An Analysis of Impacts Associated with Earmarked Private Donations for Disaster Relief

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Overview

- The Humanitarian Funding System
- Research Motivation
- Model Setup
- Results and Recommendations

The Humanitarian Funding System

Humanitarian assistance: "the aid and action designed to save lives, alleviate suffering and maintain and protect human dignity during and in the aftermath of emergencies" (Global Humanitarian Assistance 2008)

- Sources of Humanitarian Assistance
  - Public sources
  - Official sources
- Intermediaries
  - Multilateral agencies like the World Bank
  - International organizations
  - Non-governmental organizations
- Providers of Aid
  - International aid agencies
  - Local NGOs
  - Community based organizations

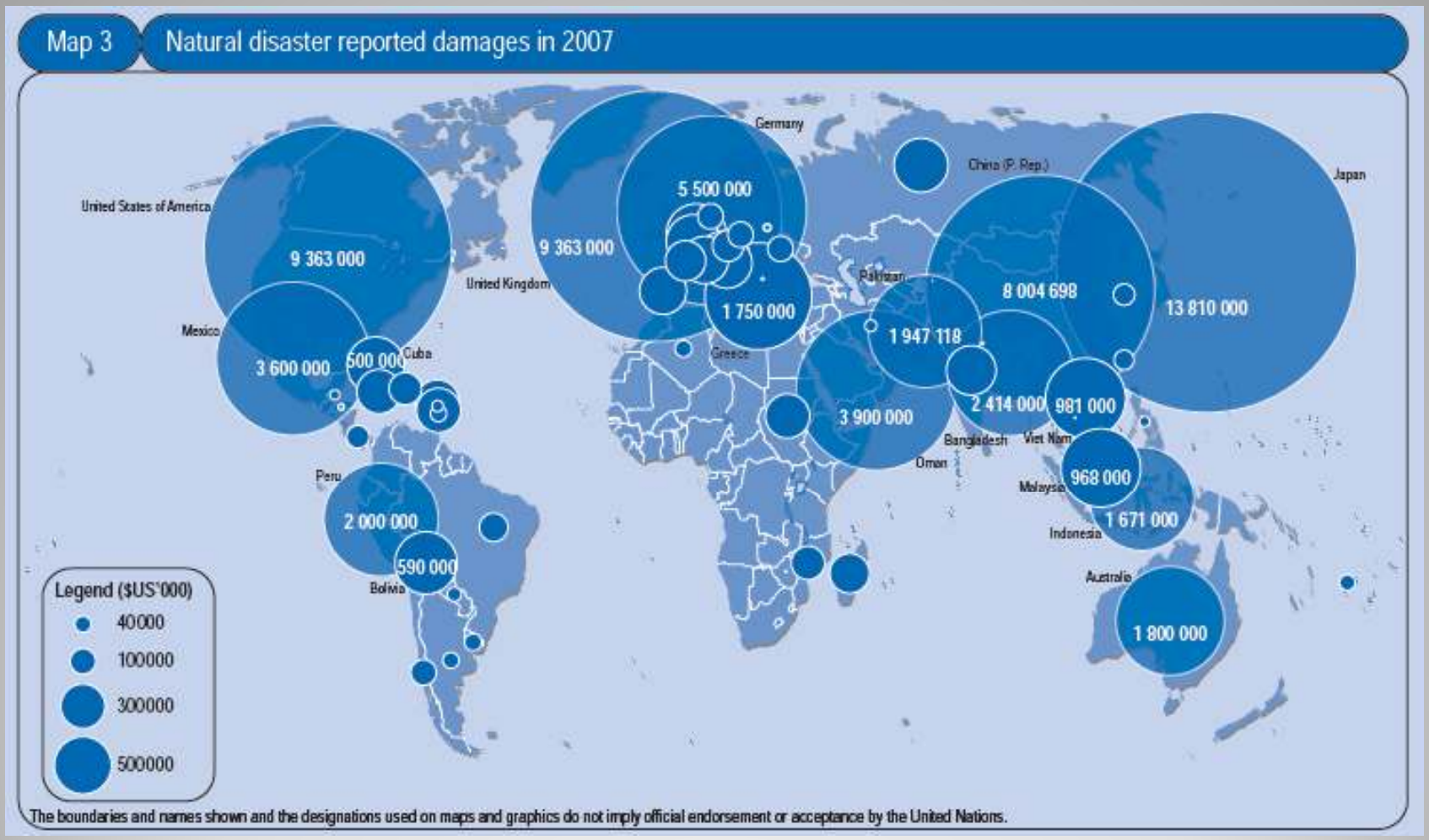
Role of NGOs

- In 2005 between 48% and 58% of all known humanitarian funding flowed through NGOs
- NGOs receive their funding from three sources
  - Public fundraising (estimated annual average of $2 billion)
    - Small role of foundations
  - Government agencies (estimated at $1.2 to $2 billion in 2004)
  - Channeled UN funds (estimated at $500-800 million in 2004)
- Many of the larger NGOs are trying to increase the proportion coming from private sources.

Source: Feinstein International Center 2007

Research Motivation

- Current funding systems are one of the causes of inefficiencies in humanitarian operations (Thomas and Kopzcak, 2005)
- Current funding systems cannot meet needs
  - Around 30% of needs were not met each of the last three years (Development Initiatives, 2009b).
- Need is expected to increase
  - The occurrence of disasters is expected to increase five-fold over the next 50 years (Thomas and Kopczak (2005)).



Source: CRED, Annual Disaster Statistical Review 2007

Changes and Challenges

- Increasing need
- Increasing numbers of aid agencies
- Changing structure
  - CERF
- Increasing earmarking
- More informed and demanding donors

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Research Motivation

- Aid agencies need to decide how to respond to these changes
  - Requires understanding the relationship between funding and humanitarian operations

"The need to develop better understanding about how different financing mechanisms affect impartial, timely and predictable response" Good Humanitarian Donorship Initiative 2007

Research Contribution

- First paper that analyzes optimal fundraising strategies in the context of fundraising for disaster relief operations
  - Studies the trade-off between size and flexibility
  - Studies under which conditions earmarking of donations is beneficial for donors, NGOs and policy makers

Research Questions

- Which type of fundraising mode can raise higher donation amounts, allowing for earmarking or not allowing for earmarking?
- When is one fundraising mode preferable to the other one for donors and aid agencies? Under what conditions is that result accomplished?
- Which fundraising mode tends to lead to a larger fundraising cost percentage than the other one?

Literature Review

- Empirical Studies (Fundraising General)
  - Barman (2008): factors that drive earmarking of donations
  - Andreoni and Payne (2003): crowing out effect of government funding
  - Okten and Weisbrod (2000): factors that influence donations
  - ❖ **No idiosyncratic characteristics of sudden-onset disaster relief projects: limit of time and scope**

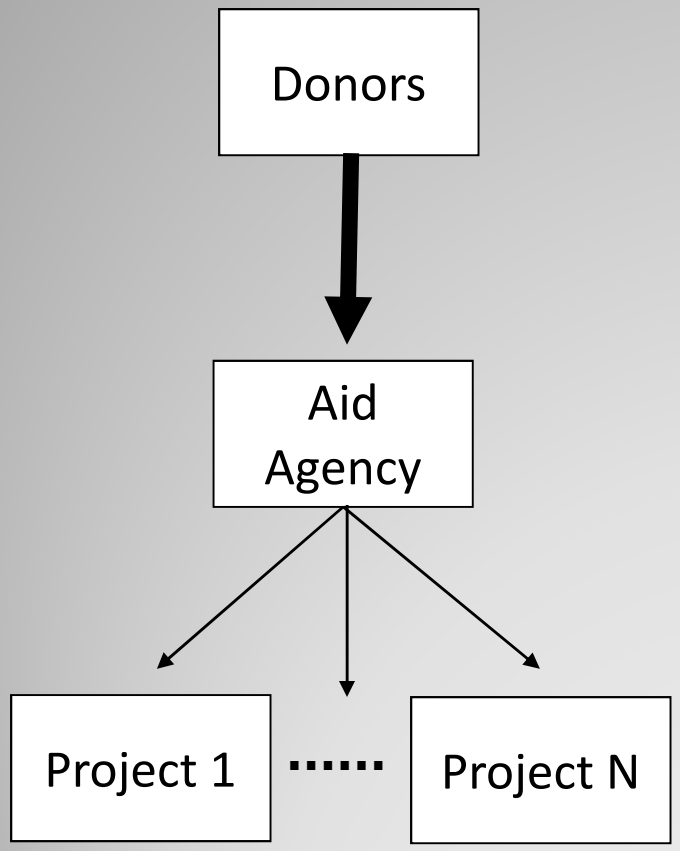
- Empirical Studies (Fundraising for Disaster Relief)
  - Oosterhof et al. (2008) and Bennett and Kottasz (2000): impact of mass media on donors' willingness to donate to disaster relief projects
  - ❖ **Lack of aid agencies' fundraising operations**

Literature Review

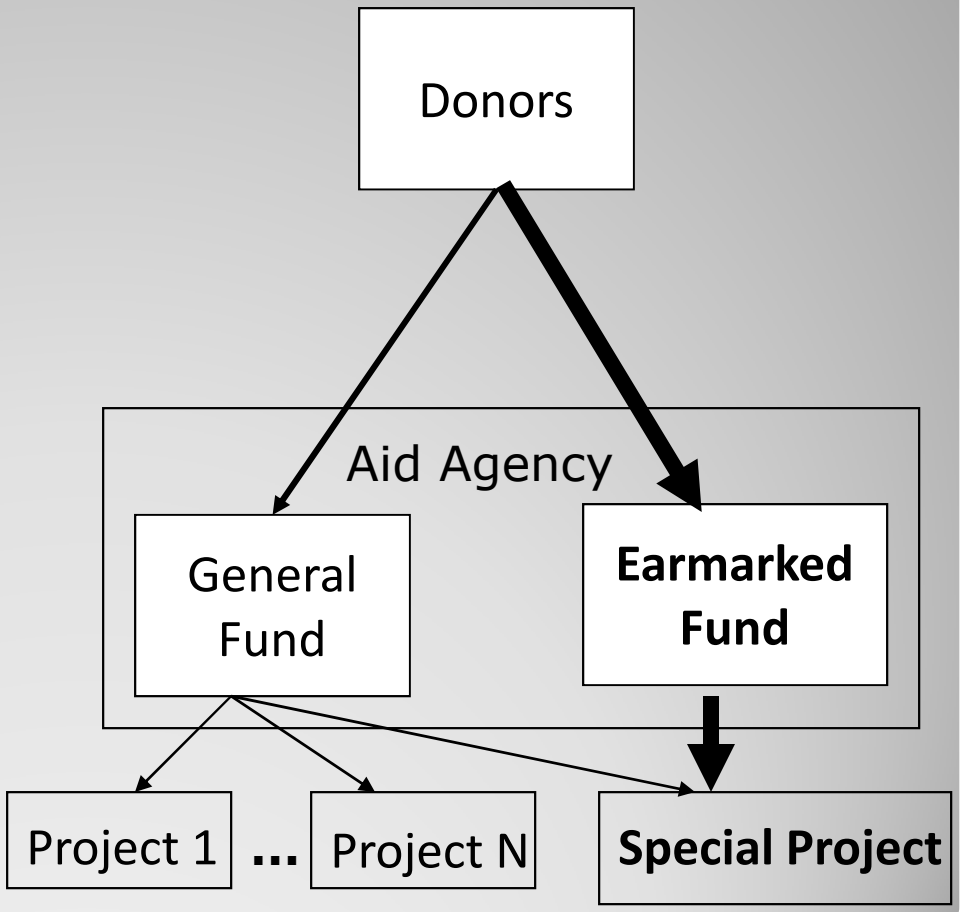
- Theoretical papers
  - Impact of earmarking
    - Bilodeau and Slivinski (1998)
  - Impact of competition
    - Altashew and Verdier (2009)
    - Rose-Ackerman (1982)
  - Fundraising Strategies
    - Andreoni (2006)

❖ **No idiosyncratic characteristics of sudden-onset disaster relief projects: limit of time and scope**

Fund Flows
Non-Earmarked Case



Fund Flows
Earmarked Case



Decision Makers

- Donors maximize utility
  - Increasing in donations but at a decreasing rate
  - Substitution effect between donations to general fund and special fund
- NGO maximizes impact of projects conducted
  - Increasing in donations to general fund
  - Increasing in donations to special fund but at a decreasing rate

Earmarking Case

Donor's Objective Function

$$\max_{d_1,d_2} \alpha_1 d_1 + \alpha_2 d_2 - \frac{\delta d_1^2 + 2\beta d_1 d_2 + \delta d_2^2}{2}.$$

Optimal Donation Levels

$$d_1^* = \frac{-\delta\alpha_1 + \beta\alpha_2}{\beta^2 - \delta^2},$$

$$d_2^* = \frac{\beta\alpha_1 - \delta\alpha_2}{\beta^2 - \delta^2}.$$

Optimal Utility

$$U_e^{d*} \equiv \frac{\delta(\alpha_1^2 + \alpha_2^2) - 2\beta\alpha_1\alpha_2}{2(\delta^2 - \beta^2)}.$$

Non-Earmarking Case

Donor's Objective Function

$$\max_{d_3} \alpha_1 d_3 - \frac{\delta d_3^2}{2}.$$

Optimal Donation Level

$$d_{ne}^* \equiv d_3^* = \frac{\alpha_1}{\delta}.$$

Optimal Utility

$$U_{ne}^{d*} \equiv \frac{\alpha_1^2}{2\delta}.$$

Earmarking Case

Aid Agency's Objective Function

$$\max_{p_e} p_e \times (d_1^* + d_2^*) - (p_e \times d_2^*)^2\theta - \kappa p_e^2.$$

Optimal Size of Solicited Population

$$p_e^* = \frac{(\beta^2 - \delta^2)(\beta - \delta)(\alpha_1 + \alpha_2)}{2\kappa(\beta^2 - \delta^2)^2 + 2(\beta\alpha_1 - \delta\alpha_2)^2\theta}.$$

Total Funds Raised

$$D_e^* \equiv \frac{(\beta - \delta)^2(\alpha_1 + \alpha_2)^2}{2\kappa(\beta^2 - \delta^2)^2 + 2(\beta\alpha_1 - \delta\alpha_2)^2\theta}.$$

Non-Earmarking Case

Aid Agency's Objective Function

$$\max_{p_{ne}} p_{ne} \times d_3^* - \kappa \times (p_{ne})^2.$$

Optimal Size of Solicited Population

$$p_{ne}^* = \frac{\alpha_1}{2\kappa\delta}$$

Total Funds Raised

$$D_{ne}^* \equiv \frac{\alpha_1^2}{2\kappa\delta^2}$$

Results (Donors' View)

- Donors always prefer being given the option of earmarking donations.
  - Each representative donor's donation amount and utility are always larger in the earmarking case than in the non-earmarking case.

Results (Aid Agency's View)

- Increased donor interest in donating money always encourages the aid agency to contact more donors when earmarking is not allowed
- Increased donor interest in donating money might lead to fewer donors who should be contacted when earmarking is allowed.

Results (Aid Agency's View)

- Generally, allowing for earmarking of donations tends to be beneficial for aid agencies if target fundraising goal of special project is high.
- **However**, allowing for earmarking of donations tends to be NOT beneficial for aid agencies if
  - Donors' willingness for donation to the special project is relatively high, compared to target fundraising goal for special project
  - Fundraising costs are low

Results (Policy Makers' View)

- Allowing for earmarking of donations leads to increased fundraising activities (i.e., solicitation of donations) if
  - Target fundraising goal for special project is high,
  - Donors' interest in donating money is relatively low, and
  - Fundraising costs are high
- Allowing for earmarking always achieves a lower fundraising cost percentage than not allowing for earmarking.

Impact of Uncertainty Concerning Donation Amounts

- In the non-earmarking case, the aid agency's
  - optimal level of solicited population,
  - the expected donation amount, utility level,
  - and fundraising cost percentage
- are the same in the case with certainty and the case with uncertainty concerning donation amounts.

- In the earmarking case, the
  - optimal level of solicited population,
  - the expected donation amount, utility level,
  - and fundraising cost percentage
- are lower in the case of uncertainty than in the case of certainty concerning donor's donation amount.

Thank You.

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