reports to the General Assembly are incomplete in their listing of amounts of assistance targeted to states. The reports list expenditures by region, and often many states in a region are grouped into an "other countries" category. In many cases, this category contains a significant portion of the UNHCR's regional assistance. While there are logical reasons for assuming that states with larger refugee populations receive greater assistance from the UNHCR, we were concerned whether the number of refugees is an appropriate surrogate. Therefore for one of the years in which we had complete information on UNHCR state expenditures (2001), we ran a bivariate analysis of assistance and refugee populations. The Pearson's correlation was positive and highly significant indicating a strong relationship between state assistance and refugee population.

[9]We omit states that have no border states (such as islands).

[10]Because of reporting of the annual consultations, this variable was constructed for the years 2001-2005.

[11]Ideally, we would have preferred to construct the NGO variable based on the specific donor earmarks, but these numbers are not reported. Thus, our NGO variable is a proxy for money allocated by donor governments to their NGOs.

[12] One of the concerns with a binary dependent variable using cross-sectional time series, as in the first stage of the Heckman selection test, is the possibility of temporal dependence. Beck, Katz and Tucker (1998) have shown that temporal dependence in the dependent variable over time biases estimates and causes them to be inefficient. Aside from the methodological issues involved in probit or logit estimation, there are also substantive reasons why temporal dependence needs to be considered when modeling donor contributions. For example, Truman and Ayoub (2004) find that Japanese aid officials use previous contributions as benchmarks for long-term aid commitments.

References

Addison, Tony, Mark McGillivray, and Matthew Odedokun. 2004. "Donor Funding of Multilateral Aid Agencies: Determining Factors and Revealed Burden Sharing." *World Economy* 27 (2):173-191.

Barnett, Michael. 2001. "Humanitarianism with a Sovereign Face: UNHCR in the Global Undertow." *International Migration Review* 35 (1):244-277.

Beck, Nathaniel, Jonathan N. Katz, and Richard Tucker. 1998. "Taking Time Seriously: Time-Series-Cross-Section Analysis with a Binary Dependent Variable." *American Journal of Political Science* 42 (4):1260-1288.

Betts, Alexander. 2003. "Public Goods Theory and the Provision of Refugee Protection: The Role of the Joint-Product Model in Burden-Sharing Theory." *Journal of Refugee Studies* 16 (3):274-296.

Büthe, Tim, and Helen V. Milner. 2008. "The Politics of Foreign Direct Investment into Developing Countries: Increasing FDI through International Trade Agreements?" *American Journal of Political Science* 52 (4):741–762.

Carter, David B., and Curtis S. Signorino. 2006. "Back to the Future: Modeling Time Dependence in Binary Data." Working paper.

Cunliffe, Alex. 1995. "The Refugee Crises: A Study of the United Nations High Commission for Refugees." *Political Studies* 43 (3):278-290.

Ferris, Elizabeth G. 2003. "The Role of Non-Governmental Organizations in the International Refugee Regime." In *Problems of Protection: The UNHCR, Refugees, and Human Rights*, ed. Niklaus Steiner, Mark Gibney, and Gil Loescher. New York: Routledge.

Finnemore, Martha, and Kathryn Sikkink. 1998. "International Norm Dynamics and Political Change." *International Organization* 52 (4):887-917.

Guterres, António. 2005. “Opening Statement by Mr. António Guterres, United Nations High Commissioner for Refugees, at the Fifty-Sixth Session of the Executive Committee of the High Commissioner’s Programme.” Available at: www.unhcr.org/admin/ADMIN/43411aa54.html.

Hartigan, Kevin. 1992. “Matching Humanitarian Norms with Cold, Hard Interests: The Making of Refugee Policies in Mexico and Honduras, 1980-89.” *International Organization* 46 (3):709-730).

Hveem, Helge. 2002. “Donor Governments.” In *The Prevention of Humanitarian Emergencies*, ed. E. Wayne Nafziger, and Raimo Väyrynen. Basingstoke: Palgrave.

King, Gary, and Langche Zeng. 2001a. “Explaining Rare Events in International Relations.” *International Organization* 55 (3):693-715.

King, Gary, and Langche Zeng. 2001b. “Logistic Regression in Rare Events Data.” *Political Analysis* 9 (2):137-63.

Kwon, Gi-Heon. 1998. “Pretests on the Theory of Collection Action: The Olson and Zeckhauser Model and its Elaboration.” *Economics and Politics* 10 (1):37-62.

Loescher, Gil. 2001. “The UNHCR and World Politics: State Interests vs. Institutional Autonomy.” *International Migration Review* 35 (1):33-56.

Loescher, Gil. 1994. “The International Refugee Regime: Stretched to the Limit?” *Journal of International Affairs* 47 (2):351-377.

Murdoch James C., and Todd Sandler. 1982. “A Theoretical and Empirical Analysis of NATO.” *Journal of Conflict Resolution* 26 (2):237-263.

Murdoch, James C., and Todd Sandler. 1997. “The Voluntary Provision of Pure Public Goods: The Case of Reduced CFC Emissions and the Montreal Protocol.” *Journal of Public Economics* 63 (3):331-349.

Oneal John R. 1990a. “Testing the Theory of Collective Action: NATO Defense Burdens, 1950-1984.” *Journal of Conflict Resolution* 34 (3):426-448.

Oneal, John R. 1990b. “The Theory of Collective Action and Burden Sharing in NATO.” *International Organization* 44 (3):379-402.

Olson, Mancur. 1971. “Increasing the Incentives for International Cooperation.” *International Organization* 25 (4):866-874.

Olson, Mancur. 1965. *The Logic of Collective Action*. Cambridge: Harvard University Press.

Olson, Mancur, and Richard Zeckhauser. 1966. “An Economic Theory of Alliances.” *Review of Economics and Statistics* 48 (3):266-279.

Patrick, Stewart. 2000. "The Donor Community and the Challenge of Postconflict Recovery" in Shepard Forman, and Stewart Patrick, ed. *Good Intentions: Pledges of Aid for Postconflict Recovery*. Boulder, CO: Lynne Reinner.

Reed, William. 2000. "A Unified Statistical Model of Conflict Onset and Escalation." *American Journal of Political Science* 44 (1):84-93.

Russett, Bruce M., and John D. Sullivan. 1971. "Collective Goods and International Organizations." *International Organization* 25 (4):845-865

Sandler, Todd. 1997. *Global Challenges: An Approach to Environmental, Political, and Economic Problems*. Cambridge: Cambridge University Press.

Sandler, Todd. 1993. "The Economic Theory of Alliances." *Journal of Conflict Resolution* 37 (3):446-483.

Sandler, Todd, and Keith Hartley. 2001. "Economics of Alliances: The Lessons for Collective Action." *Journal of Economic Literature* 39 (3):869-896.

Sandler, Todd, and John F. Forbes. 1980. "Burden Sharing, Strategy, and the Design of NATO." *Economic Inquiry* 18 (3):425-444.

Shimizu, Hirofumi, and Todd Sandler. 2002. "Peacekeeping and Burden-Sharing, 1994-2000." *Journal of Peace Research* 39 (6):651-668.

Smillie, Ian, and Larry Minear. 2003. *The Quality of Money: Donor Behavior in Humanitarian Financing*. Sommerville, MA: Tufts University.

Suhrke, Astri. 1998. "Burden-sharing during Refugee Emergencies: The Logic of Collective versus National Action." *Journal of Refugee Studies* 11 (4):396-415.

Thielemann, Eiko R., and Torun Dewan. 2006. "The Myth of Free-Riding: Refugee Protection and Implicit Burden-Sharing." *West European Politics* 29 (2):351-369.

Truman, John P., and Ayoub S. Ayoub. 2004. "The Determinants of Japanese Official Development Assistance in Africa: A Pooled Time Series Analysis." *International Interactions* 30 (1):45-57.

Väyrynen, Raimo. 2001. "Funding Dilemmas in Refugee Assistance: Political Interests and Institutional Reforms in UNHCR." *International Migration Review* 35 (1):143-167.

Whitaker, Beth Elise. 2008. "Funding the International Refugee Regime: Implications for Protection." *Global Governance* 14 (3):241-258.

Table 1. Heckman Selection Model for Determinants of Contribution to UNHCR[†]

Variables	Model 1 (Pure Public Good) Coefficient	Panel Robust S.E.	Marginal Effects
First Stage Selection: Decision to Contribute			
GDP	0.844***	0.054	0.211
Level of Democracy	-0.127***	0.011	-0.028
t	0.331***	0.108	0.019
t^2	-0.194***	0.003	-0.033
t^3	0.015***	0.002	-0.002
Constant	-7.984***	0.563	
Log Likelihood	-601.54		
LR $_{X^2}$	1201.250		
N	2007		
Pseudo R^2	0.499		
Second Stage: Amount Contributed			
GDP	0.838***	0.067	
Level of Democracy	-0.117***	0.010	
Spill-In	-0.762*	0.368	
Previous Amount	0.303***	0.022	
Lambda	0.716***	0.094	
Constant	1.792	3.653	
N (Uncensored N)	575		

[†]In the selection stage, prohibit coefficients are reported and in the amount stage, regression coefficients.
*$p < .10$, **$p < .05$ and ***$p < .001$.

Table 2. Heckman Selection Model for Determinants of Contribution to UNHCR†

Variables	Model 2 (Joint Product Model) Coefficient	Panel Robust S.E.	Marginal Effects
First Stage Selection: Decision to Contribute			
GDP	0.468***	0.105	0.134
Level of Democracy	-0.094***	0.016	-0.021
t	-1.340***	0.231	-0.031
t^2	0.163***	0.053	0.032
t^3	-0.006*	0.003	-0.001
Number of Refugees	0.006	0.046	0.018
Number of Border Refugees	0.005	0.028	0.009
NGOs	0.134***	0.064	0.053
Constant	-2.366***	1.005	
Log Likelihood	-200.286		
LR $_{X}^2$	753.560		
N	932		
Pseudo R^2	0.652		
Second Stage: Amount Contributed			
GDP	0.557***	0.083	
Level of Democracy	-0.073***	0.011	
Spill-In	-0.301	0.323	
Previous Amount	0.263***	0.027	
Lambda	0.583***	0.068	
Number of Refugees	0.007	0.043	
Number of Border Refugees	0.054**	0.024	
NGOs	0.017***	0.004	
Earmarks	0.012***	0.001	
Constant	0.322a	3.140	
N (Uncensored N)	289		

†In the selection stage, prohibit coefficients are reported and in the amount stage, regression coefficients.

*p < .10, **p < .05 and ***p < .001.

Appendix. Number and Amount of UNHCR Contributions, 1995-2005

State	Number of Contributions	Total Amount Donated
Algeria	10	510,000
Andorra	2	149,554
Argentina	7	199,985
Armenia	1	88,215
Australia	11	138,961,859
Austria	11	11,599,415
Bahamas	6	19,290
Bangladesh	1	50,000
Belgium	11	68,431,631
Benin	4	11,000
Bermuda	5	81,735
Bhutan	1	5,000
Botswana	1	188,806
Brazil	2	70,000
Brunei	3	273,310
Burundi	1	351
Cambodia	1	1,923
Canada	11	215,311,081
Chile	11	295,000
China	11	2,861,200
Colombia	11	236,788
Costa Rica	10	153,772
Croatia	1	10,000
Cyprus	11	229,058
Czech Republic	8	1,763,266
Denmark	11	474,897,333
Djibouti	5	35,000
Egypt	2	11,746
Estonia	5	190,968
Finland	11	151,917,016
France	11	114,067,042
Germany	11	278,629,356
Ghana	8	45,000
Greece	11	11,506,372
Guatemala	1	9,978
Hungary	10	534,905
Iceland	10	1,005,953
India	6	49,110
Indonesia	5	121,909
Ireland	11	62,999,805
Israel	10	525,116
Italy	11	152,323,327
Japan	11	1,201,000,935

Appendix. Number and Amount of UNHCR Contributions, 1995-2005 (Continued)

Kuwait	7	2,186,345
Laos	1	6,000
Latvia	3	31,022
Lebanon	1	3,000
Lichtenstein	11	1,399,627
Lithuania	4	23,289
Luxemburg	11	30,033,790
Libya	1	100,000
Madagascar	2	283
Malaysia	9	596,255
Malta	3	5,764
Mauritius	1	5,000
Mexico	11	1,208,005
Monaco	10	326,755
Morocco	7	472,658
Myanmar	1	10,000
Namibia	3	2,500
Netherlands	11	637,202,791
New Zealand	11	17,240,106
Nigeria	7	712,805
Norway	11	493,394,939
Oman	4	16,000
Pakistan	1	4,623
Panama	3	3,000
Philippines	10	73,156
Poland	6	366,165
Portugal	11	7,885,487
Qatar	3	300,000
Republic of Korea	11	15,179,067
Romania	2	14,000
Russia	2	4,000,000
Rwanda	2	23,698
San Marino	5	59,178
Saudi Arabia	11	3,585,961
Singapore	6	135,000
Slovenia	3	90,000
Slovakia	5	204,507
South Africa	10	3,932,500
Spain	11	68,243,028
Sri Lanka	8	45,240
Sudan	1	2,500
Sweden	11	612,581,076
Switzerland	11	220,628,519
Tanzania	1	5,025

Appendix. Number and Amount of UNHCR Contributions, 1995-2005 (Continued)

Thailand	10	318,210
Trinidad and Tobago	1	3,787
Tunisia	10	94,208
Turkey	10	2,625,000
Uganda	1	1,000
United Arab Emirates	8	586,000
UK	11	429,388,703
USA	11	2,960,209,303
Venezuela	7	1,061,995
Vietnam	1	1,500
Yemen	2	4,320