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JEL classification: L31, M41
Original scientific paper
<https://doi.org/10.32910/ep.75.2.1>

THE EFFECTS OF INFORMATION FROM NGOs' FINANCIAL STATEMENTS ON CHARITABLE CONTRIBUTIONS: EVIDENCE FROM CROATIA

The purpose of this study is to identify data from the financial reports of NGOs that influence donors' willingness to donate. Using logistic regression, the authors attempt to identify the accounting measures associated with donations among the NGOs in our sample. The study included a sample of 2,981 NGOs in Croatia that use a double-entry accounting system. The results show that several accounting variables have an impact on donations, including organizational size, volunteer staff, revenue concentration, government grants, business-like income, debt ratio and adequacy of equity. The study has some limitations. First, the sample covered mainly large Croatian NGOs. Second, by design, the focus was on a broad sample which includes different types of organizations, so there is the possibility that the effects of organizational and financial characteristics on donations are not equal across the sample of different types of organizations. This study helps to fill the gap in the literature on this topic by examining the relationship between information from NGOs financial reports and giving behaviour.

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This study also presents new empirical findings from a large sample study from Croatia with a different institutional background. Research results provide new insights into how financial disclosure can meet the needs of donors.

Keywords: *financial statements, donations, non-governmental organizations, Croatia*

1. INTRODUCTION

Non-governmental organizations (NGOs) exist to benefit the broader social community, and their activities focus on user needs, not profit and market orientation. Unfortunately, a lack of financial resources often limits the implementation of planned activities and the achievement of NGO goals. NGOs raise the necessary financial resources from various sources, but the predominant way for NGOs to raise funds is through donations. Many factors cause someone to donate resources, assets, time or money, so understanding factors that cause people to donate provides a solid foundation for NGOs to attract and retain donations. Because NGOs represent diverse, complex, and often atypical contexts, given their challenges in measuring performance and being accountable to multiple stakeholders (Hall & O'Dwyer, 2017), there is still no consensus on which variables are associated with donations (Trussel & Parsons, 2007).

However, information from NGOs financial statements cannot be dismissed as irrelevant to donations, as there is considerable empirical evidence of their impact on donations (Parsons, 2003; Trussel & Parsons, 2007; Yetman & Yetman, 2012; Connolly *et al.*, 2013; Agyemang *et al.*, 2019; Ghoorah *et al.*, 2021). Although these studies examined the potential of financial statements in the context of donations and yielded interesting results, empirical studies that analyze and identify data from NGO financial statements that impact donors' giving decisions are still scarce. Therefore, this study contributes to filling this gap in the literature by examining the relationship between information from NGO financial statements and the donation behaviour of NGOs. Since information from the financial statements of non-governmental organizations may impact their ability to solicit charitable donations, this study considers several accounting metrics to understand the performance information provided by these organizations. Moreover, the objective of this study is to investigate what information from NGOs' financial statements contributes to the process of fundraising.

Based on previous relevant literature, authors assume that accounting measures, including organizational size, volunteers, revenue concentration, govern-

ment grants, business-like revenues, debt ratio, and adequacy of equity, influence donations. To verify our hypothesis, the authors examined a sample of 2,981 NGOs in Croatia.

Study contributes to the literature on non-profit accounting, examining how data from NGOs' financial statements might play a significant role in charitable giving behaviour by stressing the importance of the potential of financial statements in the context of donations in NGOs. Second, prior studies were mainly conducted in developed countries. Hence, this study presents new empirical evidence from a large sample study from Croatia with a different institutional background. Finally, these findings also bring some practical implications for NGOs in increasing the revenue of donations. NGOs can use this knowledge to effectively disclose specific data from financial statements to increase the contribution of donors.

The study is structured as follows. After a brief introduction, the second section presents studies that have examined the relationship between information from NGO financial statements and donations and presents hypothesis development. In section three, the authors explain the research methodology and data. Section four includes the results of the analysis. The authors conclude the study with a discussion, concluding remarks, limitations, and implications.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

NGOs' financial statements are one of the ways to mitigate information asymmetries between NGOs and their donors, and donors can use them in their resource allocation decision-making process (Quosigk & Forgiione, 2018). In the context of donations, most concepts of allocative efficiency that support institutional economic theory call for resources to go to the most productive NGOs. However, evidence that allocative efficiency helps to increase revenues of donations in NGOs still needs to be expanded and conclusive because clear output measures, both financial and nonfinancial ratios, regularly do not exist for NGOs (Coupet & Broussard, 2021). Information from NGOs' financial statements can represent a mechanism to help donors distinguish organizations that are deserving and not-deserving donations. This study is based on the idea that a motive for donor giving is rational attention to the financial condition of NGOs. The literature has not fully explored the decision-making benefits of financial disclosure of donations by non-governmental organizations. To address this gap in the literature, the authors propose some accounting measures from NGOs' financial statements as critical information that may be important for the donations gathering process. These measures are presented below.

2.1. Organizational size

Size may represent an NGO's capability to fulfil its mission and gather donations, and organization size can be used as a proxy for reputation (Trussel & Parsons, 2007). According to Trussel and Parsons (2007), information about organizational size is an essential determinant of donations. Tinkelman and Mankaney (2007) investigated organizational characteristics related to donations and found that donations are positively associated with organizational size. In their empirical analyses, Xie and Ding (2013) indicate that NGOs' total assets affect individual and institutional donations. Chikoto-Schultz and Neely (2016) find that size is essential for financial stability and that government funding is related to financial stability. Organizations with more considerable assets encourage more donations because the donors of those organizations will recognize the organization as sustainable for the near future (Charles, 2018). Lee and Choi (2019) studied 102 Korean charitable organizations, examined the relationship between organizational size and donations, and found that larger non-profits and those with growth potential are related to more lavish government grants. Rossi *et al.* (2020) also argued that a large asset size increases an NGO's capacity to compete for charitable contributions.

On the other hand, numerous recent studies confirmed a negative or null relationship between organizational size and donations. The organizational size can indicate financial stability, and the expected association with donations should be positive. However, recent studies highlight that financial stability may lead to fewer donations if aggregate donors look for organizations with more financial needs (Yan & Sloan, 2016). Similarly, Betzler and Gmür (2016), in their study examining the change in net donation revenue over three years, found that organizational size does not correlate significantly with net donation growth. Yan and Sloan (2016) found that a higher fixed-asset ratio reduces donations. Krawczyk *et al.* (2017) also argued that although organizational size shows organizational characteristics matter, it does not affect an arts and culture organization's ability to interest donors. Blouin *et al.* (2018) investigated the financial disclosure practices of 3,217 NGOs. Their results prove evidence that voluntary web disclosure of Form 990 is associated with donations but independent of organizational size.

However, the results from these studies are miscellaneous as to whether and how organizational size is related to charitable contributions. Authors expect a negative association between organizational size and donations. Also, authors assumed that organizational size generates a positive growth in financial capacity, but that leads to fewer charitable contributions because donors can seek out that non-profits with a larger asset do not need additional donations, which can be presented in the following hypothesis:

H1. Organizations' size has a negative impact on private and corporate donations.

2.2. Volunteers

Volunteers are individuals who donate their time or who engage in community service (Bussell & Forbes, 2002). Much of the value created by NGOs comes precisely from the contributions of volunteers (Mook *et al.*, 2005). Callen (1994) pointed out that monetary donations are positively associated with volunteerism. Perica (2019) also argued that NGOs with volunteers receive more donations than NGOs without volunteers. Clausen (2022) studied how non-profit funding affects the number of volunteers and found a positive relationship between donation income and the number of volunteers. Following these studies, authors hypothesize that non-profits with a larger number of volunteers will receive more private and corporate donations than non-profits without volunteers. The following hypothesis was developed:

H2. The number of volunteers has a positive impact on private and corporate donations.

2.3. Revenue concentration

Many NGOs rely on a diverse mix of revenue sources. Usually, these sources are divided into (a) revenue from donations, (b) revenue from the government, (c) proprietary revenue (products sold and service fees), (d) revenue from membership dues, (e) property revenue, and (f) other revenue. An NGO that relies on a single source of revenue is more susceptible to a decline in economic health and more vulnerable to financial shocks than an organization with revenue from multiple sources (Trussel & Parsons, 2007). Tuckman and Chang (1991) recommend calculating a measure of revenue concentration that represents the extent of revenue dispersion. An NGO with a concentration index of one has revenue from a single source. In contrast, a non-profit with a concentration index near zero has uniform revenue from many sources. Prior literature advocates revenue diversification primarily because it supports organizational stability (Tuckman & Chang, 1991; Greenlee & Trussel, 2000; Carroll & Stater, 2009; Lin & Wang, 2016).

Recent studies on revenue concentration effects on donations have shifted attention to whether revenue concentration inhibits charitable donation behaviours. There is yet no consensus concerning whether it is more favourable for non-profits to have more diversified than concentrated revenue in the context of donations. In their study, Parsons and Trussel (2008) identified that lower revenue concentration generates more contributions on average. Ashley and Faulk (2010) tested the effect of revenue diversification on the grant amount given by foundations, and they did

not find statistically significant effects. Surysekar and Turner (2012) showed that revenue diversification is negatively associated with current-year donations. Yan and Sloan (2016) found a statistically significant and negative impact of the revenue concentration ratio on donations. Moreover, de los Mozos *et al.* (2016) showed that improved revenue diversification leads to a higher operational inefficiency that could be penalized by potential donors. Following previous studies, authors assumed that revenue diversification harms private and corporate donations, which can be presented in the following hypothesis:

H3. Revenue concentration has a positive impact on private and corporate donations.

2.4. Government grants

Numerous non-profits depend on private donations and government grants, but it still needs to be determined how these funding sources may interact or influence each other (Kim & Van Ryzin, 2014). Several studies have explored that government grants can crowd out or crowd in private donations to NGOs. Okten and Weisbrod (2000) found evidence that revenue from government grants generally does not crowd out private donations. Findings from Kim and Van Ryzin's (2014) study of charitable giving to non-profit arts organizations provided evidence for a crowding-out consequence. They found that government funding led to a failure in private donations. However, they did not find that the level or share of government funding in a non-profit's budget affects private donations, suggesting no continuous crowding-out effect. Lu (2016) found a positive relationship between government grants and private donations.

Meanwhile, using panel data on the U.S. non-profit sector, Brooks (2003) showed that increased government is related to decreased average donations. Andreoni and Payne (2011) showed that in charities, government grants appear to reduce private donations and that crowding out is significant. Lee and Choi (2019) stated that charities with more government grants are less likely to pursue private donations.

Still, the results from these studies need to be clarified as to whether and how government grants influence private donations. Authors expect a negative relationship between government grants and private and corporate donations. Authors assumed that private and corporate donors would give less if a non-profit receives a more significant share of government grants, and authors hypothesize:

H4. Government grants have a negative impact on private and corporate donations.

2.5. Business-like revenues

Business-like revenues in this study include own revenues (product sold and service fees), membership fees and property revenues. These revenues are business-like, which implies market discipline and thus sends quality signs to donors (Trussel & Parsons, 2007). Although many earlier studies found that business-like revenues positively influence charitable giving, authors highlight the complicated interaction among different non-profits' revenues (Anheier, 2006) and call for further empirical investigation. Okten and Weisbrod (2000) examined whether business-like revenues affect donations to an NGO. They found that income from the organization's own program sales activity usually does not crowd out private donations, and they found significant positive effects. Enjolras (2002) indicated that most commercialized organizations do not reduce their share of public funds and voluntary work. Wicker *et al.* (2012) analyzed the relations among different revenue categories of non-profit sports clubs and demonstrated a significant positive relation between revenues from donations and membership and service fees. Krawczyk *et al.* (2017) suggested that program revenue and revenue from special events negatively affect charitable donations.

Contrariwise, the literature also documents that business-like revenues can crowd out donations in NGOs. Herzer and Nunnenkamp (2013) indicated that commercial revenues crowd out donations in the long run. In their study, Lee *et al.* (2021) analyzed a longitudinal dataset of U.S. arts and cultural non-profits for 2008–2016 and found that low levels of commercial revenue crowd in charitable donations, while commercial revenue greater than 25% of total revenue crowds out charitable donations.

The empirical evidence above highlights the complicated interaction among different non-profits' revenues. Authors assumed that donors see business-like revenues in NGOs as organizational efforts to increase organizational efficiency and that business-like revenues can crowd in private and corporate donations, and authors hypothesize:

H5. Business-like revenues have a positive impact on private and corporate donations.

2.6. Debt ratio

Like investors in profit firms, donors also consider leverage decisions necessary in allocating their contributions within the non-profit sector (Calabrese & Grizzle, 2012). So, when considering the efficiency of NGOs from a donor per-

spective, it is important to consider the debt ratio. The debt ratio shows potential donors how likely an NGO is to encounter its debts, and an increase in debt ratio increases financial vulnerability (Tuckman & Chang, 1991). In the context of donations, some empirical evidence supports that NGOs with higher debt ratios receive lower donations. Ashley and Faulk (2010) analyzed the influence of debt ratio on the grant amount awarded by foundations. They found that grantees with higher debt and fundraising ratios receive lower grant amounts. In their study, Calabrese and Grizzle (2012) also suggested that donors eliminate future donations when an NGO is more highly leveraged than similar organizations. However, some studies confirmed a positive or null relationship between debt ratio and donations. Yan and Sloan (2016) analyzed long-term debt in the context of donations and indicated that long-term debt does not correlate with donations. Charles (2018) investigated whether non-profit managers' capital structure decisions impact future contributions from individual donors and found that a non-profit's debt-to-assets ratio does not impact future contributions. Perica (2019) examined the association between the revenues from total donations and indebtedness and demonstrated that NGOs with a debt ratio over 0.7 have 1,350 times more likely to have donations than those NGOs with a debt ratio of less than 0.5. Still, these empirical results are mixed on this point.

In our study, authors assumed that from a personal and corporate donor perspective, the way an NGO uses resources is important. When an NGO is more leveraged, that may lead to fewer charitable contributions. Following Calabrese and Grizzle (2012), authors adopted that private donors remove future donations when an NGO is leveraged. Authors assume that private and corporate donors might have thought the NGO could not continue future programs and services and might prefer funding current rather than past output. Authors hypothesize:

- H6. A higher debt ratio has a negative impact on private and corporate donations.

2.7. Adequacy of equity

Adequacy of equity represents the number of periods of revenue an NGO currently has on hand (Trussel & Parsons, 2007, p. 269). Organizations with a high adequacy of equity can better face financial difficulties because they can leverage their assets rather than reduce program services (Trussel & Greenlee, 2004). Prior literature documented that the high ratio of the adequacy of equity is negatively related to donations, implying that donors may view that high ratio of the adequacy of equity implies that organizations do not spend donations on programs (Trussel & Parsons, 2007; Parsons & Trussel, 2008; Perica, 2019).

However, an organization with a higher adequacy of equity is more likely to liquidate existing assets or get credit to encounter future needs (Trussel & Parsons, 2007). NGOs with reasonably large amounts of equity are better able to face financial problems and become resistant to being financially distressed (Marudas, 2004). Authors support the idea that higher adequacy of equity is desirable in the context of private and corporate donations because authors assume that private and corporate donors have preferences for those organizations that have a lower risk of reducing program service, and authors hypothesize:

H7. Adequacy of equity has a positive impact on private and corporate donations.

3. METHODOLOGY AND DATA

3.1. Sample selection

For our empirical analysis, the authors used a sample of NGOs in Croatia that apply a double-entry bookkeeping system and whose total revenues exceed EUR 39,816.84. The Register of an NGO in Croatia provides data for all variables in this analysis. The data set necessary for the empirical research is extracted from the annual financial statements for the 2021 year. Our initial sample contained 4,312 NGOs. In the data cleaning process, 1,331 NGOs with missing or incomplete data were excluded. After excluding those organizations, the authors are left with a sample of 2,981 NGOs. Following Tinkelman and Mankaney (2007), Trussel and Parsons (2007), Yetman and Yetman (2013), Quosigk and Forgione (2018), and Perica (2019), authors define private and corporate donations as substantial if they represent 10% or more of total revenues. Non-profits are classified into two categories: non-profit with private and corporate donations and non-profit without private and corporate donations. The empirical approach in this study considered donations are associated with accounting measures, including organizational size, volunteers, revenue concentration, government grants, business-like revenues, debt ratio, and adequacy of equity. Logistic regression is used to test hypotheses.

3.2. Variable description

Consistent with prior studies and concerning the specifics of Croatian NGOs, several accounting measures that could affect private donations are considered: organizational size, volunteers, revenue concentration, government grants, business-like revenues, debt ratio, and adequacy of equity. Table 1 summarizes the variable description.

Table 1.

THE VARIABLE DESCRIPTION

Variable	Index	Description/measures
Donation	DON	0 - the NGO does not have private and corporate donations 1 - the NGO has private and corporate donations
Organizational size	SIZE	ln (total assets)
Volunteers	VOL	number of volunteers/total number of volunteers of all NGOs in the sample
Revenue concentration	CONCEN	$\sum[(\text{Revenue source})/\text{Total revenues}]^2$
Government grants	GRANTS	ln (government grants)
Business-like revenues	BLREV	ln (own revenues (product sold and service fees) + membership fees + property revenues)
Debt ratio	D.R.	(total debts / total assets): 1 - NGO is not indebted (ratio value <0.5) 2 - NGO is indebted (ratio value 0.5-0.7) 3 - NGO is overindebted (ratio value >0.7)
Adequacy of equity	A.E.	net assets / total revenue

Source: authors

The dependent variable of research has two possible outcomes (“0” represents NGOs without considerable private and corporate donations, and “1” represents NGOs with substantial private and corporate donations).

Variables that are supposed to impact the level of donations are ordinal variable debt ratio and numerical variables such as organization size, volunteers, revenue concentration, government grants, business-like revenues and adequacy of equity.

4. EMPIRICAL RESULTS

In the first part of the empirical research, descriptive statistics are conducted. Table 2 provides descriptive statistics for variables donations, organizational size, volunteers, revenue concentration, government grants, business-like revenues, debt ratio, and adequacy of equity. Table 2 shows the descriptive statistics.

Table 2.

DESCRIPTIVE STATISTICS

		DON	SIZE	VOL	CONCEN	GRANTS	BLHREV	DR	AE
N	Valid	2981	2981	2981	2981	2981	2981	2981	2981
	Missing	0	0	0	0	0	0	0	0
Mean		0.281	5.602	0.000	0.706	5.446	4.384	0.679	0.568
Median		0.000	5.573	0.000	0.712	5.556	4.870	0.000	0.212
Std. Deviation		0.450	0.757	0.003	0.227	0.740	1.658	0.893	2.211
Variance		0.202	0.573	0.000	0.052	0.548	2.749	0.797	4.891

Source: authors' calculations

Descriptive analysis shows that 28% of the observed organizations' share of the revenue from private and corporate donations in total revenues > 10%. The arithmetic mean of the revenue concentration is 0.706, and the arithmetic mean of the adequacy of equity is 0.568. The descriptive analysis also shows that half of the NGOs are not indebted (debt ratio < 0.5).

4.1. Univariate analysis

After descriptive statistics, the t-test is used to test the significance of the mean difference between numeric variables (organization size, volunteers, revenue concentration, government grants, business-like revenues and adequacy of equity). Mann-Whitney test is used to test the difference between ordinal variables (debt ratio). Table 3 shows the results of the T-test.

Table 3.

T-TEST RESULTS

	t	df	Sig.(2-tailed)	Mean Difference	Std.Error Difference
SIZE	4.201	2979	0.000	0.129	0.031
VOL	-2.673	868.873	0.008	0.000	0.000
CONCEN	-1.596	2979	0.111	-0.015	0.009
GRANTS	5.390	1684.951	0.000	0.155	0.029
OTHREV	0.003	1869.779	0.997	0.000	0.062
AE	-0.694	915.957	0.488	-0.090	0.129

Source: author's calculations

Based on the t-test results, the authors stated that there was a significant difference in t-test values only for three variables. There was a significant difference in organizational size, volunteers and government grants between NGOs with private and corporate donations and NGOs without private and corporate donations. The positive t value for variables organizational size and government grants indicated that the mean value for the organizational size and government grants for the NGOs without private and corporate donations are significantly greater than the mean for NGOs with private and corporate donations. The negative t value for variable volunteers indicated that the mean value of volunteers for the NGOs with private and corporate donations is significantly greater than that for NGOs without private and corporate donations.

Mann-Whitney test is calculated to test the differences in indebtedness between NGOs with private and corporate donations and NGOs without private and corporate donations. The variable debt ratio (D.R.) is an ordinal variable and includes three values. A ratio value < 0.5 (D.R. 0) represents an NGO that is not indebted, a ratio value of $0.5-0.7$ (D.R. 1) represents an NGO that is indebted, and a ratio value >0.7 (D.R. 2) represent an NGO that is overindebted. Table 4 shows the results of the Mann-Whitney test.

Table 4.

THE MANN-WHITNEY TEST RESULTS.

			N	Mean Rank	Sum of Ranks
D.R.	donations	NGOs without considerable private and corporate donations	2142	1453.67	3113756.00
		NGOs with substantial private and corporate donations	839	1586.31	1330915.00
	Total		2981		
Mann-Whitney U			818603		
Wilcoxon W			3113756		
Z			-4.379		
Asymp. Sig. (2-tailed)			0.000		

Source: author's calculations

Mann-Whitney test results show that the debt ratio in the NGOs with private donations was statistically significantly higher than in NGOs without private donations ($U = 818603$, $p = 0.000$).

4.2. Multivariate analysis

Using binary (binomial) logistic regression, the authors attempt to identify the data from financial statements most associated with private and corporate donations among NGOs in our sample. The research aims not to make a predictive model but to test the hypothesis, i.e. to examine whether the indicators such as organizational size, volunteers, revenue concentration, government grants, business-like revenues, debt ratio, and adequacy of equity impact donations.

Our dependent variable takes the value "0" if the organization is categorized as an NGO without considerable private and corporate donations and "1" if the organization is classified as a with substantial private and corporate donations. Authors utilize variables such as organization size, volunteers, revenue concertation, government grants, business-like revenues, adequacy of equity, and debt ratio as our independent variables of interest.

Considering that the dependent variable is measured on a dichotomous scale and independent variables are numerical and ordinal, as the most appropriate anal-

ysis for the results, binomial (binary) logistic regression is used with the following form of empirical model:

$$DON_i = \beta_0 + \beta_1 O S_i + \beta_2 V O L_i + \beta_3 R C_i + \beta_4 G G_i + \beta_5 B L R_i + \beta_6 D R_i + \beta_7 A E_i e_i \quad (1)$$

Where is:

DON = an indicator variable set to 1 if an NGO has considerable private and corporate donations, 0 otherwise.

O.S. = organizational size is measured as the natural log of total assets.

VOL = the proportion of the number of volunteers to the total number of volunteers of all NGOs in the sample.

R.C. = revenue concentration is measured as the Hirschman-Herfindahl index (HHI). Tuckman and Chang (1991) recommend calculating an index of revenue concentration as HHI using the sum of the squared percentage share that each revenue source denotes in total revenue. If an NGO has revenues from a single source, it will have a concentration index of one; in contrast, if an NGO has equal revenues from many sources, it will have an index close to zero (Tuckman & Chang, 1991).

G.G. = government grants are measured as the natural log of total government grants.

BLR = business-like revenues are measured as the natural log of own revenues (product sold and service fees), membership fees and property revenues.

D.R. = debt ratio is calculated as total liabilities divided by total assets. If the debt ratio is less than 0.5, NGOs are not indebted. An NGO is indebted if the ratio is between 0.5 and 0.7. If the ratio is greater than 0.7, an NGO is overindebted.

A.E. = adequacy of equity is calculated as net assets divided by total revenue. An NGO with a high asset turnover ratio operates more efficiently than a lower one.

Table 5.

THE RESULTS OF LOGISTIC REGRESSION.

Variable	Expected sign	B	S.E.	Wald	Sig.
O.S.	-	-0.257	0.067	14.871	0.000
VOL	+	177.520	38.075	21.738	0.000
RC	+	0.742	0.234	10.021	0.002
GG	-	-0.345	0.062	31.168	0.000
BLR	+	0.071	0.033	4.794	0.029
DR	-			25.848	0.000
DR (1)	-	-0.488	0.096	25.756	0.000
DR (2)	-	-0.343	0.152	5.095	0.024
AE	+	0.073	0.033	5.016	0.025
Sample size		2,981			
% Correctly classified		71.8			
Hosmer and Lemeshow Test		Chi-square= 5.508, p= 0.702			
Roc Curve		0.623			

Source: authors' calculations

Table 5 shows the results of logistic regression. The overall model is statistically significant, $\chi^2(8) = 114.20, p < 0.05$. Calculated measures of multicollinearity indicate that multicollinearity is not a serious issue (tolerance factors are higher than 0.5, and variance inflation factors are lower than 2.0). Hosmer - Lemeshow test shows that the model is well adjusted with $p = 0.702 (> 0.05)$. The model explained 54% (Nagelkerke R²) of the variance in private donations in NGOs and correctly classified 71.8% of cases. The area below the ROC curve is 62.3%, considered a sufficient classification. Table 5 displays our model's results, consistent with our hypotheses. Consistent with H2, H3, H5 and H7, the coefficient of VOL, R.C., BLR and A.E. are positive and statistically significant, reflecting that NGOs with a more considerable number of volunteers, lower revenue diversification, increasing commercial revenues, and higher adequacy of equity receive more private and corporate donations. Consistent with H1, H4 and H6, the coefficients of O.S., G.G. and D.R. are negative and statistically significant. It means that more considerable assets, a greater share of funding from government grants, and when an NGO is leveraged, leads to fewer charitable contributions.

5. DISCUSSION AND CONCLUSIONS

Many NGOs operate with limited budgets and rely on donations. Donors expect NGOs to use their contributions wisely. Promoting financial stability and organizational sustainability to potential donors is, therefore, a challenge for non-profit managers. Since financial statements are supposed to provide relevant information to users and the main users of financial statements in the non-profit sector are donors, our study tried to identify data from NGOs' financial statements that influence donors' giving decisions. The aim of our study was to find out what information from NGO financial statements contributes to donor acquisition. The study highlights the importance of financial statements for donor acquisition. The main objective of this study was to find out whether financial information influences private and corporate donations. In this regard, the authors were motivated by the theory that appropriate disclosure of financial information helps to solve the asymmetric information problems between non-profit managers and donors. The authors examined whether certain information from financial statements is important to individuals and corporations in making a decision to donate.

The empirical analysis examines which financial information disclosure of Croatian NGOs influences private and corporate donations. The results have found a significant relationship between NGOs' financial and organizational characteristics and private and corporate donations. Namely, our results show that donors reward NGOs with a considerable number of volunteers, lower revenue diversification, higher ratios of commercial revenues to total revenues, and higher adequacy of equity. This study adds empirical evidence to support prior studies that also established the positive influence of mentioned above information from NGOs' financial statements on charitable giving (Callen, 1994; Okten & Weisbrod, 2000; Enjolras, 2002; Surysekar & Turner, 2012; Wicker *et al.*, 2012; de los Mozos *et al.*, 2016; Krawczyk *et al.*, 2017; Perica, 2019; Clausen, 2022).

On the other hand, the results also suggest that NGOs with more considerable assets, with higher proportions of funding from government grants to total revenues and having a high proportion of debt crowd out private and corporate donations, which is in line with previous studies (Brooks, 2003; Andreoni & Payne, 2011; Calabrese & Grizzle, 2012; Yan & Sloan, 2016). The results show to support our hypotheses. This study contributes to understanding the components of NGOs' financial statements and indicates their influence on giving behaviour.

Before discussing the implications of our findings, the authors acknowledge some limitations of this study and suggest possibilities for future research. First, our sample covered mainly large Croatian NGOs. Second, by design, authors focus

on a broad sample which includes different types of organizations, so there is the possibility that the effects of organizational and financial characteristics on donations are not equal across the sample of different types of organizations. A more homogenous sample may be needed to generate more conclusive results. Future research can also relate the effect of information from financial statements on donations among different types of NGOs. Lastly, future research could look at other dimensions of NGOs' financial and organizational characteristics that were not considered in this study to explain the relationship between data from financial statements and charitable giving.

Regardless of these limitations, the results of this study are important to researchers and practitioners. First, our study contributes to a discussion of the effectiveness of financial statement information in the context of charitable giving. This study extends existing studies by building on the existing framework and incorporating additional organizational and financial characteristics that affect donations. In addition, unlike most previous research, the authors analyzed donations from individuals and corporations, so our findings add to the literature by highlighting the role of financial statements in generating revenue from individual and corporate donations. Although our results cannot provide a complete framework, they do provide new insights into how financial disclosure can meet the needs of these types of donors. Different financial and organizational characteristics from annual financial statements reflect the financial condition of the NGO and can help inform fundraising as well as individual and corporate donation decisions.

REFERENCES:

1. Agyemang, I., Bay, D. D., Cook, G. L., and Pacharn, P. (2019), "Individual donor support for non-profits: The roles of financial and emotional information", *Behavioral Research in Accounting*, Vol. 31 No. 1, pp.41–54.
2. Andreoni, J., and Payne, A. A. (2011), "Is crowding out due entirely to fundraising? Evidence from a panel of charities", *Journal of public Economics*, Vol. 95 No. 5-6, pp.334–343.
3. Anheier, H. K. (2006). *Non-profit organizations: Theory, management, policy*. Routledge, New York, NY.
4. Ashley, S., and Faulk, L. (2010), "Non-profit competition in the grants marketplace: Exploring the relationship between non-profit financial ratios and grant amount", *Non-profit Management and Leadership*, Vol. 21 No. 1, pp. 43–57.

5. Betzler, D., and Gmür, M. (2016), “Does Fundraising Professionalization Pay? The Impact of Organizational Fundraising Capability on a Charity’s Net Revenue from Private Donations”, *Non-profit Management and Leadership*, Vol. 27 No. 1, pp. 27–42.
6. Blouin, M. C., Lee, R. L., and Erickson, G. S. (2018), “The impact of online financial disclosure and donations in non-profits”, *Journal of Non-profit & Public Sector Marketing*, Vol. 30 No. 3, pp. 251–266.
7. Brooks, A. C. (2003), “Do government subsidies to non-profits crowd out donations or donors? ”, *Public Finance Review*, Vol. 31 No. 2, pp. 166–179.
8. Bussell, H., and Forbes, D. (2002), “Understanding the volunteer market: The what, where, who and why of volunteering”, *International journal of non-profit and voluntary sector marketing*, Vol. 7 No. 3, pp. 244–257.
9. Calabrese, T., and Grizzle, C. (2012), “Debt, donors, and the decision to give”, *Journal of Public Budgeting, Accounting & Financial Management*, Vol. 24 No.2, pp.221–254.
10. Callen, J. L. (1994), “Money donations, volunteering and organizational efficiency”, *Journal of Productivity Analysis*, Vol. 5 No. 3, pp.215–228.
11. Carroll, D. A., and Stater, K. J. (2009), “Revenue diversification in non-profit organizations: Does it lead to financial stability?”, *Journal of public administration research and theory*, Vol. 19 No. 4, pp.947–966.
12. Charles, C. (2018), “Non-profit arts organizations: Debt ratio does not influence donations—Interest expense ratio does”, *The American Review of Public Administration*, Vol. 48 No. 7, pp. 659–667.
13. Chikoto-Schultz, G. L., and Neely, D. G. (2016), “Exploring the nexus of non-profit financial stability and financial growth”, *VOLUNTAS: International Journal of Voluntary and Non-profit Organizations*, Vol. 27 No. 6, pp. 2561–2575.
14. Clausen, M. R. (2022), “How Funding of Non-profit Social Organizations Affects the Number of Volunteers”, *VOLUNTAS: International Journal of Voluntary and Non-profit Organizations*, Vol. 33 No.2, pp.362–373.
15. Connolly, C., Hyndman, N., and McConville, D. (2013), “Conversion ratios, efficiency and obfuscation: A study of the impact of changed U.K. charity accounting requirements on external stakeholders”, *VOLUNTAS: International Journal of Voluntary and Non-profit Organizations*, Vol. 24, pp.785–804.
16. Coupet, J., and Broussard, P. (2021), “Do donors respond to non-profit performance? Evidence from housing”, *Public performance & management review*, 44(1), 108–135.

17. Enjolras, B. (2002), "The commercialization of voluntary sport organizations in Norway", *Non-profit and voluntary sector quarterly*, Vol. 31 No.3, pp.352–376.
18. Ghoorah, U., Talukder, A. M. H., and Khan, A. (2021), "Donors' perceptions of financial disclosures and links to donation intentions", *Accounting Forum*, Vol. 45 No. 2, pp. 142–170.
19. Greenlee, J. S., and Trussel, J. M. (2000), "Predicting the financial vulnerability of charitable organizations", *Non-profit management and leadership*, Vol. 11 No.2, pp. 199–210.
20. Hall, M., and O'Dwyer, B. (2017), "Accounting, non-governmental organizations and civil society: The importance of non-profit organizations to understanding accounting, organizations and society", *Accounting, Organizations and Society*, Vol. 63, pp.1–5.
21. Herzer, D., and Nunnenkamp, P. (2013), "Private donations, government grants, commercial activities, and fundraising: Cointegration and causality for NGOs in international development cooperation", *World Development*, Vol. 46, pp.234–251.
22. Kim, M., and Van Ryzin, G. G. (2014), "Impact of government funding on donations to arts organizations: A survey experiment", *Non-profit and Voluntary Sector Quarterly*, Vol. 43 No.5, pp.910–925.
23. Krawczyk, K., Wooddell, M., and Dias, A. (2017), "Charitable giving in arts and culture non-profits: The impact of organizational characteristics", *Non-profit and Voluntary Sector Quarterly*, Vol. 46 No.4, pp. 817–836.
24. Lee, C., Lu, J., and Shon, J. (2021), "Managing the Market-Mission Tension: When Does Commercial Revenue Crowd out Charitable Contributions?", *Public Performance & Management Review*, 1–25.
25. Lee, J. E., and Choi, A. (2019), "The effects of financial reporting transparency and high-quality audit on donations to non-profit organizations: evidence from Korean charitable organizations", *Journal of the Korea Convergence Society*, Vol. 10 No.1, pp. 227–238.
26. Lin, W., and Wang, Q. (2016), "What helped non-profits weather the great recession? Evidence from human services and community improvement organizations", *Non-profit Management and Leadership*, Vol. 26 No.3, pp.257–276.
27. Lu, J. (2016), "The philanthropic consequence of government grants to non-profit organizations: A meta-analysis", *Non-profit Management and Leadership*, Vol. 26 No.4, pp. 381–400.

28. Marudas, N. P. (2004), "Effects of non-profit organization wealth and efficiency on private donations to large non-profit organizations", *Research in governmental and non-profit accounting*, Vol. 11, pp.71–92.
29. Mook, L., Sousa, J., Elgie, S., & Quarter, J. (2005), "Accounting for the value of volunteer contributions", *Non-profit Management and Leadership*, Vol. 15 No. 4 pp. 401–415.
30. Okten, C., and Weisbrod, B. A. (2000), "Determinants of donations in private non-profit markets", *Journal of public economics*, Vol. 75 No. 2, pp. 255–272.
31. Parsons, L. M. (2003), "Is accounting information from non-profit organizations useful to donors? A review of charitable giving and value-relevance", *Journal of Accounting Literature*, Vol. 22, pp. 104-129.
32. Parsons, L. M. and Trussel, J. M. (2008), "Fundamental analysis of not-for-profit financial statements: An examination of financial vulnerability measures", in Copley, P.A. and Douthett, E.B. (Ed.s), *Research in Government and Non-profit Accounting*, Emerald Group Publishing Limited, U.K., pp. 35–56.
33. Perica, I. (2019), "Determinants of donations amount in non-profit organizations in Croatia", Leko Šimić, M, Crnković, B. (Ed.s), *Proceedings of the 8th International Scientific Symposium "Economy of eastern Croatia – vision and growth"*, Josip Juraj Strossmayer University of Osijek, Faculty of Economics in Osijek, Croatia, pp. 1131–1144.
34. Quosigk, B. M., and Forgione, D. A. (2018), "The association of program ratios and consolidation choices: Evidence from non-profit hospitals", *Accounting Horizons*, Vol. 32 No.4, pp. 147–162.
35. Rossi, G., Leardini, C., and Landi, S. (2020), "The more you know, the more you give: Influence of online disclosure on European community foundations' donations", *Non-profit management and leadership*, Vol.31 No.1, pp.81–101.
36. Sacristán López de los Mozos, I., Rodríguez Duarte, A., and Rodríguez Ruiz, Ó. (2016), "Resource dependence in non-profit organizations: Is it harder to fundraise if you diversify your revenue structure?", *VOLUNTAS: International Journal of Voluntary and Non-profit Organizations*, Vol. 27, pp.2641–2665.
37. Surysekar, K., and Turner, E. H. (2012), "The association between fundraising efficiency, financial vulnerability, and subsequent donations to not-for-profits", *Review of Business Information Systems (RBIS)*, Vol. 16 No.3, pp.157–164.
38. Tinkelman, D., and Mankaney, K. (2007), "When is administrative efficiency associated with charitable donations?", *Non-profit and Voluntary Sector Quarterly*, Vol. 36 No.1, pp. 41–64.

39. Trussel, J. M., and Greenlee, J. S. (2004), "A financial rating system for charitable non-profit organizations", *Research in governmental and non-profit accounting*, Vol. 11, pp. 105–127.
40. Trussel, J. M., and Parsons, L. M. (2007), "Financial reporting factors affecting donations to charitable organizations", *Advances in Accounting*, Vol. 23, pp.263–285.
41. Tuckman, H. P., and Chang, C. F. (1991), "A methodology for measuring the financial vulnerability of charitable non-profit organizations", *Non-profit and voluntary sector quarterly*, Vol. 20 No. 4, pp. 445–460.
42. Wicker, P., Breuer, C., and Hennigs, B. (2012), "Understanding the interactions among revenue categories using elasticity measures—Evidence from a longitudinal sample of non-profit sport clubs in Germany", *Sport Management Review*, Vol. 15 No.3, pp.318–329.
43. Xie, X., and Ding, Y. (2013), "The influence of financial information of charity foundations on donations: An empirical test", In *2013 International Conference on the Modern Development of Humanities and Social Science*, Atlantis Press, pp. 1–7.
44. Yan, W., and Sloan, M. F. (2016), "The impact of employee compensation and financial performance on non-profit organization donations", *The American Review of Public Administration*, Vol. 46 No. 2, pp. 243–258.
45. Yetman, M. H. and Yetman, R. J. (2012), "The effects of governance on the accuracy of charitable expenses reported by non-profit organizations", *Contemporary Accounting Research*, Vol. 29 No. 3, pp.738–767.

UČINCI INFORMACIJA IZ FINANCIJSKIH IZVJEŠTAJA NEVLADINIH ORGANIZACIJA NA DONACIJE: DOKAZI IZ HRVATSKE

Sažetak

Cilj rada je istražiti podatke iz financijskih izvještaja nevladinih organizacija koje utječu na spremnost donora na doniranje. Koristeći logističku regresiju, nastojalo se identificirati računovodstvene mjere povezane s donacijama među nevladinim organizacijama u našem uzorku. Istraživanje je obuhvatilo uzorak od 2.981 nevladine organizacije u Hrvatskoj koje koriste dvojno knjigovodstvo. Rezultati istraživanja pokazuju da nekoliko računovodstvenih varijabli utječe na donacije, uključujući organizacijsku veličinu, volontersko osoblje, koncentraciju prihoda, državne potpore, poslovne prihode, zaduženost i primjerenost vlastitih izvora. Rad ima određena ograničenja. Prvo, uzorak je obuhvaćao uglavnom velike hrvatske nevladine organizacije. Drugo, po dizajnu, fokus je stavljen na širok uzorak koji uključuje različite vrste organizacija, tako da postoji mogućnost da učinci organizacijskih i financijskih karakteristika na donacije nisu jednaki u uzorku različitih vrsta organizacija. Rad pomaže u popunjavanju praznine u literaturi ispitivanjem odnosa između informacija iz financijskih izvještaja nevladinih organizacija i doniranja. Ova studija također predstavlja nove empirijske nalaze iz velikog uzorka iz Hrvatske s različitom institucionalnom pozadinom. Rezultati istraživanja pružaju nove uvide u to kako financijsko objavljivanje može zadovoljiti potrebe donatora.

Ključne riječi: financijski izvještaji, donacije, nevladine organizacije, Hrvatska