



Degree Program in Management

Course of Research Project Design

Potential barriers to unearmarked donations: the role of donors' perceived risk of corruption in humanitarian operations

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Abstract

This study investigates the impact of perceived corruption risk in humanitarian operations upon individual willingness to make unearmarked donations. In particular, the importance of three difference factors is highlighted: political instability, urgency to intervene and HO's lack of experience and awareness of recipient countries' culture/social context. With the increasing humanitarian funding gap and the need for HOs to have flexible funding sources, identifying potential barriers that prevent donors from making unearmarked contributions is critical. A survey was conducted among 215 people to collect data on their giving behaviour and perception of corruption risk. The data were analysed through descriptive statistics and ordinal regression. Results indicate that the more individuals believe that political instability of potential aid recipient countries increases corruption risk in humanitarian operations, the less willing they are to make unearmarked contributions when their money can be used in such contexts. To mitigate the effect of perceived corruption risk, these results highlight the need for HOs to invest in donor education or to allow softly earmarked contributions. Further research directions are suggested to deal with limitations of the present study and to provide a more comprehensive analysis of the topic.

List of abbreviations

CPI = Corruption Perception Index

ECHO = European Civil Protection and Humanitarian Aid Operations

ICRC = International Committee of the Red Cross

HO = humanitarian organization

MSF =Médecins Sans Frontières

NGO = non-governmental organization

UNICEF = United Nations Children's Fund

VIF = variance inflation factor

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CHAPTER ONE: INTRODUCTION

1.1. Background

In the current period, humanity is facing several challenges and crises. According to the Global Humanitarian Overview (2023), an increasing amount of people will need humanitarian assistance in the coming years. This is caused by three main factors: conflicts, the global climate emergency and food insecurity. The world is experiencing multiple conflicts, which are entrenched and protracted over time (United Nations Office for the Coordination of Humanitarian Affairs, 2023b). In addition, the largest global food crisis in modern history is being witnessed, with millions of people in several countries being at risk of starvation (World Food Programme, 2023). Finally, the planet is warming at rates never seen before and climate change poses a real threat to human well-being by disrupting life-saving ecosystems (World Meteorological Organization, 2023). The situation becomes even more serious when considering that the humanitarian funding gap is higher than ever and humanitarian organizations are struggling to provide assistance to people in need with a limited number of resources (United Nations Office for the Coordination of Humanitarian Affairs, 2023a).

Humanitarian organizations (HOs) are non-profit entities that work to address the aforementioned challenges and alleviate human suffering through emergency response, relief work and development programs (Müller-Stewens et al., 2019). They can be classified as multilateral, when administered by representatives of government, or non-governmental organizations (NGOs), if politically independent (Egger & Schopper, 2022). The European Civil Protection and Humanitarian Aid Operations (ECHO) and the United Nations Children's Fund (UNICEF) are examples of multilateral organizations, while CARE International and the International Committee of the Red Cross (ICRC) are two NGOs. With respect to the sources of funding, HOs rely on both institutional (e.g. government agencies) and private donors (e.g. foundations and individuals) (Burkart et al., 2016).

HOs allow individuals to make donations characterized by different degrees of flexibility (Stoianova, 2013). In broad terms, a distinction can be made between unearmarked and earmarked donations. The former are general contributions that can be used and allocated by the recipient HO without restrictions or purposes specified by the donors. On the other hand, earmarked donations are funds which donors provide clarifying preferences or instructions on how the money must be used (Özer et al., 2024). For example, the use of donations may be limited to certain regions or intervention programmes, with the HOs not being allowed to allocate them to address other aspects, such as administrative and personnel expenses (Özpolat et al., 2015). Although previous research (Burkart et

al., 2016) underlined how allowing for earmarking can lead to an increase in total donations amount, such option comes with a cost in terms of flexibility, since HOs cannot allocate those funds according to their actual needs (Toyasaki & Wakolbinger, 2014). This may result in excessive amounts of money donated for emergency with high media attention, and a lack of funds to address forgotten crises or implement preparedness strategies (Tomasini & Wassenhove, 2009). For instance, after the Haiti earthquake in 2010, as a consequence of the intensive coverage of the disaster, huge quantities of both in-kind and cash donations were immediately sent by individual donors, leading to a situation where HOs in charge were not able to efficiently allocate resources and creating bottlenecks within emergency response operations (Besiou et al., 2011).

Considering the same financial needs, it is safe to assume that HOs have a preference towards unearmarked donations due to the greater flexibility they grant (Burkart et al., 2016; Keshvari Fard et al., 2019). As a matter of fact, “enhanced quality funding through reduced earmarking” is one key objective of the Grand Bargain, a global agreement between major donors and HOs which was stipulated in 2016 at the World Humanitarian Summit (Metcalf-Hough et al., 2021). Previous literature highlighted the need for a change in individual donors’ behaviour. In particular, they are required to focus more on unearmarked donations in a way that benefits HOs, and respective supply chains and operations (Jahre & Heigh, 2008). Therefore, identifying the factors that influence individual donors’ decisions and potential barriers to making unearmarked contributions would be extremely useful for HOs.

1.2. Problem indication

The current state of literature displays several papers investigating individual donors’ behaviour and factors influencing their willingness to make earmarked or unearmarked contributions. Sargeant (1999) initially explored the decision-making process behind charitable donations and highlighted the prominent role of several external inputs (e.g. media employed by HOs during the fundraising campaign, brand reputation of HOs, etc.) and a variety of other determinants related to each potential donor (e.g. demographic features, past experience with HOs and emotional engagement). In a subsequent work, Sargeant et al. (2007) also underlined a positive correlation between amount donated and perceived professionalism/effectiveness of the recipient HO. While conducting a similar analysis, Neumayr & Handy (2019) instead found out that individuals characterized by higher levels of education, income and generalized trust in HOs are likely to donate a greater amount of money.

For what concerns the type of donation, previous literature highlighted different potential barriers that prevent individuals from making unearmarked contributions. Hanif & Musvoto (2023) described the poor quality of funding within African healthcare and underlined how individuals would refuse to make unearmarked contributions due to their willingness to target exclusively certain activities. Berenguer & Shen (2020), while reviewing the most important challenges and recent trends in humanitarian operations, identified lack of trust in HOs as one of the main obstacles to donors making unearmarked contributions. This evaluation was perfectly coherent with a previous paper by Aflaki & Pedraza-Martinez (2016), where they had underlined how NGOs can increase the amount of unearmarked donations by increasing the public awareness of development programs. Finally, according to Özer et al. (2024), if compared to earmarked ones, unearmarked donations do not increase donor warm-glow and feeling of agency towards the way resources are allocated.

One factor that may decrease individuals' willingness to make unearmarked donations is corruption risk in humanitarian operations. As previously underlined, some donors are hesitant to provide HOs with unrestricted contributions, since they want to target specific beneficiaries and be assured that their money is effectively used. For instance, people may refuse to make unearmarked donations if they were aware that the amounts donated could be used in contexts characterized by a high risk of corruption, where the effective exploitation of resources is likely to be compromised. Several reports pointed out the difficulties in delivering humanitarian assistance in contexts characterized by corruption. Maxwell et al. (2012a) described some elements that increase the likelihood of corruption in humanitarian operations, such as the pressure to act quickly, political instability, dysfunctional legal systems, and fragile national/local infrastructures of aid recipient countries. Carr et al. (2011) stated that emergency situations offer the opportunity for diversion of aid received and exploitation of the people in need by those in a position of power (e.g. corrupt public officials, local elites, and tribes). Risk of corruption in humanitarian aid was also investigated by two case studies respectively set in Liberia (Savage, Jackollie, et al., 2007) and Afghanistan (Savage, Delesgues, et al., 2007). Both works underlined problems in dealing with corrupted public officials, local elite, and contractors, such as extortion and bribery faced by aid agency staff.

1.3. Theoretical contributions

This research contributes to the literature by highlighting the relationship between individual donors' willingness to make unearmarked contributions and perceived corruption risk in humanitarian

operations. While previous literature underlined the impact upon donation type preference of other factors (e.g. desire for specific impact, lack of trust and transparency, psychological elements, cultural and social norms, etc.), to the best of the author's knowledge, there is little to no research specifically focused on corruption risk and potential barriers to unearmarked donations. As explained in the problem identification section, the current state of literature displays reports and papers exclusively concerned with corruption risk's consequences on humanitarian operations efficacy, but no light has been previously shed on the relationship that the present research investigates.

1.4. Managerial implications

This research provides valuable insights for managers of HOs in relation to donors' decision-making process and the role of perceived risk of corruption in influencing it. By understanding this relationship, managers could come up with optimal fundraising strategies that would lead to an increasing amount of unearmarked donations, allowing for gains in terms of flexibility and operational efficiency. Furthermore, identifying which corruption risk factors most influence individual donors' behaviour would help HOs to recognize which risk factors must be mitigated in first place or communicated to the public in a better way. For example, research findings may indicate that, according to donors, HO lacking previous experience in potential aid recipient countries strongly affects corruption risk, therefore reducing their willingness to make unearmarked contributions if money can be allocated to contexts where the responsible HO has never worked before. In that case, HOs could invest in strengthening their knowledge of the country in which to intervene or communicate to the public the anti-corruption measures that are in place. Therefore, individuals would be more likely to make unearmarked donations.

1.5. Problem statement

“To what extent do perceived corruption risk factors in humanitarian scenarios influence individual donors' decision to make unearmarked donations to humanitarian organizations?”

1.6. Conceptual model

The problem statement can be represented by the following conceptual model:

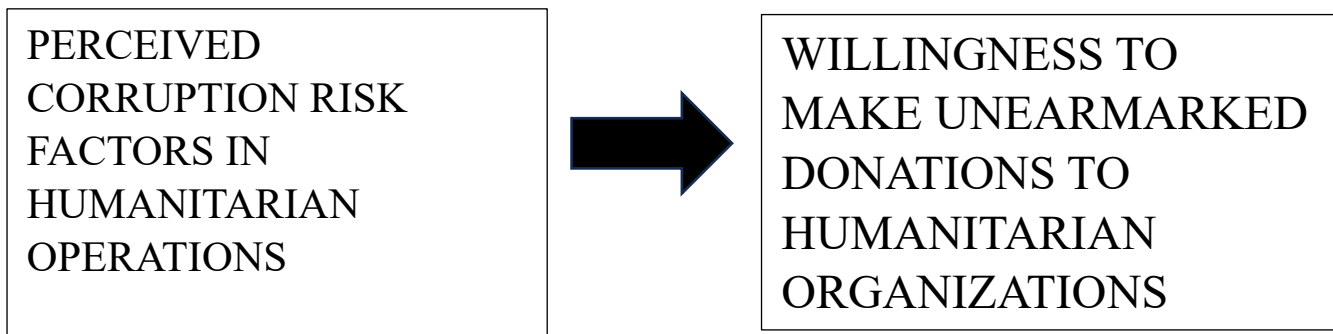


Figure 1. Conceptual model

1.7 Research questions

The present work will answer the following research questions in order to address the problem statement in a holistic and consistent way. The research questions can be categorized into theoretical and empirical ones:

Theoretical research questions

- 1) How can corruption be properly defined within the field of humanitarian operations?
- 2) Which are the factors that contribute to increasing the likelihood of corruption in humanitarian operations? How can these factors be classified?
- 3) Which are potential barriers that might prevent individuals from making unearmarked donations to HOs?

Theoretical research questions will be answered through an extensive review of the most relevant academical articles and reports investigating both humanitarian operations and individual donors' behaviour.

Empirical research questions

- 1) To what extent, do individual donors think that the presence of certain factors in aid recipient countries increases corruption risk in humanitarian operations?
- 2) How likely are individuals to make unearmarked donations if HOs can allocate money to humanitarian scenarios characterized by those factors?

Empirical research questions will be answered through a statistical analysis of data collected through a survey.

CHAPTER TWO: LITERATURE REVIEW

The present chapter consists of a literature review of the concepts considered relevant for the purpose of this research, and it is divided into five paragraphs. The first one focuses on finding a proper definition of corruption which is suitable for the context of humanitarian operations. The second paragraph investigates ways in which corruption in humanitarian operations can manifest itself and underlines different factors that are likely to influence its occurrence. In the third one, individual donor behaviour, decision to make unearmarked donations and underneath reasons are described. Theoretical research questions are answered by these three paragraphs. Finally, in the fourth paragraph hypotheses are formulated based on the insights gathered up to that point.

2.1 General definition of corruption

In the words of Alexander (2017), “corruption is difficult to measure and thus has many grey areas, fuzzy boundaries and overtones of moral relativity”. The concept of corruption has been deeply investigated by previous literature but finding one universal definition has been a great challenge for both practitioners and scholars. The problem lies in the fact that it is difficult to identify a definition that can be applied across multiple legal systems and countries. As noted by Transparency International (2014), people’s understanding of corruption differs enormously, both within and across cultures. A person might have a narrow definition, limited to fraud and financial abuse. At the same time, an action regarded as corrupt in some cultures may be perfectly acceptable in others. Maxwell et al. (2012) identified two different views about corruption that have developed over the years: the relativistic perspective states that the notion of corruption is firmly grounded into a society’s values and culture; on the other hand, according to the absolute perspective, corruption is recognized by all people as the abuse of power to enrich themselves, independently from the cultural background of an individual.

For the purpose of this research, the author needs to find a definition of corruption which is broad enough to fit within myriad situations existing in the humanitarian context. In an article concerning the issue of public corruption in African countries, Leys (1965) investigated the circumstances under

which an action can be called corrupt. After analysing a series of cases, he concluded that the common issue of all events was the violation of a behavioural standard or some rules, explicit or implicit, related to the proper purposes of a public office or public institution. While discussing the relationship between corruption and economical/political development of a country, Nye (1967) defined corruption as “behaviour which deviates from the formal duties of a public role (elected or appointed) because of private-regarding (e.g. personal, close family, private clique, etc.) pecuniary or status gains”. Among the behaviours labelled as corrupt, the author included bribery, nepotism, and misappropriation of public resources for personal use.

Following on the work of Maxwell et al. (2012), the author will adopt the broader definition provided by Transparency International (2014), the most important NGO focused on fighting corruption on a global scale and within different parts of society. Therefore, corruption is defined as “the abuse of entrusted power for private gain”. This definition requires some further clarifications. First, “private” refers not only to individuals but also to families, organizations (e.g. corporations and political parties) and communities (e.g. local elites and ethnic groupings). In addition to that, “gains” resulting from corruption do not exclusively relate to financial benefits but comprehend other kinds of advantages, such as enhanced personal or organizational reputation, political capital, and access to a service. Finally, this construction of corruption incorporates the concept of “entrusted power”, suggesting how power can be derived from the public sector or in a variety of unofficial ways.

Since there is no universally agreed-upon definition of corruption internationally, providing a precise and objective measure for the phenomenon is almost impossible (Rohwer, 2009). Gathering objective data on corruption is difficult and there is still no measurement system capable of flawlessly capturing true levels of corruption on a country and global scale. As a matter of fact, currently used indicators serve as imperfect proxies for actual levels of corruption. Transparency International releases the Corruption Perception Index (CPI) each year, which is the most prominent and widely recognized global indicator of corruption (Tsao & Hsueh, 2023). CPI is a composite indicator, and it measures how corrupt each country’s public sector is perceived to be, based on business and expert surveys (Transparency International, 2024). Each country is assigned a score ranging from 0 to 100, where 0 means highly corrupt and 100 means very clear.

2.3 Corruption in humanitarian operations

After finding a definition of corruption which is suitable for the humanitarian operations context, it is necessary to describe how corruption actually manifests itself and the characteristics of humanitarian assistance that increase its likelihood of occurrence.

According to Willitts-King & Harvey (2005), corruption in humanitarian operations encompasses a wide range of practices which comprehend but are not limited to financial forms of corruption:

- Financial fraud and embezzlement
- Misuse of agency assets
- Theft
- Diversion
- Bribes
- Abusive/coercive practices

Among the mentioned actions, the diversion of basic resources from poor people is regarded as the most damaging impact of corruption in humanitarian aid (Transparency International, 2009).

While attempting to create a comprehensive risk framework within the context of humanitarian operations, Ewins et al. (2006) underlined some corrupt practices which are more likely to occur during specific phases of the assistance process.

- *Initial assessment, decision to respond and programme design*: this phase regards the preparation for the humanitarian response, establishing which kind of aid will be delivered and to whom. Corrupt practices that may occur here usually involve assessments distortion by local elite to inflate needs or favour specific groups.
- *Fundraising and allocation of funding*: this phase comprehends the launch of an appeal to the public (or the preparation of a proposal in case of institutional funds) followed by the receipt of the money. Corrupt practices that may occur here usually involve double funding.
- *Working with local organizations*: this phase is related to the partners selection process and all activities carried out in conjunction with or delegated to them. Main risks here involve local organizations corruptly diverting resources originally meant for those in need for assistance.
- *Procurement and logistics*: this phase involves several activities, from pre-emptive stockpiling to warehousing and asset control. Corrupt practices here are usually related to local staff favouring one business over another due to financial incentives or family ties.
- *Targeting and registration of specific beneficiaries*: this phase includes assessment activities aimed at creating “beneficiary lists” and operating procedures developed to give each person

on the list a standard package of assistance. Corrupt practices more likely to occur here are usually related to local elite trying to influence who is included in the list, in exchange for part of the aid delivered.

- *Implementation/distribution*: this phase relates to the actual transportation and distribution of assistance. Corruption risk here is particularly high due to the power imbalance between distributor and beneficiaries being at its peak. As a matter of fact, a subsequent redistribution of resources might occur according to local norms or through the intervention of local leaders and authorities, potentially endangering the humanitarian organization's objectives.
- *Project monitoring, reporting, evaluation, and programme closing*: this phase is characterized by a high risk of corruption related to the potential subversion of reports and audits to hide diversion of aid. As a matter of fact, it may happen that local elites manipulate assessments to attract further resources.

There are some distinguishing features of the humanitarian sector that contribute to corruption occurrence. Khair (2018) enumerated some relevant factors, after analysing insights gathered by Transparency International in relation to corruption cases during the tsunami in the Indian Ocean in 2004 and the severe earthquake in Pakistan in 2007. In general, factors influencing corruption risk in humanitarian operations can be categorized into three groups: institutional (i.e. factors related to organizational features of the humanitarian agencies involved); systemic (i.e. factors related to the general characteristics of the humanitarian sector); and contextual (i.e. factors related to the presence of specific elements within aid recipient countries). Figure 1 summarizes these categories and their respective elements.

Systemic factors mainly refer to the need for urgency in aid delivery which can lead to shortcuts in corruption-tackling processes and reduced scrutiny. This can result into anomalies in staff recruitment and procurement. For example, during the Ebola outbreak in West Africa, HOs' need to intervene quickly paved the way to several cases of corruption, mostly in the form of inflated contracts and kickbacks in medical supplies procurement (Shepler, 2017). Furthermore, humanitarian assistance usually involves a huge variety of actors, ranging from international aid implementing agencies to local NGOs and governments of recipient countries. If these organizations are not able to coordinate their interventions, turbulences in assistance distribution may occur. This was shown during Haiti earthquake in 2010, when the extreme complexity of operations made it easier for corrupt officials to steal resources originally destined to reconstruction projects (Hsu & Schuller, 2020). The presence of several distinct players implies differences in terms of anti-corruption practices adopted by each agent

and the demand for multiple reporting requirements. Therefore, confusion may arise in relation to who should watch over whom to avoid corruption occurring.

Institutional factors comprehend attributes of the organizations involved in the humanitarian assistance process (Ewins et al., 2006). For example, the size of the agencies strongly influences the likelihood of corruption occurring: a large organization such as The Red Cross may have more resources to devote to management and anti-corruption systems; on the other hand, a smaller organization can excel in responsiveness and be more locally accountable. Furthermore, organizations differ from each other in terms of human resources available: varying degrees of staff's experience and training can have a relevant impact on corruption risk (Martin et al., 2023). Another factor worth of consideration is the extent to which organizations are integrated into local contexts and culture: while national NGOs and governments have a better understanding of the power dynamics within the recipient country, international agencies, especially in case of first-time interventions, may not be fully aware of the local context and could not meet disaster-affected population's expectations, leading to a more troublesome corruption detection process (Nouvet et al., 2016).

Contextual factors are aid recipient countries' features that potentially make corruption more likely to occur (Ewins et al., 2006). As underlined by Maxwell et al. (2012), humanitarian assistance usually takes place in countries experiencing conflicts and whose local and national infrastructures have been destroyed. Furthermore, targeted populations often find themselves under the rule of warlords and other gatekeepers who control the access to services and information. The combination of failed state, dysfunctional legal system and war creates fertile ground for corruption from both governmental and not-governmental actors. For example, Somalia has turned into one of the world's worst humanitarian crises due to the presence of internal conflicts and political instability, which continuously hinder aid delivery by favouring corruption, especially in the form of resources misappropriation (Jaspars & Maxwell, 2008; Sofe, 2020).

Institutional factors	Systemic factors	Contextual factors
<ul style="list-style-type: none"> • Organizational size • Human resources • Embedness in local context and culture 	<ul style="list-style-type: none"> • Need for urgency • Number of actors involved and operational complexity 	<ul style="list-style-type: none"> • Conflicts • Legal framework • Governemental situation • National and local infrastructures

Figure 2. Factors influencing corruption risk in humanitarian operations.

2.4 Individual donor behaviour and unearmarked donations

Previous literature has extensively investigated reasons behind individual donor behaviour, drawing from different fields such as psychology, sociology, and marketing. At the end of last century, Sargeant (1999) underlined how the amount of individual donations was not able to keep the pace with the increasing number of non-profits organizations and the level of needs to address. Therefore, he identified the key variables that may affect donors' decision-making process in order to build a theoretical model of "charitable giving behaviour". The model works in the following way: charitable organizations communicate a series of inputs to individual donors who have a perceptual reaction and, according to some determinants, may produce a donation output. Among the most relevant inputs, Sargeant described media usage and branding to convey charitable appeals and generate a response in targeted individuals. Whatever form the charitable appeal might take, potential donors' perceptual reaction can be influenced by several elements, such as the portrayal of people in need and whether the message conveyed is positively framed or not. Moreover, the way giving decisions are processed is affected by two main variables, namely donors past experience with charitable organizations and the judgmental criteria according to which a specific organization might be preferred over another. The final outputs can vary in terms of donation typology (e.g. in-kind vs monetary), amount donated and donor's loyalty towards the selected organization. According to Sargeant, the whole process is moderated by both extrinsic and intrinsic determinants which correspond to demographical and emotional features of donors involved.

In a subsequent work, Sargeant et al. (2007) expanded the discussion on individual giving behaviour by underlining not only factors that separate donors from non-donors, but also those elements that may influence donation amount and kind, likely lifetime value of a donor for charitable organizations and the development of donor loyalty to a specific institution. Research findings ultimately showed a positive correlation between amount donated and several factors, namely effectiveness and perceived professionalism of the organisation, personal/familial benefits deriving from the donation and quality of the service supplied.

For the purpose of the present research, it is important to limit the discussion to the field of humanitarian operations, underline the reasons behind an individual decision to make unearmarked donations and uncover potential barriers that could prevent donors from doing so. When people make unearmarked donations, the recipient aid organization gains maximum flexibility and less administrative work since it is free to allocate the money where it is needed the most (SDK, 2022).

Previous literature highlighted several mechanisms that might explain why some donors refuse to make unearmarked contributions. One potential reason could be found in the individual desire to have a specific and visible impact on the world. This topic was treated in a paper by Fuchs et al. (2020), in which they investigated the appeal of earmarking through a cross-cultural study, drawing from the “impure altruism” model and the theory of “impact philanthropy”. The impure altruism model suggests that an individual’s decision to donate cannot be explained only by the willingness to increase the recipient’s wellness: as a matter of fact, people might achieve some kind of personal utility from the act of giving. On the other hand, the impact philanthropy theory describes how donors are stimulated by the idea of having an actual impact on the world, therefore contributing to change. This theory also indicates that donors have favourite aspects of the humanitarian activity to which contribute, and funding will be more likely for causes in relation to which there is clearer information. Research findings brought out that if HOs allow for earmarking donations, this will result in an increase in terms of willingness to donate. In accordance with the previously explained theories, the authors pointed out that this effect derives from the fact that earmarking enhances potential donors’ perceived impact, increasing their personal utility. Therefore, since unearmarked contributions lack the feedback mechanisms reporting how money is used by HOs, individuals do not gain personal utility in the form of perceived impact, and their desire to donate decreases.

Further interesting insights were provided by Özer et al. (2024) who discussed the impact of earmarking on donors’ decision-making process with the aim of helping humanitarian organizations to develop effective fundraising campaigns. By conducting some online experiments, three different

stages of the decision-making process were analysed, namely the choice between earmarked and unearmarked donations, whether to donate or not and the amount to donate. In particular, the authors wanted to highlight the importance of three factors and test their individual impact upon the aforementioned stages: control, transparency, and warm glow. For what concerns control, earmarking empowers donors by ensuring that their contributions are effectively used to address donors' preferred causes. It could be said that, through earmarking, donors gain value in the form of sense of agency upon a process which is usually determined by the recipient HO. On the other hand, this sense of agency and control over resource use is absent in case of an unearmarked donation. As a matter of fact, the first experiment revealed that, faced with the opportunity to make an unrestricted contribution, a lower proportion of donors were activated, if compared to the earmarking case. In addition, the paper underlined the possibility to increase the total number of unearmarked donations by disclosing more information related to the destination of funds (i.e. destination transparency) and explaining the inefficiencies derived from inflexible contributions (i.e. inefficiency transparency). Finally, individuals may refuse to make unearmarked donations because of the crowd-out effect (Andreoni & Miller, 2002). For instance, if they knew that their money could be allocated to a country which is already receiving support from a third party, they would be less likely to donate since there would be a lower gain in terms of warm-glow and personal satisfaction.

2.5 Hypotheses

As underlined by previous literature (Fuchs et al., 2020; Özer et al., 2024), donors may be prevented from making unearmarked contributions due to several reasons. Those include lack of control over the way resources are used, absence of inefficiency and destination transparency, lack of trust in HOs, feeling of not having a specific impact, etc. By combining information related to individual donor behaviour with notions of corruption risk in humanitarian operations, the following hypotheses have been formulated:

H1) The more people believe that political instability in aid recipient countries increases corruption risk, the less likely they are to make unearmarked donations knowing that their money could be allocated to a country characterized by political instability.

H2) The more people believe that urgency to intervene in aid recipient countries increases corruption risk, the less likely they are to make unearmarked donations knowing that their money could be allocated to a country where to urgency to deliver assistance is high.

H3) The more people believe that a HO's lack of experience and awareness of aid recipient countries' culture/social context increases corruption risk, the less likely they are to make unearmarked donations knowing that their money could be allocated to a country where the organization in charge of operations has never worked before and is unaware of the local context.

Since individual donors want their money to be used in an effective way by HOs, it is safe to assume that they would be less likely to make unearmarked donation knowing that their money could be used in humanitarian contexts where the probability of resources diversion or misappropriation is higher due to the presence of a specific factor. It is worth noting how each element chosen to be analysed (i.e. political situation, urgency to intervene and HO's experience) represents one category of corruption risk factors (i.e. contextual, situational, and institutional), as explained in paragraph 2.3.

CHAPTER THREE: METHODOLOGY

The present chapter consists of the description of the methodology implemented to conduct the research, and it is divided into five paragraphs. The first paragraph underlines the nature of research and explains why deductive approach has been chosen. Research strategy is described in the second one, as well as its strengths and weaknesses. The third paragraph highlights sampling strategy, survey design and measures put in place to maintain participants' privacy. The last two paragraph are devoted to explaining how statistical analysis has been carried out (i.e. data cleaning procedures, variables, and regression equations) and to checking data validity and reliability.

3.1 The nature of research

The present research has adopted a deductive approach. Deductive approach is defined as one broad method of reasoning which begins with the general and ends with the specific (Trochim, 2006). Deductive reasoning belongs to the logic of justification and involves inference to a result. According to Langley (1999), within the process of theory building, deduction is used to predict, confirm and disconfirm. By applying a deductive approach, the researcher works from the "top down": he starts from a general theory, formulates some hypotheses, and then tests them through empirical observations and data collection (Creswell & Plano Clark, 2018). Conclusions deriving from data analysis indicate whether the initial theory is confirmed or rejected: for this reason, deductive approach is sometimes referred to as "theory testing" (Newman, 2000).

For the purpose of this research, deductive approach has been considered to be the most appropriate. By definition, deductive approach is best suited for research characterized by the presence of a strong theory or conceptual framework which is used as a basis for developing hypotheses that the author wants to test empirically (Soiferman, 2010). As previously shown in the literature review section, there are well-established theories regarding reasons for which individual donors would refuse to make unearmarked contributions (Fuchs et al., 2020; Özer et al., 2024b). Therefore, by combining those behavioural theories with insights related to corruption risk factors in humanitarian operations, it has been possible to formulate hypotheses to be empirically tested.

This research has a cross-sectional time horizon, meaning that all relevant data have been collected at and refer to a given point in time, providing a snapshot of the phenomenon at a specific moment (Kesmodel, 2018). Furthermore, cross-sectional studies are more efficient to conduct if compared to longitudinal ones, since they are quicker and less expensive (Mann, 2003).

This research's unit of analysis consists of individuals. In particular, the level at which data have been collected involves individuals who have made charitable donations in the past year.

3.2 Research strategy

This research has adopted a quantitative method to explore the relationship between the presence of corruption risk factors in humanitarian operations and individual donors' willingness to make unearmarked donations. Quantitative research involves collecting, analysing, and interpreting quantifiable data to prove hypotheses built on previous theory (Ghanad, 2023).

The research strategy that has been chosen consists of a survey designed on Qualtrics. Over 200 participants were asked to evaluate the potential impact of certain factors upon corruption risk in humanitarian operations, and subsequently they had to express their willingness to make unearmarked donations knowing that their money could be allocated to countries characterized by the presence of those factors. Results of the survey have been then analysed through SPSS by looking at both descriptive statistics and ordinal regression analysis.

As underlined by Yavuz (2023), quantitative surveys have several advantages if compared to other data collection tools. In particular, quantitative survey methods allow researchers to collect data related to participants' attitudes using numbers. Measuring opinions and behaviour of people would otherwise be difficult using observational methods alone. Furthermore, questionnaires and scales are considered an easier and cost-efficient way to gather data from a lot of people (J Fox et al., 2000).

Since the present research involves a behavioural analysis (i.e. the extent to which individual donors are willing to make unearmarked contributions) and considering the significant limitations in terms of both budget and time, the implementation of a survey is the wisest strategy.

3.3 Data collection

The sampling strategy involved a judgmental sampling method. Judgmental or purposive sampling is a specific type of non-probability sampling technique in which the researcher deliberately chooses participants because of the qualities they possess (Etikan, 2016). The selection of such methodology derives from the subjective belief that only people having certain features can provide relevant information for the purpose of the research. By using Prolific, an online paid platform that allows finding potential participants who meet specific requirements, it was possible to distribute the survey exclusively to people who had made charitable donations (not necessarily to humanitarian organizations) in the past. In this way, even though respondents had a varying degree of knowledge about humanitarian operations, all of them were at least familiar with the concept of donation and what it implies. Judgmental sampling brings several advantages, especially in terms of cost and time-efficiency, and it is considered ideal for exploratory research (Taherdoost, 2016). Therefore, adopting this sampling technique was considered an optimal strategy, taking into account that there is little to no literature about how individual donors might react to the presence of corruption risk factor in potential recipient aid countries. On the other hand, judgmental sampling comes with two main weaknesses. Firstly, as other non-probability sampling techniques, it does not allow generalization and limits statistical robustness of the findings. In addition, its effectiveness is strictly related to the subjective criterion adopted by the researcher to select participants.

The survey was created on Qualtrics, and questions were designed in a way to collect quantitative data for statistical analysis. As underlined in the previous section, participants were asked questions related to their general level of trust in humanitarian organizations, perceptions of certain factors' impact upon corruption risk in relief operations and willingness to make unearmarked donations in different scenarios. Participants had to provide their answers on 3 and 5 points Likert scales with verbal labels, which is a common technique used to measure attitudes in a scientifically validated way (Joshi et al., 2015). The choice of using fully labelled scales with verbal labels was made with the intention of helping respondents to clarify the meaning of questions and to ensure more reliable answers (Krosnick et al., 2005), without increasing response fatigue (Gummer & Kunz, 2021). In addition, implementing a Likert scale with an odd number of points allows the selection of a neutral

midpoint, providing enough variability for statistical analysis without overwhelming respondents with an excessive number of options (Preston & Colman, 2000). Furthermore, participants were asked demographical questions (i.e. age, gender and level of education achieved) and whether they had ever donated to HOs in the past. The full survey design can be found in the appendix.

The questionnaire was distributed through an anonymous link and sensitive data (i.e. IP address, response ID and location latitude/longitude) were eliminated before the analysis phase. These measures, alongside Qualtrics's built-in software, were taken to guarantee the privacy of respondents. Furthermore, participants willing to keep an even higher level of anonymity had the possibility to skip the initial demographic question regarding gender.

3.4 Data Analysis and Measurements

Data analysis was conducted using quantitative methods such as descriptive statistics and ordinal regression analysis. Descriptive statistics were used to organize and summarize data coming from the sample (Holcomb, 2016), while ordered logistic regression was applied to investigate the relationship between variables (Sarstedt & Mooi, 2019). In particular, several regression analyses were conducted, with the independent variables being the perceived influences of three factors on corruption risk in humanitarian operations, and the dependent one being individual donors' willingness to make an unearmarked contribution, knowing that the donated money could be allocated to a country characterized by the presence of one of those factors.

In order to effectively run the statistical analysis, it was necessary to carry out the data cleaning process. Data cleaning, also known as data scrubbing, aims at increasing the level of quality of data so that it can be used to produce reliable statistical models and statements (Van der Loo & De Jonge, 2018). The first step of the data cleaning process was filtering and removing data that was not relevant to the purpose of the research. This involved eliminating from the dataset all the additional information that Qualtrics gathered by default: survey's start/end date, survey's duration, response type, IP address, survey's progress/state, response ID, distribution channel, user language and location longitude/latitude. The next step was the treatment of missing data. Since the number of observations characterized by missing values was really low (i.e. 2) and the potential impact upon the sample size negligible, it was decided to implement the listwise deletion method (Peeters et al., 2015). Therefore, each record with at least one missing value was excluded.

It is worth mentioning that the variables described below are indicated by the same names as they are reported in the dataset.

Dependent variables

- 1) *Un_Political*: willingness to make an unearmarked donation knowing that donated money could be used in a country characterized by political instability.
- 2) *Un_Urgency*: willingness to make an unearmarked donation knowing that money could be used in a country where the urgency to intervene is high.
- 3) *Un_Experience*: willingness to make an unearmarked donation knowing that money could be used in a country where the HO in charge of delivering aid has no previous experience and is not aware of the local context/culture.

All dependent variables are ordinal and measured on a Likert scale, ranging from 1 to 5, where: 1 = “Very unlikely”; 2 = “Somewhat unlikely”; 3 = “Neither likely nor unlikely”; 4 = “Somewhat likely”; 5 = “Very Likely”.

Independent variables (or covariates)

- 1) *Political_in*: perceived increase in corruption risk in humanitarian operations deriving from the presence of political instability in aid recipient countries.
- 2) *Urgency_in*: perceived increase in corruption risk in humanitarian operations deriving from the urgency to intervene in aid recipient countries.
- 3) *Experience_in*: perceived increase in corruption risk in humanitarian operations deriving from the fact that the HO in charge of relief actions has never worked in the aid recipient country and is not fully aware of the local context/culture.
- 4) *Trust_HOs*: general level of trust in HOs.

The first three independent variables are ordinal and measured on a Likert scale, ranging from 1 to 3, where: 1 = “Does not increase corruption risk at all”; 2 = “Moderately increases corruption risk”; 3 = “Significantly increases corruption risk”.

The last independent variable is also ordinal and measured on a Likert scale, ranging from 1 to 5, where: 1 = “Completely distrust”; 2 = “Somewhat distrust”; 3 = “Neutral”; 4 = “Somewhat trust”; 5 = “Completely trust”.

Although all independent variables are originally ordinal, in the regression models they are treated as if they were continuous predictors for the reasons specified in paragraph 3.5.

Regression equations

Ordinal regression analysis, also known as proportional odds model or ordered logit regression, is a statistical technique used to represent the relationship between an ordinal dependent variable and one or more predictors which can be ordinal, categorical or continuous.

Three different ordinal regression equations are described to test the relationship between each perceived corruption risk factor and individual donors' willingness to make an unearmarked contribution. Each equation represents one of the hypotheses explained in paragraph 2.5.

$$1) \text{ logit}(P(\text{Un_Political} \leq j)) = \tau_j - \beta_1 \cdot \text{Political_in} + \beta_2 \cdot \text{Trust_HOs}$$

Where:

- $\text{logit}(P(\text{Un_Political} \leq j))$ is the logit (or log-odds) of the cumulative probability $P(\text{Un_Political} \leq j)$.
- $P(\text{Un_Political} \leq j)$ is the cumulative probability that the dependent variable Un_Political is less than or equal to category j .
- τ_j indicates the threshold for category j .
- $j = 1, 2, 3, 4$.
- β_1 is the coefficient of Political_in .
- β_2 is the coefficient of Trust_HOs .

$$2) \text{ logit}(P(\text{Un_Urgency} \leq j)) = \tau_j - \beta_1 \cdot \text{Urgency_in} + \beta_2 \cdot \text{Trust_HOs}$$

Where:

- $\text{logit}(P(\text{Un_Urgency} \leq j))$ is the logit of the cumulative probability $P(\text{Un_Urgency} \leq j)$.
- $P(\text{Un_Urgency} \leq j)$ is the cumulative probability that the dependent variable Un_Urgency is less than or equal to category j .
- τ_j indicates the threshold for category j .
- $j = 1, 2, 3, 4$.
- β_1 is the coefficient of Urgency_in .
- β_2 is the coefficient of Trust_HOs .

$$3) \text{ logit}(P(\text{Un_Experience} \leq j)) = \tau_j - \beta_1 \cdot \text{Experience_in} + \beta_2 \cdot \text{Trust_HOs}$$

Where:

- $\text{logit}(P(\text{Un_Experience} \leq j))$ is the logit (or log-odds) of the cumulative probability $P(\text{Un_Experience} \leq j)$.
- $P(\text{Un_Experience} \leq j)$ is the cumulative probability that the dependent variable Un_Experience is less than or equal to category j .
- τ_j indicates the threshold for category j .
- $j = 1, 2, 3, 4$.
- β_1 is the coefficient of Experience_{in} .
- β_2 is the coefficient of Trust_{HOs} .

3.5 Reliability and Validity

Reliability refers to the consistency and repeatability of data, while validity focuses on how accurately a measurement assesses what it is supposed to and the extent to which interpretation of results is justified (Hancock et al., 2018; Kimberlin & Winterstein, 2008).

In order to ensure the validity of the data, the assumptions underlying each ordinal regression model must be met. In particular, the following requirements must be satisfied:

1) *The dependent variable is an ordinal variable.*

To run an ordinal regression, it is necessary to have an ordinal outcome variable. Ordinal variables are categorical variables for which the possible values are naturally ordered, even though distances between levels may not be known (Agresti, 2010). Since the dependent variable of each ordinal regression model is measured on a five-points Likert scale, it can be said that this assumption is perfectly fulfilled.

2) *One or more of the independent variables are either continuous, categorical or ordinal.*

The independent variables that are implemented within each ordinal regression model are ordinal variables. However, in order to interpret the results of the statistical analysis more easily, they are treated as continuous variables. Treating ordinal variables as continuous predictors is a well-established practice in social sciences and particularly suits items measured on a Likert-Scale, as in the case of the present research. Furthermore, it helps to address the proportional odds assumption by underlining more consistent and smoother relationships with the outcome, if compared to an ordinal

independent variable with many levels (Williams, 2020). Therefore, considering that the independent variables used in each regression model are continuous, it can be said that this assumption is met.

3) *No multicollinearity*

Multicollinearity is a statistical phenomenon that occurs in a regression model when there is a linear relationship not only between a dependent variable and an independent one, but among different independent variables as well (Alin, 2010). The main consequence of multicollinearity is that the model's results may not be trustworthy. As a matter of fact, predictors' coefficients could be less reliable, due to the difficulty in interpreting the effect of each independent variable on the dependent one. In addition, confidence intervals may be wider and the statistical significance of predictors lower. In order to detect multicollinearity, it is necessary to look at collinearity statistics of each independent variable, namely tolerance and variance inflation factors (VIFs) (Shrestha, 2020). A tolerance value higher than 0.1 and a VIF lower than 10 indicate the absence or a negligible value of multicollinearity (Miles, 2014). The no multicollinearity assumption was tested for each ordinal regression model in chapter four.

4) *Proportional odds*

According to the proportional odds assumption, each explanatory variable must have an identical effect at each cumulative split of the ordinal dependent variable. In other words, the impact of the independent variables needs to be constant for each increase in the level of the response (McCullagh, 1980). If this assumption is not met, there could be problems in terms of model fit and misleading predictors' coefficients. In order to verify whether the proportional odds assumption is fulfilled, running a test of parallel lines is required (Ari & Yildiz, 2014). This test involves a comparison between the proportional odds model, where the slopes should be the same for all logits, with a less controlled one, where the slopes can differ among logits. If the test shows a statistically significant result (i.e. $p\text{-value} < 0.05$), then the proportional odds assumption is not met. Results of the test of parallel lines for each ordinal regression model are reported in Chapter Four.

To increase data reliability, several procedures were implemented in the survey design. Social desirability and order effect bias were addressed by respectively maintaining respondent anonymity (Larson, 2019) and randomizing the order of question. Finally, response fatigue was reduced by designing a short survey and by providing respondents with a small monetary incentive (Davies, 2019).

CHAPTER FOUR: FINDINGS

This chapter focuses on presenting the results of the statistical analysis conducted and is divided into two paragraphs. The first paragraph includes a descriptive analysis for each question in the survey. The second one comments on the results of the ordinal regression models together with tests for proportional odds and no multicollinearity assumptions. Overall, the present chapter provides answers to the empirical research questions.

4.1 Descriptive analysis

Exactly 215 people responded to the survey. It is possible to divide the total amount of respondents based on the answers they provided to the initial demographic questions. For example, Figure 3 shows the percentage frequency of participants' gender. The modal value for gender is "Female", with a percentage frequency of about 55% (i.e. 120 total occurrences), while "Male" is the second most recurrent, with slightly over 42% (i.e. 92 total occurrences). A negligible number of respondents selected the "Non-binary/third gender" and "Prefer not to say" options, together accounting for about 3% of the total.

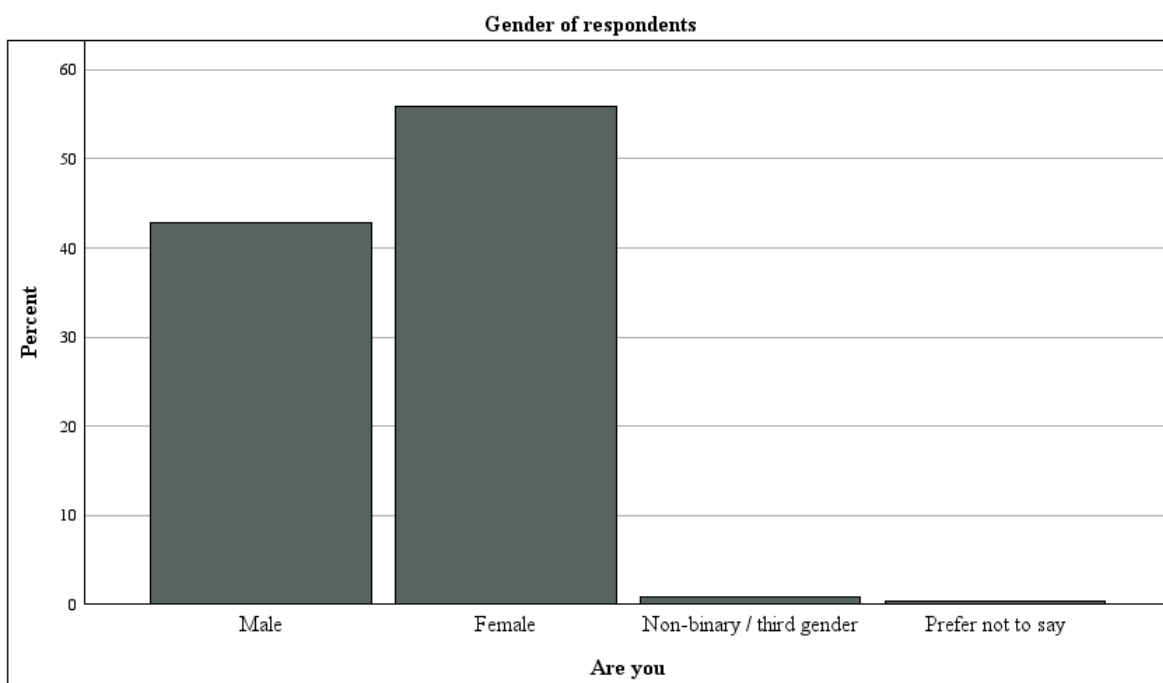


Figure 3. Gender of respondents

For what concerns age, as shown in Figure 4, most of participants are between 20 and 40 years old (i.e. cumulative percent = 77.7). Mean, median and modal values are 33, 29 and 24 respectively. 18 is the lowest age reported, while 69 is the greatest one.

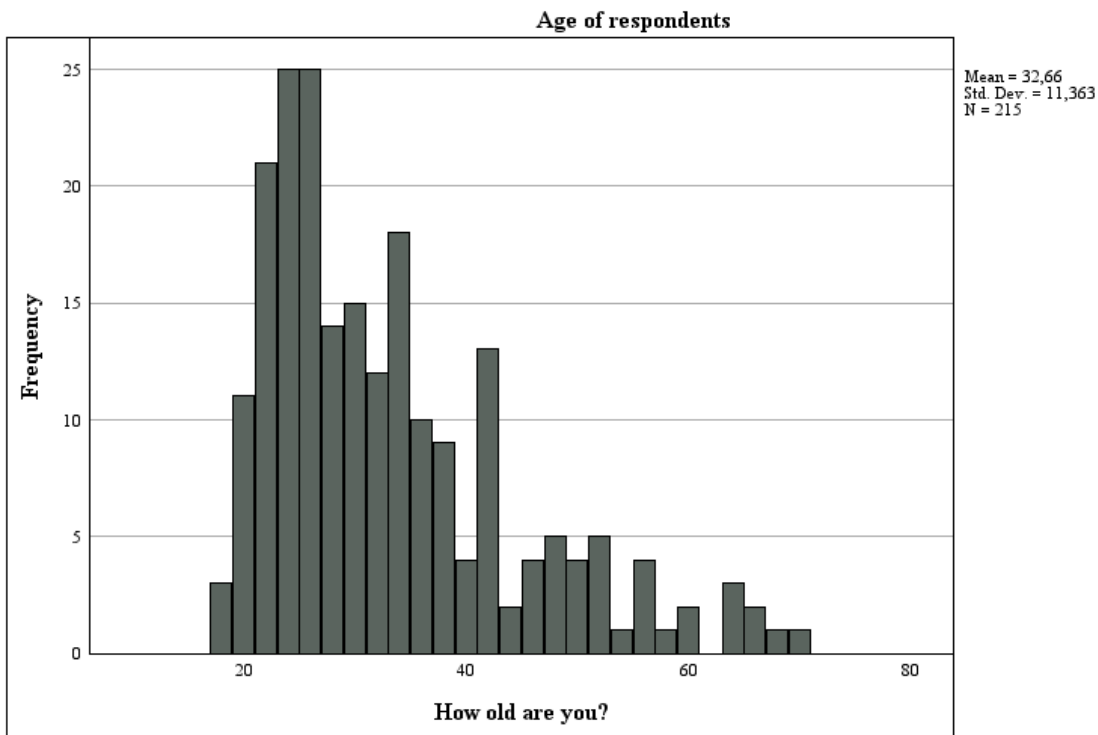


Figure 4. Age of respondents

Figure 5, on the other hands, focuses on levels of education declared by survey participants. “Bachelor’s degree” is the mode, with almost 40% of percent frequency (i.e. 83 total occurrences). “High school diploma or equivalent” and “Master’s degree” occupy the second and third positions, with percentage frequencies of 33% (i.e. absolute frequency = 71) and 22% (i.e. absolute frequency = 48) respectively. Only 7 people indicated that they did not have a high school diploma. Finally, “PhD” is the lowest category, reporting only 6 occurrences.

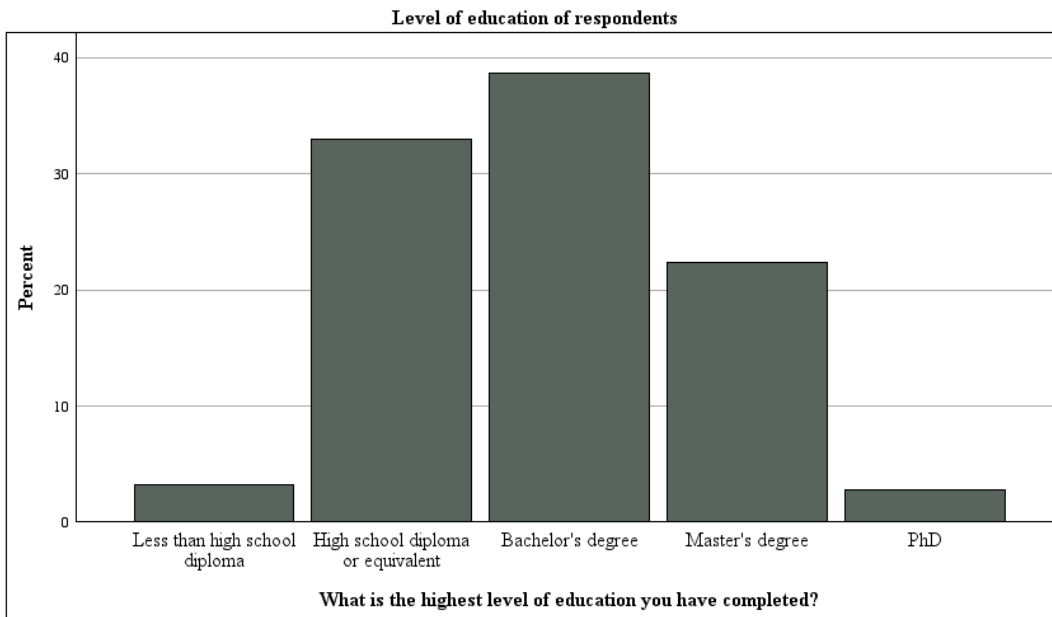


Figure 5. Level of education of respondents

Table 1 shows a summary of demographic data.

Demographic information						
		Count	Column N %	Mean	Median	Mode
Are you	Male	92	42,8%			
	Female	120	55,8%			
	Non-binary / third gender	2	0,9%			
	Prefer not to say	1	0,5%			
How old are you?				33	29	24
What is the highest level of education you have completed?	Less than high school diploma	7	3,3%			
	High school diploma or equivalent	71	33,0%			
	Bachelor's degree	83	38,6%			
	Master's degree	48	22,3%			
	PhD	6	2,8%			

Table 1. Summary of demographic data

In addition, respondents were also asked whether they had ever donated to any HO in the past and, not surprisingly, about 20% provided a negative answer. This supports the assumption previously explained in the methodology section, according to which having made a charitable donation is not necessarily the same as having donated to a HO.

Figure 6 shows participants' general level of trust in HOs. The option characterized by most occurrences is "Somewhat trust", with a percent frequency of 58.6 and an absolute one of 126. This indicates an overall positive attitude towards the organizations in charge of humanitarian aid delivery. Both "Somewhat distrust" and "Neutral" have a percent frequency of about 17% each, while extreme levels (i.e. "Completely distrust" and "Completely trust") account for almost 7% of total occurrences.

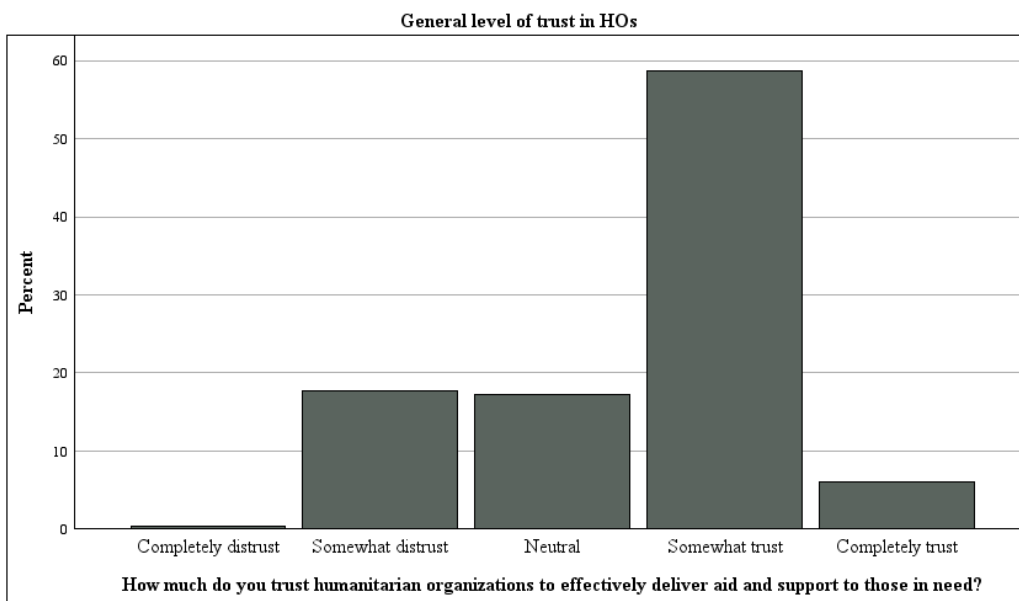


Figure 6. General level of trust in HOs

Moving to questions related to perceived corruption risk in humanitarian operations, Table 2 illustrates the importance of political instability, urgency to intervene and HO's lack of experience in aid recipient countries.

Perceived increase in corruption risk in humanitarian operations			
		Count	Column N %
In your opinion, how much do you think political instability in aid recipient countries can increase corruption risk in humanitarian operations?	Does not increase corruption risk at all	9	4,2%
	Moderately increases corruption risk	100	46,5%
	Significantly increases corruption risk	106	49,3%
In your opinion, how much do you think urgency to intervene in aid recipient countries can increase corruption risk in humanitarian operations?	Does not increase corruption risk at all	25	11,6%
	Moderately increases corruption risk	147	68,4%
	Significantly increases corruption risk	43	20,0%
In your opinion, how much do you think humanitarian organization's lack of experience and awareness of the aid recipient country's culture/social context can increase corruption risk in humanitarian operations?	Does not increase corruption risk at all	39	18,1%
	Moderately increases corruption risk	132	61,4%
	Significantly increases corruption risk	44	20,5%

Table 2. Perceived increase in corruption risk in humanitarian operations

The majority of respondents state that political instability can significantly increase the risk of corruption, with a percentage frequency almost equal to 50% (i.e. 106 total occurrences). Nearly the same amount of people select the midpoint option “Moderately increases corruption risk”, while only 9 respondents state that political instability has no effects. For what concerns urgency to intervene and HO’s lack of previous experience and awareness of the local context, “Moderately increases corruption risk” is the preferred answer in both cases, with an absolute frequency of 147 and 132 respectively. Overall, since “Does not increase corruption risk at all” is the least selected option in all three questions, it is safe to assume that respondents acknowledge to a certain extent the influence of the aforementioned elements on corruption risk in humanitarian operations.

Finally, Table 3 shows respondents’ willingness to make an unearmarked donation, knowing that their money could potentially be used in countries characterized by each factor increasing corruption risk.

Willingness to make an unearmarked donation			
		Count	Column N %
On a scale from 1 to 5, where 1 represents 'Very Unlikely' and 5 represents 'Very Likely,' please indicate how likely you are to make an unearmarked donation to a humanitarian organization, knowing that your money could be used in a country characterized by political instability.	Very Unlikely	29	13,5%
	Somewhat Unlikely	81	37,7%
	Neither likely nor unlikely	51	23,7%
	Somewhat Likely	48	22,3%
	Very Likely	6	2,8%
On a scale of 1 to 5, where 1 represents 'Very Unlikely' and 5 represents 'Very Likely,' please indicate how likely you are to make an unearmarked donation to a humanitarian organization, knowing that your money could be used in a country where the urgency to deliver humanitarian aid is high.	Very Unlikely	8	3,7%
	Somewhat Unlikely	25	11,6%
	Neither likely nor unlikely	35	16,3%
	Somewhat Likely	99	46,0%
	Very Likely	48	22,3%
On a scale of 1 to 5, where 1 represents 'Very Unlikely' and 5 represents 'Very Likely,' please indicate how likely you are to make an unearmarked donation to a humanitarian organization, knowing that your money could be used in a country where the humanitarian organization in charge of relief action has never worked before and is not fully aware of the local culture/social context.	Very Unlikely	53	24,7%
	Somewhat Unlikely	75	34,9%
	Neither likely nor unlikely	47	21,9%
	Somewhat Likely	33	15,3%
	Very Likely	7	3,3%

Table 3. Willingness to make an unearmarked donation

With respect to the political instability scenario, almost 38% of respondents state that they are “Somewhat Unlikely” to make an unearmarked donation (i.e. absolute frequency = 81). This is the preferred option also when the HO in charge of relief actions lacks experience and awareness of potential recipient countries, with a percentage frequency of nearly 35% (i.e. absolute frequency = 75). For what concerns the question featuring the urgency to intervene, “Somewhat Likely” is the most common choice, with 99 total occurrences and a percentage frequency equal to 46%. It is worth mentioning that extreme options were not chosen many times. In particular, “Very Likely” is the least preferred answer in both political instability and lack of previous experience scenarios, with an absolute frequency of 6 and 7 respectively. “Very Unlikely” is instead the option characterized by the lowest frequency in the urgency case, accounting for only 3.7% of the total (i.e. absolute frequency = 8).

4.2 Ordinal regression analysis

4.2.1 First model

The first ordinal regression model was used to test the relationship between the dependent variable “*Un_Political*”¹ and the independent one “*Political_in*”². Furthermore, “*Trust_HOs*”³ was included as a control variable.

Assumptions check

Table 4 describes the results of the test of parallel lines, while Table 5 illustrates VIF and tolerance for each independent variable.

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	130,471			
General	119,556	10,916	6	,091

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.
a. Link function: Logit.

Table 4. Test of parallel lines (first regression)

Model	Collinearity Statistics		
	Tolerance	VIF	
1	Political_in	,996	1,004
	Trust_HOs	,996	1,004

Table 3. Multicollinearity detection (first regression)

¹ Willingness to make an unearmarked donation knowing that donated money could be used in a country characterized by political instability.

² Perceived increase in corruption risk in humanitarian operations deriving from political instability in aid recipient countries.

³ General level of trust in HOs.

The test of parallel lines shows a non-significant result (i.e. $p\text{-value} > 0.05$). Therefore, the assumption of proportional odds is met. In addition, VIF and tolerance of each independent variable are respectively lower than 10 and higher than 0.1, indicating the absence of multicollinearity.

Model fitting

Table 6 provides information regarding the model’s fit to data.

Model Fitting Information				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	160,717			
Final	130,471	30,245	2	<,001

Link function: Logit.

Table 6. Model fitting information (first model)

As shown in the table above, there are two models that are tested. “Intercept Only” indicates the baseline model with only the intercept and no predictors, while “Final” is the model with explanatory variables. To assess whether the model with two predictors provides a better fit to the data than the intercept-only one, it is necessary to look at the p-value of the chi square statistic. Since the p-value reports a statistically significant value (i.e. $p\text{-value} < 0.01$), it is possible to state that the final model provides a significantly better fit to the data.

Goodness of fit

In ordinal regression, to assess the goodness of fit of a model, Pearson chi-square and/or deviance statistic are usually considered (Pulkstenis & Robinson, 2004). While Pearson chi square indicates how well the model’s predicted probabilities align with the observed frequencies, deviance measures the extent to which the fitted model deviates from a hypothetical model providing perfect fit to data. For both measures, a p-value higher than 0.05 (or 0.01, according to the desired level of precision) suggests a high goodness of fit. As illustrated in Table 7, even though p-value for Pearson is slightly lower than 0.05, overall results are acceptable, indicating a moderate goodness of fit.

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	58,826	42	,044
Deviance	56,012	42	,073

Link function: Logit.

Table 7. Goodness of fit (first model)

Parameters estimates

Table 8 displays parameters estimates for the ordinal regression model.

Parameter Estimates								
		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[Un_Political = 1]	-2,242	,784	8,174	1	,004	-3,778	-,705
	[Un_Political = 2]	-,163	,772	,045	1	,833	-1,677	1,351
	[Un_Political = 3]	,993	,773	1,649	1	,199	-,522	2,508
	[Un_Political = 4]	3,571	,857	17,369	1	<,001	1,892	5,251
Location	Trust_HOs	,548	,149	13,497	1	<,001	,256	,840
	Political_in	-,868	,223	15,102	1	<,001	-1,306	-,430

Link function: Logit.

Table 8. Thresholds and parameters estimates (first model)

To verify whether predictors have an impact upon ordinal outcome’s probability of being in a higher category, it is necessary to look at the sign and significance of coefficients. In this case, both independent variables have a p-value lower than 0.01, suggesting statistical significance. In particular, the coefficient for “Political_in” has a negative sign, indicating that as “Political_in” increases, the odds of reporting higher values for “Un_Political” decreases. On the other hand, due to the positive sign of its coefficient, when “Trust_HOs” grows, so do the odds of “Un_Political” being in a higher category. Overall, these results confirm the first hypothesis. To provide a more detailed interpretation, it is possible to exponentiate coefficients to obtain odds ratio.

Odds ratio for “Political_in”: $e^{-0.868} \approx 0.42$

This means that for every one-unit increase in “Political_in”, the odds of being in a higher category of “Un_political” are 0.42 times as high, holding other variables constant.

Odds ratio for “Trust_HOs”: $e^{0.548} \approx 1.73$

This means that for every one-unit increase in “Trust_HOs”, the odds of being in a higher category of “Un_political” are 1.73 times as high, holding other variables constant.

4.2.2 Second model

The second ordinal regression model was used to test the relationship between the dependent variable “Un_Urgency”⁴ and the independent one “Urgency_in”⁵. Furthermore, “Trust_HOs” was included as a control variable.

Assumptions check

The test of parallel lines displayed in Table 9 shows a non-significant result (i.e. p-value > 0.05). Therefore, the assumption of proportional odds is met. In addition, as shown in Table 10, VIF and tolerance of each independent variable are respectively lower than 10 and higher than 0.1, indicating the absence of multicollinearity.

Test of Parallel Lines ^a				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	115,406			
General	107,708	7,698	6	,261

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.

a. Link function: Logit.

Table 9. Test of parallel lines (second model)

Multicollinearity detection			
Model	Collinearity Statistics		
	Tolerance	VIF	
1	Trust_HOs	,990	1,010
	Urgency_in	,990	1,010

Table 10. Multicollinearity detection (second model)

Model fitting

As shown in the table below, the p-value of the chi-square statistic is lower than 0.05, indicating that the model with predictors provides a significant better fit to the data than the intercept-only one.

Model Fitting Information				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	139,970			
Final	115,406	24,564	2	<,001

Link function: Logit.

Table 11. Model fitting information (second model)

Goodness of fit

⁴ Willingness to make an unearmarked donation knowing that money could be used in a country where the urgency to intervene is high.

⁵ Perceived increase in corruption risk in humanitarian operations deriving from the urgency to intervene in aid recipient countries.

Table 12 displays Pearson chi-square and deviance statistic. Both measures have a p-value higher than 0.05, suggesting a high goodness of fit.

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	37,553	46	,808
Deviance	44,270	46	,545

Link function: Logit.

Table 12. Goodness of fit (second model)

Parameters estimates

Table 13 shows parameters estimates for the ordinal regression model.

Parameter Estimates								
		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[Un_Urgency = 1]	-,509	,795	,410	1	,522	-2,068	1,049
	[Un_Urgency = 2]	1,117	,748	2,226	1	,136	-,350	2,583
	[Un_Urgency = 3]	2,114	,756	7,823	1	,005	,633	3,596
	[Un_Urgency = 4]	4,288	,800	28,757	1	<,001	2,721	5,855
Location	Trust_HOs	,751	,153	24,099	1	<,001	,451	1,051
	Urgency_in	,145	,229	,402	1	,526	-,303	,594

Link function: Logit.

Table 13. Parameters estimates (second model)

The coefficient of “Urgency_in” is positive but its p-value is equal to 0.526, indicating no statistical significance (i.e. p-value > 0.05). This leads to a rejection of the second hypothesis. On the other hand, “Trust_HOs” reports a positive and statistically significant coefficient, suggesting that as “Trust_HOs” increases, so do the odds of “Un_Urgency” being in a higher category. To provide a more detailed interpretation, it is possible to exponentiate the coefficient of “Trust_HOs” and obtain odds ratio:

Odds ratio of “Trust_HOs”: $e^{0.751} \approx 2.12$

This means that for every one-unit increase in “Trust_HOs”, the odds of being in a higher category of “Un_Urgency” are 2.12 as high, keeping other variables constant.

4.2.3 Third model

The third ordinal regression model was used to test the relationship between the dependent variable “Un_Experience”⁶ and the independent one “Experience_in”⁷. Furthermore, “Trust_HOs” was included as a control variable.

Assumptions check

The test of parallel lines displayed in Table 14 shows a non-significant result (i.e. p-value > 0.05). Therefore, the assumption of proportional odds is met. In addition, as shown in Table 15, VIF and tolerance of each independent variable are respectively lower than 10 and higher than 0.1, indicating the absence of multicollinearity.

Test of Parallel Lines ^a				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	145,001			
General	137,167	7,834	6	,251

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.
a. Link function: Logit.

Table 14. Test of parallel lines (third model)

Multicollinearity detection			
Model		Collinearity Statistics	
		Tolerance	VIF
1	Experience_in	,965	1,036
	Trust_HOs	,965	1,036

Table 15. Multicollinearity detection (third model)

Model fitting

As shown in the table below, the p-value of the chi-square statistic is lower than 0.05, indicating that the model with predictors provides a significant better fit to the data than the intercept-only one.

Model Fitting Information				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	151,247			
Final	145,001	6,245	2	,044

Link function: Logit.

Table 16. Model fitting information (third model)

Goodness of fit

⁶ Willingness to make an unearmarked donation knowing that money could be used in a country where the HO in charge of delivering aid has no previous experience and is not aware of the local context/culture.

⁷ Perceived increase in corruption risk in humanitarian operations deriving from the fact that the HO in charge of relief actions has never worked in the aid recipient country and is not fully aware of the local context/culture.

Table 17 displays Pearson chi-square and deviance statistic. While the p-value for Pearson chi-square is higher than 0.05, the one for deviance statistic is between 0.05 and 0.01. Overall, these results are enough to suggest a moderate goodness of fit.

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	58,176	46	,107
Deviance	64,441	46	,038
Link function: Logit.			

Table 17. Goodness of fit (third model)

Parameters estimates

Tables 18 shows parameters estimates for the ordinal regression model.

Parameter Estimates								
		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[Un_Experience = 1]	-,075	,722	,011	1	,917	-1,491	1,340
	[Un_Experience = 2]	1,459	,730	4,000	1	,045	,029	2,890
	[Un_Experience = 3]	2,562	,743	11,890	1	<,001	1,106	4,019
	[Un_Experience = 4]	4,493	,821	29,933	1	<,001	2,884	6,103
Location	Trust_HOs	,349	,147	5,685	1	,017	,062	,637
	Experience_in	-,083	,201	,172	1	,679	-,478	,311
Link function: Logit.								

Table 18. Parameters estimates (third model)

The coefficient of “Experience_in” is negative, but its p-value was greater than 0.05, indicating no statistical significance. This leads to a rejection of the third hypothesis. On the other hand, “Trust_HOs” reports a positive and statistically significant coefficient, suggesting that as “Trust_HOs” increases, so do the odds of “Un_Experience” being in a higher category. To provide a more detailed interpretation, it is possible to exponentiate the coefficient of “Trust_HOs” to obtain odds ratio:

Odds ratio for “Trust_HOs”: $e^{0.349} \approx 1.42$

This means that for every one-unit increase in “Trust_HOs”, the odds of being in a higher level of “Un_experience” are 1.42 times as high, holding other variables constant.

CHAPTER FIVE: DISCUSSION

The present chapter focuses on the interpretation of results and is divided into four paragraphs. The first paragraph outlines theoretical contributions, highlighting similarities and differences with the literature from Chapter Two. In the second one, recommendations for managers of HOs are discussed. The third paragraph describes research limitations in terms of methodology and from a theoretical standpoint. Lastly, the fourth paragraph suggests innovative ways to further extend research on this topic.

5.1 Theoretical contributions

Results of the ordinal regression analysis have confirmed the first hypothesis outlined in paragraph 2.5 of Chapter Two: the more individual donors believe that political instability of potential aid recipient countries increases corruption risk in humanitarian operations, the less willing they are to make unearmarked contributions when their money can be used in such contexts. This statement is consistent with some of the previously reviewed literature. For example, Fuchs et al. (2020) underlined that one of the main reasons why individuals refuse to make unearmarked donations is their desire to have a traceable and specific impact on the world, ensuring that the funds they provide are used in an effective way. Therefore, it is logical to deduce that people aware of corruption risk for political reasons are less willing to make unrestricted contributions, knowing that their money could be allocated to contexts where weak governments and institutions may endanger aid delivery and favour resource misappropriation. Repeating the same concept using the words of Özer et al. (2024), it is possible to say that individuals' sense of agency over the donation process decreases when potential recipient countries for unearmarked contributions are characterized by political instability.

For what concerns second and third hypotheses, both have been rejected by the ordinal regression analysis due to the absence of statistical significance. Apparently, even if they believe that urgency to intervene and HOs' lack of experience increase corruption risk, people may still make unearmarked donations when potential recipient countries show those features. The rejection of these hypotheses is seemingly inconsistent with the reasons described in relation to the political instability scenario. However, there might be several explanations why people are still willing to donate:

- 1) *Greater emotional gain*: people may decide to donate due to the increased emotional benefit of potentially being able to help people in high-emergency situations (Huber et al., 2011). In this sense, it could be said that donors prioritize the immediate needs of the affected populations over potential inefficiencies of HOs.

- 2) *Trust in HOs*: descriptive statistics in Chapter Four have underlined the overall positive attitude of survey participants towards HOs. Furthermore, results from the ordinal regression models confirm a positive correlation between general level of trust in HOs and willingness to make unearmarked donations. Because of this trust, people may be led to believe that HOs are capable of adapting to entirely new environments or high-urgency contexts. As a result, they would still make unearmarked contributions despite potential inefficiencies in resource allocation and utilization.
- 3) *Personal distress*: previous literature underlined that being aware of emergency situations can provoke feelings of distress and sorrow in individuals (Verhaert & Van den Poel, 2011). For instance, donations may be intended as a mechanism to mitigate this unpleasant sensation. As a consequence, it may occur that the desire to reduce personal distress outweighs the fear of making a donation that can be wasted due to corruption. This consideration is consistent with the model of impure altruism, according to which charitable giving behaviour is also driven by some forms of selfish gain (Ottoni-Wilhelm et al., 2017).

5.2 Managerial recommendations

The research findings lead to interesting implications for managers of HOs. As previously explained, people think that political instability increases corruption risk in recipient countries, and this reduces their willingness to make unearmarked contributions if money can be allocated in contexts with such feature. This problem could be addressed by investing in donor education and creating communication campaigns describing the practices that HOs implement to deal with the consequences of political instability (e.g. risk management strategies, partnerships with reputable local NGOs, staff training, etc.). In addition, HOs may focus their communication strategy on previous success stories: for example, HOs such as Médecins Sans Frontières (MSF) and Save the Children managed to effectively provide aid in the past, despite unstable political conditions and the presence of conflicts within recipient countries (e.g. Syria and South Sudan). In order to alleviate the effect of perceived corruption risk, HOs could also allow people to make unrestricted donations in terms of potential recipient countries but guaranteeing them that part of the money would be used for

the implementation of risk mitigation strategies. Basically, this would mean to allow for donations that are softly earmarked for a single dimension (Reinsberg et al., 2024).

Finally, since all ordinal regression models confirmed a positive correlation between general level of trust in HOs and willingness to make unearmarked donations, it is necessary to reiterate the concept, already widely discussed in previous literature, that managers should invest in activities aimed at increasing people's level of trust in HOs. These activities might include communicating with donors in a more effective way (Dijkzeul & Moke, 2005), building partnership with reputable organizations to increase credibility and enhancing organizational transparency (Khan et al., 2019).

5.3 Limitations

The present work has investigated the relationship between perceived corruption risk in humanitarian operations and willingness to make unearmarked donations. Despite some interesting insights, especially regarding the role of political instability in aid recipient countries, it must be emphasized that this research is characterized by several limitations.

Firstly, sample size does not allow the provision of highly generalizable results. Furthermore, the sampling technique adopted is solely based on the author's perspective and might be prone to biases (Sharma, 2017).

Taking into account the logic underlying ordinal regression models, a potential limitation derives from treating predictors as continuous variables despite their ordinal nature. As explained in the methodology section, this is quite a common practice aimed at more easily interpretable results and to specifically meet the proportional odds assumption. However, someone considers this technique to be more suitable for cases when ordinal variables are characterized by a large number of categories (Grace-Martin, 2008). In addition, although previous literature highlighted the importance of HO's brand reputation (Sargeant, 1999) and individuals' attachment to specific contexts (Fuchs et al., 2020), it is necessary to underline that the survey questions do not mention any real countries or existing aid agencies.

From a theoretical perspective, another limitation of this research is to consider a single level of each corruption risk factor. In reality, these factors can not be interpreted in a general way, but rather manifest themselves in several forms and occur with different intensities. For example, there are varying degrees of political instability. Some countries could face internal protests despite the presence of strong institutions, while in others there might be no formal government at all, with power being in the hands of local tribes or elites. The same reasoning can be applied to contexts where there

is urgency to deliver humanitarian aid. As a matter of fact, there can be different levels of urgency depending on the immediate impact, severity, and scale of the crisis. Finally, in relation to the same recipient country, it is possible that experience and knowledge of the local context vary depending on the HO in charge of relief operations.

Furthermore, this research has investigated the individual impact of only three corruption risk factors, while in the actual world, as shown in paragraph 2.3 of the literature review section, there are more. It is also quite common for those factors to coexist within the same country, leading to an increasing likelihood of corruption in humanitarian operations.

5.4 Future research directions

To address problems related to sample size, future research should collect information from a greater amount of people. Furthermore, to deal with the limitations deriving from the judgmental sampling method, it would be useful to distribute a similar survey to people who have never made charitable contributions and underline potential differences in terms of perceived corruption risk and willingness to make unearmarked donations.

With respect to limitations of the ordinal regression models used by the author, future analyses could rely on ordinal predictors or continuous ones by implementing Likert scales with a wider range of options. Additionally, it would be interesting to mention real countries and organizations in the survey questions, in order to evaluate the effect of devotion to a particular case and trust in established HOs.

Next works could also provide a more comprehensive analysis by including more corruption risk factors (e.g. organizational size of HOs in charge of relief actions, number of actors involved and complexity of operations, the state of infrastructures in potential recipient countries, etc.) and testing their influence on individual willingness to make unearmarked donations. Moreover, future research could potentially design a discrete-choice experiment, showing to participants several scenarios characterized by different combinations of corruption risk factors, and asking them to choose between making an unearmarked donation or an earmarked one. Another possible idea is to identify different levels of intensity for each corruption risk factor and to include them in the analysis.

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APPENDIX

Full survey

Perceived corruption risk and individual donor behavior

Start of Block: Introduction

Introduction Hi,

This is a survey that will be used to understand how the presence of different factors in aid recipient countries can affect individual donors' perceived corruption risk in humanitarian operations and, subsequently, giving behaviour.

You will be asked to evaluate the effect of some factors on corruption risk and then, to decide whether to provide or not humanitarian organizations with an unearmarked donation. Unearmarked donations are donations that humanitarian organizations can allocate according to their own preferences, without a purpose specified by donors. Remember, there are not right or wrong answers. Try to be as sincere as possible

Thanks in advance for your contribution!

End of Block: Introduction

Start of Block: Demographical information

Are you

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)

What is the highest level of education you have completed?

- Less than high school diploma (1)
 - High school diploma or equivalent (2)
 - Bachelor's degree (3)
 - Master's degree (4)
 - PhD (5)
-

How much do you trust humanitarian organizations to effectively deliver aid and support to those in need?

- Completely distrust (1)
 - Somewhat distrust (2)
 - Neutral (3)
 - Somewhat trust (4)
 - Completely trust (5)
-

Have you ever donated to a humanitarian organization?

- Yes (1)
 - No (2)
-

How old are you?

End of Block: Demographical information

Start of Block: Donor behaviour

In your opinion, how much do you think political instability in aid recipient countries can increase corruption risk in humanitarian operations?

- Does not increase corruption risk at all (1)
- Moderately increases corruption risk (2)
- Significantly increases corruption risk (3)

In your opinion, how much do you think urgency to intervene in aid recipient countries can increase corruption risk in humanitarian operations?

- Does not increase corruption risk at all (1)
 - Moderately increases corruption risk (2)
 - Significantly increases corruption risk (3)
-

In your opinion, how much do you think humanitarian organization's lack of experience and awareness of the aid recipient country's culture/social context can increase corruption risk in humanitarian operations?

- Does not increase corruption risk at all (1)
 - Moderately increases corruption risk (2)
 - Significantly increases corruption risk (3)
-

On a scale from 1 to 5, where 1 represents 'Very Unlikely' and 5 represents 'Very Likely,' please indicate how likely you are to make an unearmarked donation to a humanitarian organization, knowing that your money could be used in a country characterized by political instability.

- Very Unlikely (1)
 - Somewhat Unlikely (2)
 - Neither likely nor unlikely (3)
 - Somewhat Likely (4)
 - Very Likely (5)
-

On a scale of 1 to 5, where 1 represents 'Very Unlikely' and 5 represents 'Very Likely,' please indicate how likely you are to make an unearmarked donation to a humanitarian organization, knowing that your money could be used in a country where the urgency to deliver humanitarian aid is high.

- Very Unlikely (1)
- Somewhat Unlikely (2)
- Neither likely nor unlikely (3)
- Somewhat Likely (4)
- Very Likely (5)

On a scale of 1 to 5, where 1 represents 'Very Unlikely' and 5 represents 'Very Likely,' please indicate how likely you are to make an unearmarked donation to a humanitarian organization, knowing that your money could be used in a country where the humanitarian organization in charge of relief action has never worked before and is not fully aware of the local culture/social context.

- Very Unlikely (1)
- Somewhat Unlikely (2)
- Neither likely nor unlikely (3)
- Somewhat likely (4)
- Very likely (5)

End of Block: Donor behaviour

Dataset

Gen der	Educ ation	Trust _HOs	Age	Politic al_in	Urgen cy_in	Experie nce_in	Un_Po litical	Un_Ur gency	Un_Exp erience	Past_do nations
1	3	2	27	2	1	3	2	4	2	1,00

1	3	5	23	3	1	3	1	5	1	1,00
2	4	4	45	2	1	3	2	4	2	1,00
1	3	2	21	3	2	3	4	4	1	1,00
1	3	2	35	2	2	3	2	4	4	1,00
1	3	4	33	3	2	3	4	5	4	1,00
1	2	2	21	3	2	3	1	2	1	1,00
1	4	4	29	3	2	3	2	4	2	1,00
1	3	4	34	3	2	3	3	4	5	1,00
1	2	3	22	2	2	3	2	4	3	1,00
1	3	4	26	3	2	3	2	3	1	1,00
1	4	4	47	3	2	3	4	1	2	1,00
2	2	4	23	2	2	3	4	5	1	1,00
2	4	3	34	3	2	3	1	4	1	1,00
2	4	3	47	3	2	3	3	4	3	1,00
2	3	2	25	3	2	3	1	4	1	1,00
2	2	4	36	2	2	3	4	5	4	1,00
2	2	4	18	2	2	3	3	5	4	1,00
2	2	4	44	3	2	3	2	3	1	1,00
2	4	2	52	3	2	3	2	4	1	1,00
2	3	4	34	2	2	3	4	4	2	1,00
2	4	4	57	3	2	3	2	5	2	1,00
2	4	5	44	2	2	3	2	4	1	1,00
2	4	4	51	3	2	3	2	4	2	1,00
2	3	2	42	2	2	3	5	4	2	1,00
1	5	4	33	3	3	3	1	4	3	1,00
1	3	3	21	3	3	3	3	4	3	1,00
1	3	3	25	3	3	3	1	5	1	1,00
2	2	1	46	3	3	3	1	2	2	1,00
2	2	4	24	3	3	3	1	3	2	1,00
2	3	4	24	3	3	3	3	5	2	1,00
2	2	2	59	3	3	3	2	4	2	1,00
2	5	3	26	3	3	3	2	4	1	1,00
2	2	5	45	3	3	3	5	5	5	1,00

2	2	2	24	3	3	3	2	2	2	1,00
2	4	3	38	3	3	3	1	4	2	1,00
2	2	4	66	2	3	3	1	4	1	1,00
2	3	4	41	3	3	3	2	4	1	1,00
2	3	4	41	2	1	2	4	4	2	1,00
2	3	5	21	2	1	2	4	5	1	1,00
2	4	4	27	2	1	2	4	4	3	1,00
2	3	4	23	2	1	2	4	5	2	1,00
2	2	4	21	2	1	2	2	3	2	1,00
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2	3	4	25	3	1	2	4	5	4	1,00
4	3	2	25	3	1	2	4	4	2	1,00
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1	3	4	26	2	2	2	2	4	2	1,00
1	3	3	26	2	2	2	1	1	1	1,00
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1	3	4	23	3	2	2	3	4	2	1,00
1	2	3	49	2	2	2	3	3	3	1,00
1	2	4	24	3	2	2	2	2	1	1,00
1	4	4	26	3	2	2	2	4	1	1,00
1	4	4	26	3	2	2	4	5	3	1,00
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1	2	4	29	2	2	2	3	4	2	1,00
1	3	4	24	3	2	2	4	4	4	1,00
1	4	4	41	3	2	2	2	3	4	1,00
1	2	5	26	3	2	2	2	4	2	1,00
1	2	4	24	3	2	2	2	2	2	1,00
1	4	4	37	2	2	2	4	4	3	1,00
1	3	4	31	2	2	2	2	3	2	1,00

1	2	2	27	3	2	2	3	3	4	1,00
1	4	4	32	2	2	2	4	4	4	1,00
1	4	2	31	2	2	2	2	2	3	1,00
1	2	2	20	2	2	2	3	3	1	1,00
1	4	4	42	3	2	2	3	3	3	1,00
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2	1	3	69	2	2	2	2	3	2	1,00
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2	2	4	20	3	2	2	2	5	2	1,00
2	3	4	47	2	2	2	2	4	2	1,00
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2	3	4	35	2	2	2	2	4	3	0,00
2	2	4	40	2	2	2	2	2	2	0,00
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2	2	2	25	2	2	2	1	2	1	0,00
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1	2	4	38	3	2	1	2	4	3	0,00
1	4	2	42	3	2	1	2	2	1	0,00
1	3	3	28	2	2	1	1	4	1	0,00
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