White paper

Candid.

Do Nonprofits With a Candid Seal of Transparency Raise More Funds?

About Candid

Candid is a nonprofit organization that provides the most comprehensive data and insights about the social sector. Every year, millions of nonprofits spend trillions of dollars around the world. Candid finds out where that money comes from, where it goes, and why it matters. Through research, collaboration, and training, Candid connects people who want to change the world to the resources they need to do it.

Candid was formed in 2019 when GuideStar and Foundation Center merged. Our history is steeped in transparency, data, and analysis, paired with guidance on how to leverage our tools. For more information, visit candid.org. Please contact Candid research, researchteam@candid.org, with questions or feedback about this white paper.

Contributors

Cathleen Clerkin
Associate vice president of research

David Hollander
Data science manager

Grace Sato
Director of research

Yashita Sahu
Senior sales & marketing business analyst

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Research question

Do nonprofits with a Candid Seal of Transparency receive more donor contributions than those without a Seal?

Study overview

This comprehensive study analyzed 148,786 nonprofit organizations using fiscal year end 2022 and 2023 IRS Form 990 data to examine the relationship between transparency and donor giving. Building on previous research, this study provides updated insights into how transparency affects nonprofit contributions, using advanced statistical analyses to isolate the impact of having a Seal of Transparency.

Key findings

- **Nonprofits that are dependent on donations are more likely to earn a Candid Seal of Transparency.** This is likely because nonprofits reliant on donations understand the connection between transparency and donor trust and are, therefore, most motivated to increase their visibility via Candid.

- **Nonprofits with a Seal of Transparency averaged 62% more in contributions** compared with organizations without a Seal, controlling for a wide variety of nonprofit characteristics. This represents an increase from earlier research, suggesting that transparency has become even more valuable to donors over the past decade.

- **Earning a Seal of Transparency may level the playing field for some nonprofits.** Other factors (like large fundraising budgets or substantial assets) are also strongly linked to increased contributions but, unlike these factors, earning a Candid Seal of Transparency is available to any nonprofit willing to share information.

- **Small nonprofits also benefit from transparency.** Isolating the effects on small nonprofits (those with under $1 million in either revenue or expenses), we found that small nonprofits with a Seal of Transparency received 61% more contributions than comparable organizations without a Seal. However, more research is needed to better understand the impact of transparency for solely volunteer-run organizations.

Implications for nonprofits

The research provides evidence that transparency results in measurable financial returns for nonprofits. For organizations seeking to increase donor contributions, earning a Candid Seal of Transparency represents a cost-effective strategy that requires a minimal time investment and could potentially lead to substantial increases in donor support.

Background: Do donors care about transparency?

Since Candid's Seals of Transparency program first launched in June 2013, it has increased both in popularity and practical importance. A decade ago, earning a Seal of Transparency meant joining a relatively small group of a few thousand nonprofits that voluntarily shared information about their organization with Candid (then Guidestar). Today, over 115,000 nonprofits earn a digital Seal. As Candid Seals of Transparency have become more popular, they have also brought more visibility for nonprofits (Candid data is shared across over 200 platforms) and more connections to potential donors (e.g., a Candid Seal of Transparency is required for nonprofits to receive donations via Apple Pay). But do donors care about transparency?

Academic research on early Seal adoption provided the first rigorous evidence that transparency makes a difference to donors. A peer-reviewed study found that nonprofits earning a Seal of Transparency in 2013 received significantly more contributions the following year compared with similar organizations without a Seal (Harris & Neely, 2021). However, much has changed in the nonprofit landscape in the last decade.

Today, nonprofits are grappling with enormous competition for donor attention, heightened accountability expectations, and the ongoing digital transformation of charitable giving. Traditional fundraising approaches now operate alongside sophisticated online platforms where donors can research, compare, and support organizations with just a few clicks. And Candid Seals of Transparency have become more mainstream.

Given this context, fundamental research questions emerge: Has widespread adoption of Candid Seals of Transparency diminished the competitive advantage that early adopters once enjoyed? Or does transparency create a rising tide that lifts all boats, benefiting the entire sector by building greater public trust in charitable giving?

The current study aims to assess whether, in today's environment, nonprofits with a Candid Seal of Transparency still receive more contributions than those without one.

Candid Seals of Transparency

Candid was founded on the idea that transparency matters. Born out of a merger between Foundation Center and Guidestar in 2019, Candid was formed to create more comprehensive, standardized, and transparent information about the social sector. Our mission is to get you the information you need to do good.

One way that Candid promotes transparency and distributes information about the nonprofit sector is through Candid profiles and the related Seals of Transparency. Candid creates an online "profile" for every tax-exempt organization in the United States using publicly-available information from the IRS. Nonprofit leaders can choose to "claim" their profile (i.e., verify they work at the nonprofit) and begin sharing additional information about their organization on their profile. Candid's Seals of Transparency program is a way to acknowledge nonprofits that have taken the time and effort to contribute information on their profiles beyond what is available from the IRS.

When the Seals of Transparency program first launched in 2013, there were three Seal levels: Bronze, Silver, and Gold. Starting in 2016, a new Platinum Seal of Transparency was introduced as a way for nonprofits to provide non-financial data demonstrating their results, effectiveness, and program achievements (Wyland, 2016). Each Seal level is earned in order (e.g., first Bronze, then Silver). Higher Seal levels require more detailed information and suggest higher levels of transparency (see Table 1). The exact information required at each Seal level has changed somewhat over time, with an emphasis on decreasing the burden on nonprofits and focusing on practical information.

Table 1. Information shared at each Seal of Transparency level

Seal status	Seal level	Information shared
No Seal	Unclaimed	No information shared directly with Candid; data about the nonprofit comes from the IRS
No Seal	Basic (claimed)	Nonprofit has "claimed" their profile but has not shared enough information to earn a Seal
Seal		Organization name, mission statement, and mailing address
Seal		Program information and description
Seal		Latest financials and leadership demographic information
Seal		Strategy, goals, and impact metrics

Our research approach

This study aims to leverage the most recent, comprehensive data to assess the impact of nonprofit transparency on contributions.

Study sample. We started with the full population of 238,922 501(c)(3) public charities that completed the IRS Form 990 (long form) in both fiscal year end (FYE) 2022 and 2023 (2023 is the most recent year with comprehensive Form 990 data at the time of writing). We used this sample because the Form 990 requires detailed financial and governance information, giving us consistent data on our measures of interest.

Sample refinement. Many nonprofits (about 40%) in this initial sample reported having zero employees. While these organizations are important, including all of them in the analysis created statistical challenges that would make our results less reliable. To address this, we used downsampling to randomly select a smaller sample of zero-employee organizations. Our final sample included 148,786 nonprofits.

Transparency status. Next, we determined whether each nonprofit in the sample had a visible Candid Seal of Transparency. Because Seals of Transparency are visible on the Candid website for two years, nonprofits that earned a Seal in 2021 and/or 2022 were counted "Seal holders" for our study.

Contributions to nonprofits. Our primary outcome of interest was contributions made to nonprofits. To assess this, we used the total contributions reported on the Form 990—a single line item that includes donations from individuals, corporations, foundations, and other sources.

Seal of Transparency distribution

Overall, 23% of our final sample were Seal holders. Two percent of our sample held a Bronze Seal of Transparency, 7% held a Silver seal, 8% held a Gold seal, and 6% held a Platinum seal. The remaining 77% of nonprofits had no Seal (i.e., they did not claim their profile, or they claimed their profile without sharing enough information to earn a Seal).

Seal holders were present in every subsector of the nonprofit sector. Nonprofits working in the environment and animals subsector were most likely to have a Seal, while nonprofits in the religious subsector were least likely to have a Seal.

Figure 1. Sample distribution by Seal of Transparency level

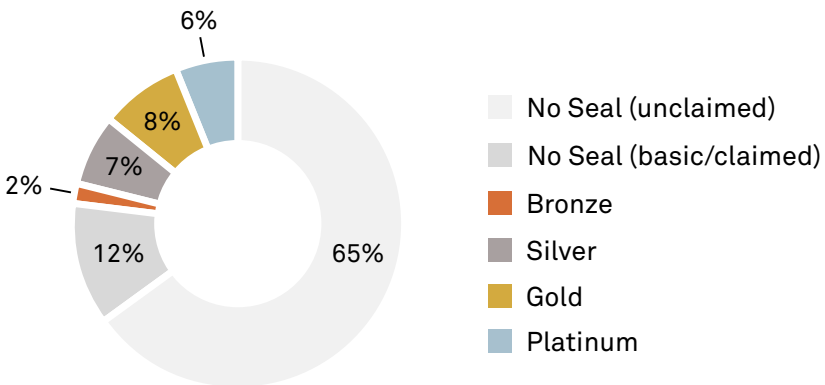


Table 2. Sample distribution by subsector (based on NTEE code)

			Number of nonprofits without a Seal		Number of nonprofits with a Seal			
NTEE major category	***n***	**%**	**Unclaimed**	**Basic (claimed)**	**Bronze**	**Silver**	**Gold**	**Platinum**
Arts, culture, humanities	15,356	10.32%	8,839	2,445	505	1,441	1,459	667
Education	23,392	15.72%	17,185	2,645	486	1,140	1,193	743
Environment & animals	7,868	5.29%	3,612	1,251	211	813	973	1,008
Health	20,951	14.08%	14,206	2,349	399	1,194	1,460	1,343
Human services	54,546	36.66%	35,027	6,432	1,110	3,520	4,685	3,772
International, foreign affairs	2,055	1.38%	1,157	247	51	135	214	251
Mutual/Membership benefit	310	0.21%	198	46	7	22	21	16
Public, societal benefit	15,833	10.64%	9,474	1,927	408	1,245	1,634	1,145
Religion-related	7,367	4.95%	5,610	713	120	381	308	235
Unknown, unclassified	1,108	0.74%	794	121	33	78	54	28
Total	**148,786**	**100.00%**	**96,102**	**18,176**	**3,330**	**9,969**	**12,001**	**9,208**

Two-step statistical analysis

It is tempting to simply compare organizations with a Seal of Transparency to those without a Seal and see which group has more contributions. However, this approach has a major flaw: Organizations that earn a Seal might also be different in ways that impact donations (e.g., larger nonprofits might be more likely to earn a Seal and receive more donations for reasons unrelated to transparency). Fortunately, the earlier academic study offers a roadmap for how to isolate the impact of Seals of Transparency using a two-step approach and advanced statistical methods. We followed their best practices in our analyses.

Step 1: Understanding who gets a Seal of Transparency.
We first analyzed what types of organizations are most likely to earn a Seal. This helped us understand the characteristics that predict Seal-earning behavior.

Step 2: Isolating the impact of having a Seal of Transparency.
In our second analysis, we compared organizations with similar characteristics to isolate the unique impact of having a Seal on total contributions. Our analysis accounted for:

- Organization size (employees, revenue, assets)
- Financial health (operating margins, fundraising expenses)
- Age of the organization (ruling year)
- Governance practices (policies, board oversight)
- Likelihood of earning a Seal in the first place (based on what we learned in step one)

We also took chronology into account, first assessing nonprofits' Seal holder status and other characteristics in 2022 and then measuring their total contributions in 2023.

Why this approach matters. By controlling for these factors, we can be more confident that any difference in contributions is due to having a Seal of Transparency, not other organizational characteristics. Additionally, by looking at Seal status in one year and donations in the following year, we can be more confident that transparency actually influences donations.

Robustness checks. Finally, we ran several additional analyses to make sure our findings were not due to statistical flukes or biases, including testing our results on different subgroups of data and measuring the statistical fit of our models (see Appendix C for full methodology and analytic procedure).

Study results

Finding 1: Nonprofits reliant on contributions are more likely to earn a Candid Seal of Transparency

The results from step one of our analyses showed that the strongest predicter of earning a Candid Seal of Transparency was dependency on charitable contributions. In other words, nonprofits that rely heavily on donations for their revenue were more likely to invest the time and effort to earn a Seal.

This finding makes logical sense: If your organization depends on donations, you have strong incentives to help potential donors understand your work and trust your organization. This pattern was also found in the original study as well as in other research on Candid data (Cai & Yu, 2023).

Other factors that increased the likelihood of earning a Seal included:

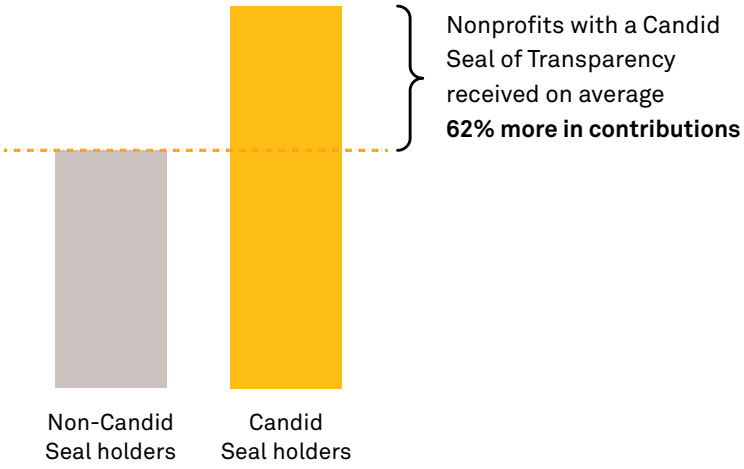
- Strong operating margins (bringing in more revenue than expenses)
- Strong governance practices (having policies for conflicts of interest, whistleblowing, CEO salary, etc.)
- Larger organizations (in terms of number of employees)

Finding 2: Nonprofits with a Seal of Transparency average 62% more in contributions

After accounting for all the factors mentioned above, we found that nonprofits with a visible 2021 or 2022 Seal of Transparency received an average of 62% more in contributions in 2023, compared with similar nonprofits without a Seal.

Figure 2. Impact of having a Seal of Transparency on contributions

FYE 2023 contributions



This finding is similar—but a bit higher—than the 53% increase found in the academic study using 2013 data. We hypothesize that this growth reflects several trends:

- Greater adoption and awareness of Candid Seals of Transparency
- The addition of the Platinum Seal, which focuses on impact data
- The Seal holder requirement for Apple Pay donations

Finding 3: Earning a Seal of Transparency may help level the playing field for some nonprofits

While earning a Seal had a strong positive effect, our analyses suggest it was not the single most important factor for predicting contributions. The strongest predictors of future contributions were (in order):

- More money spent on fundraising
- More nonprofit assets
- Larger operating margin

This is not surprising. Nonprofits that spend a lot of money on fundraising should expect to see increased donations the following year. Similarly, nonprofits with generous assets are likely well-established and well-connected to donors, and nonprofits with strong revenue streams likely have strong funding models.

What is striking is that, unlike the other top factors, earning a Seal of Transparency is accessible to any nonprofit. Not every organization can afford large fundraising campaigns or has substantial assets, but any organization can share information transparently.

Finding 4: Small nonprofits also benefit from transparency

Our main analyses "controlled" for organization size (i.e., adjusted the statistical analyses to account for the effects of organization size). However, we also wanted to specifically zero in on small organizations to understand whether there were any notable differences in their experience that may have been masked in the main analyses.

To do this, we created a subsample of 79,127 nonprofits that reported under $1 million in revenue or expenses in FYE 2022 according to their Form 990. We then reran our analyses using identical processes and procedures. We found that small nonprofits with a Seal of Transparency received an estimated 61% more in contributions compared with similar small nonprofits without a Seal—nearly identical to the overall finding.

In other words, the transparency advantage is not just for large, established organizations. Small nonprofits can achieve similar benefits by investing in transparency, making it a particularly valuable strategy for organizations with limited fundraising resources.

Finding 5: More research is needed for volunteer-run organizations

In our primary analysis, we removed a proportion of organizations with zero employees to avoid bias in our sample. When we included all such organizations in our analysis, the estimated effect of transparency on contributions jumped to around 90%, but our statistical models became less reliable overall.

We hypothesize that this may be because very small, volunteer-run nonprofits have different funding models than other nonprofits. For example, they might rely more heavily on personal networks or family funding, or they may not actively seek donations. This makes it harder to draw definitive conclusions about how transparency affects their fundraising. Based on our analyses, it is possible that the benefits of transparency may be even greater for these organizations, but more research is needed before anything can be stated conclusively.

Implications: What do these results mean for nonprofits?

This research provides strong evidence that investing in transparency pays off financially for nonprofit organizations. Of course, there is no guarantee that simply earning a Seal of Transparency will automatically increase donations—successful fundraising still requires delivering strong programs, being fiscally healthy, and actively engaging with donors. However, our findings suggest that transparency can amplify fundraising efforts.

Moreover, unlike many other strategies for increasing donations, transparency is accessible to organizations regardless of their current size or resources. Not every nonprofit can afford expensive fundraising campaigns or hire additional staff, but any organization can invest the time to share information about their work.

How to earn a Seal of Transparency

All U.S. nonprofits registered with the IRS are eligible to earn a Seal of Transparency. The process begins with claiming your organization's Candid profile, which takes about 10 minutes. After this, it takes about 5 minutes to earn the first (Bronze-level) Seal. Additionally, through the "Go for Gold" program, nonprofits with annual revenue or expenses below $1 million that earn a Gold Seal of Transparency receive a year of free access to Foundation Directory Professional, a tool for identifying potential funders.

Appendix A:
Frequently asked questions

Why did Candid conduct this study?
The original, independent study by Harris and Neely examined data from more than 10 years ago, in 2013-2014. Since then, the number of organizations earning a Candid Seal of Transparency has increased dramatically—there are more than 115,000 Seal holders today. Candid felt it was important to reassess the benefit of transparency to nonprofits.

Where does the nonprofit financial information come from?
All financial data in this analysis was taken from FYE 2022 and 2023 Form 990 filings.

Does the study exclude small nonprofits, since it relies on the IRS Form 990?
The IRS Form 990, on which this study is based, is generally required for nonprofits with gross receipts of $200,000 or more or total assets of $500,000 or more. Smaller organizations can file the shorter Form 990-EZ or 990-N but are not precluded from using the Form 990. When we examined our dataset, we identified many small organizations and, in fact, had to adjust our methods so that small volunteer-run organizations would not be overrepresented. Additionally, we tested our models on a subset of small organizations (those with less than $1 million in revenue or expenses). Our findings held for this subsample, demonstrating that transparency leads to increased contributions for both small and large organizations.

How do you know there is a causal relationship between transparency and greater contributions, and not just a correlation?
The answer to this is complicated. We did not run a simple correlation. Instead, we used advanced statistical methods to isolate the impact of transparency on contributions. Our regression model controls for other factors that could influence contributions—including organization size (assets, revenue, employees), age (ruling year), fundraising expenses, and even the likelihood of nonprofits being transparent. We also used longitudinal data to establish temporality (i.e., we looked at contributions for the following year instead of during the same year). These statistical analyses offer predictions about the potential causal relationship between transparency and contributions. At the same time, causality cannot be proven definitively without conducting a randomized experiment, which we were unable to do as we were assessing real-world impact. Therefore, the most accurate

conclusion is that our findings suggest a strong association between transparency and contributions.

Can you identify the impact of transparency for different types of donors—e.g., individual donors vs. foundations?
Unfortunately, no. The IRS Form 990, from which nonprofit financial information was drawn, does not disaggregate contribution sources, so this analysis looks at aggregate contributions from all funder types.

Can I trust these results, since Candid benefits from demonstrating the value of its Seals of Transparency?
This study is largely a replication of original work by Harris and Neely, independent researchers with no affiliation with Candid. Their research was peer-reviewed and published in the Journal of Accounting, Auditing & Finance, and we followed their methods as closely as possible. This white paper documents our full methods and results and explains any differences from the original research.

How can my nonprofit be more transparent?
You can start by claiming your organization's Candid profile. This enables you to begin sharing information about your organization, which is visible to potential donors. There is an extra incentive for small nonprofits (called the Go for Gold program): Those with annual revenue or expenses below $1 million that earn a Gold Seal of Transparency can receive a year of free access to Foundation Directory Professional, a tool for identifying and connecting with potential funders.

Appendix B: Definitions and data dictionary

This appendix includes definitions and calculations for all variables used in our study, as well as data sources.

Table 3. Variable definitions

Variable name	Definition	Data source
Transparency	Dummy variable such that "1" indicates that the organization received a Seal of Transparency at any level (Bronze, Silver, Gold, or Platinum) either in 2021 or 2022; 0 otherwise	Candid
Governance index	Index ranging from 0-9 that sums governance practices and policies related to: conflicts of interest; whistleblowers; destruction of documents; CEO salary setting; no family/business relationships; no outsourced management; providing the Form 990 on the organization's website; documentation of governing body meetings; and governing body review of Form 990	IRS Form 990 Part VI
Independent	Ratio of independent board members / total voting board	IRS Form 990 Part VI, Lines 1a and 1b
Audit	Dummy variable such that "1" indicates the organization reported having their financial statements audited by an independent accountant; 0 otherwise	IRS Form 990 Part XII, Line 2b
Operating margin	(Total revenues – total expenses) / total revenues	IRS Form 990 Revenues: Part I, Line 12 or Part VIII, Line 12, Column A Expenses: Part IX, Line 25, Column A
Pay ratio	Total compensation of current officers, directors, etc. / total expenses	IRS Form 990 Compensation: Part IX, Line 5, Column A Expenses: Part IX, Line 25, Column A
Employees	Log of total number of employees	IRS Form 990 Part V, Line 2a

Variable name	Definition	Data source
Donation reliance	Total contributions / total revenues	IRS Form 990 Contributions: Part VIII, Line 1h Revenues: Part I, Line 12 or Part VIII, Line 12, Column A
Total assets	Log of year-end total assets	IRS Form 990 Part X, Line 16, Column B
Total contributions	Total contributions, gifts, grants, and other similar amounts (log is computed for the contributions outcome variable in model 2)	IRS Form 990 Part VIII, Line 1h
Program service revenues	Log of program service revenues	IRS Form 990 Part VIII, Line 2g
Fundraising expenses	Log of fundraising expenses	IRS Form 990 Part IX, Line 25, Column D
Program ratio	Program service expenses / total expenses	IRS Form 990 Part IX, Line 25, Columns A and B
Age	Log of years since 501(c)(3) status was granted	IRS Business Master File ruling year

Appendix C:
Full methods and statistical results

This appendix offers a full account of our methods and results for the sake of transparency and replicability. It is, therefore, written for a data scientist and/or advanced quantitative researcher audience.

Data sources and study sample

All financial and governance information in this report was sourced from IRS Form 990 filings. Transparency data was based on Candid's records of organizations holding a 2021 or 2022 Seal of Transparency. Additional information about organizational age and industry was drawn from the IRS Business Master File.

The initial sampling frame for this study consisted of the 238,922 U.S. 501(c)(3) public charities that appeared on any 2022 IRS Business Master File and filed the IRS Form 990 in FYE 2022 and 2023. This included all organizations regardless of whether they held a Seal of Transparency, allowing for a near-census of U.S. nonprofits meeting these criteria.

Analytic approach

We followed the same overall analytic approach as Harris and Neely's study. Specifically, we ran two multivariate models to determine both the determinants of transparency as well as the consequences of transparency. We also conducted several additional steps to increase the accuracy and robustness of these fundings with our larger sample. All analyses were conducted in Python.

Data cleaning and preprocessing

First, we cleaned the data to ensure that errors or highly unusual responses in the Forms 990 did not skew our models. Specifically, we used row-wise deletion to remove organizations that had no ruling year, no contributions, or no officers. We also removed organizations that had negative numbers for total assets, fundraising expenses, or program revenue and those that had more than 100% ratios for program

ratios or donation reliance. Next, we imputed zeros where there was missing data for employees, total assets, independent officers, or total officers. This resulted in a clean sample of *n*=231,670.

Targeted randomized downsampling

Descriptive statistics suggest that around 40% of our initial sample included nonprofits with zero employees. This finding in and of itself is not surprising, as many small nonprofits are run entirely by volunteers who are not paid, full-time employees. However, this did vary substantially from the Harris and Neely study, which leveraged a convenience sample with much larger organizations. To bring our sample more in line with the original analysis and to prevent nonprofits with zero employees from having an outsized influence on our analyses, we elected to use targeted randomized downsampling of organizations with zero employees, such that they only made up 4.76% of the final sample. This specific cut-off point was selected following a sensitivity analysis to ensure model fit (see Results section for more information). Final *n*=148,786.

Measure creation and data transformations

Next, we created our measures of interest, including creating financial ratios, composite scores, and transforming string variables into ordinal or dummy variables as needed (see Appendix B for variable definitions and calculations). A small positive value (epsilon = 1e-9) was added to avoid mathematical divergences in calculations. Consistent with the original paper, we winsorized financial and operational data (i.e., revenue, expenses, assets, compensation, contributions, program expenses, program revenue, fundraising expenses, independent officers, total officers, employees) at the 1st and 99th percentile to account for extreme values within these variables; this step preserves the data's structure while reducing noise. Also consistent with the original methodology, we performed log transformations on employees, total assets, program revenue, fundraising expenses, and age to compress the highly-skewed distributions within these variables.

Statistical modeling

Transparency model (model 1)—logistic regression with cross validation
The first model (referred to as the "determinants of transparency" model in the original paper) consisted of a logistic regression to test the hypotheses that governance, financial health, programs, and the size and stability of nonprofits would all predict the likelihood of volunteering to share information with Candid. In this model, "transparency" was regressed on the following variables: governance index, independent, audit, operating margin, program ratio, pay ratio, employees (logged), donation reliance, total assets (logged), and age (logged). It is worth noting that the original model also included an additional predictor: state audit requirements. However, this variable was not a significant predictor in the original model, so we elected to omit it here. Additionally, in the original study, industry fixed effects appear

to have been added to both models without a weighting factor to be fitted by the model. Therefore, in our approach, we absorbed this into the bias terms in the models which were then fitted by the optimization processes in each case.

In Harris and Neely's original methodology, their entire sample was used in the logistic model. However, as our sample was substantially larger, we used cross-validation to fine-tune the hyperparameters of our logistic regression model. First, we split our data into training (80%) and validation (20%) sets randomly stratified by Seal level. This ensures that rare categories (e.g., Platinum Seal) were proportionally represented in both the training and validation sets. Next, we standardized the predictor variables to have zero mean and unit variance, to help the model converge more reliably and to ensure that variables on different scales contribute comparably to the regression. We then trained a regularized logistic regression model using cross-validation on the training set. Cross-validation splits the training data into multiple folds, trains on some, and tests on others to select the best regularization strength. This step helps prevent overfitting by penalizing overly complex models. Finally, we evaluated model performance on the unseen validation set. Accuracy (the proportion of correct predictions) was approximately 64.9%, indicating moderate predictive performance.

This approach provides a structured way to assess which nonprofit characteristics are most predictive of transparency, while using best practices to prevent overfitting and to ensure generalizability. The use of standardized features, stratified sampling, and cross-validated regularization contributes to the rigor and robustness of the modeling process.

Contributions model (model 2)—robust linear regression

To estimate the association between nonprofit transparency and charitable contributions, we implemented a robust linear regression framework using Huber Regression. This approach allows us to model the log-transformed contributions while minimizing the influence of outliers, which are common in financial data. This second model (referred to as the "consequences of transparency" model in the original paper) estimates the additional contributions associated with being a more transparent nonprofit—after controlling for other factors like assets, governance, fundraising expenses, etc.

In this model, the response variable was total contributions received in FYE 2023 (logged), and the key predictor variable was whether nonprofits had a visible Seal of Transparency (i.e., a 2021 or 2022 Seal of Transparency). Consistent with the original model, organization information from 2022 was included in the model as controls, including total assets (logged), program ratio, fundraising expenses (logged), program revenue (logged), operating margin, governance index, and the inverse Mills ratio (IMR). It is worth noting that unlike the original study, we did not include third-party ratings in this model, as it was impractical for our large sample size.

As noted by Harris and Neely, one challenge of parsing the impact of transparency on contributions is the somewhat circular nature of these questions—i.e., are donors more likely to donate to nonprofits with a Seal of Transparency, or are nonprofits with a Seal of Transparency more likely to be proactive in seeking out donors? To address this issue, we follow Harris and Neely's method of controlling the likelihood of being transparent via a two-stage Heckman inverse Mills ratio (IMR) method. This method corrects for potential bias in downstream models by controlling the likelihood that a nonprofit has a Seal based on the results of model 1. In other words, including the IMR as a control variable in our second model helps account for the fact that inclusion was not random (i.e., only certain types of nonprofits pursue or receive a Seal).

As with model 1, our larger sample size allowed us to add some steps which enhanced the reliability and generalizability of our analysis. We again used a machine learning procedure to train and validate our regression model and split the dataset into training (80%) and testing (20%) sets, this time using stratified random sampling based on the binary transparency indicator. Again, all predictor variables were standardized to have zero mean and unit variance. We then used the Huber Regressor with ε=100 and L2 regularization (α=0.1) to fit the training data; these model parameters were selected with a gridsearch technique on a stratified subsample. Model performance was evaluated on the test set using adjusted R^2 scores. The adjusted R^2 accounts for the number of predictors, offering a more conservative measure of explanatory power.

The primary coefficient of interest was that of the transparency variable. We follow the original methodology to estimate the percentage extra contributions that transparent organizations receive (following the methodology of Halvorsen & Palmquist, 1980). Because the dependent variable was log-transformed, we interpreted the exponentiated coefficient ($\exp(\beta) - 1$) as the approximate percentage difference in contributions associated with transparency status, controlling for other covariates.

Analysis of small nonprofit organizations. To assess whether our models and findings held for smaller nonprofits, we created a subset of the data which included nonprofits with under $1 million in revenue or expenses according to their FYE 2022 Form 990 filing (n=79,127). We then repeated the full analytic approach described above on this sub-sample.

Results

Overall, our pattern of results replicates those from the Harris and Neely paper, using a larger, more recent dataset and more robust methods.

Descriptive and basic statistics

The distribution across subsector and Seal level of our final dataset (*n*=148,786) can be found in Table 2 (page 10). Twenty-three percent of the organizations in our final sample had a Seal (Bronze = 2%, Silver = 7%, Gold = 8%, Platinum = 6%). In terms of subsector, the largest percentage of nonprofits in the dataset came from the human services subsector (37%), followed by the education subsector (16%) and the health subsector (14%). This distribution is consistent with previous studies and largely reflects the relative size of the different subsectors.

Full descriptive statistics of each variable are described in Table 4, as well as variable descriptives by Seal level (Table 5).

Table 4. Descriptive statistics

	Mean	Standard deviation	Median	Minimum	Maximum
Transparency (0-1)	0.23	0.42	0.00	0.00	1.00
Governance index (0-9)	6.19	1.90	7.00	0.00	9.00
Independent	0.89	0.25	1.00	0.00	1.00
Audit	0.51	0.50	1.00	0.00	1.00
Operating margin	-0.17	22.39	0.05	-6,402.80	1.00
Pay ratio	0.09	0.12	0.04	0.00	1.00
Employees (log)	1.69	5.29	2.56	-20.72	7.53
Donation reliance	0.62	3.20	0.68	0.00	1,040.66
Total assets (log)	14.29	2.01	14.11	9.69	19.89
Contributions (FYE 2022)	$2,618,950	$7,039,053	$465,895	$0	$51,178,200
Program revenue (log)	3.06	15.45	11.71	-20.72	18.96
Fundraising expenses (log)	-4.11	15.74	7.31	-20.72	14.63
Program ratio	0.80	0.17	0.84	0.00	1.00
Age (log)	2.91	2.23	3.26	-20.72	4.80

Table 5. Descriptive statistics: Means by Seal of Transparency level

	No Seal		Seal			
	Unclaimed	Basic (claimed)	Bronze	Silver	Gold	Platinum
Transparency (0-1)	0.00	0.00	1.00	1.00	1.00	1.00
Governance index (0-9)	5.86	6.56	6.56	6.51	7.04	7.41
Independent	0.87	0.93	0.93	0.92	0.95	0.95
Audit	0.46	0.56	0.55	0.49	0.66	0.73
Operating margin	-0.25	-0.05	-0.04	-0.02	0.04	0.01
Pay ratio	0.08	0.09	0.09	0.10	0.09	0.08
Employees (log)	1.27	2.32	2.34	2.17	2.64	2.83
Donation reliance	0.54	0.69	0.71	0.82	0.76	0.81
Total assets (log)	14.14	14.52	14.39	14.22	14.64	14.98
Contributions (FYE 2022)	$1,951,653	$3,253,116	$3,224,017	$2,937,972	$4,108,183	$5,826,437
Program revenue (log)	3.62	3.06	2.24	1.80	1.89	0.37
Fundraising expenses (log)	-8.47	1.01	2.10	2.83	6.16	8.24
Program ratio	0.81	0.79	0.79	0.78	0.79	0.80
Age (log)	2.82	3.21	2.90	2.82	3.08	3.11

We also ran preliminary Pearson's correlations for our variables of interest (see Table 6). Results suggest that having a Candid Seal of Transparency was positively correlated (r>.10) with higher fundraising expenses, having a higher governance index, auditing, and higher contributions in FYE 2022. Contributions were positively correlated (r>0.10) with total assets, auditing, governance index, number of employees, and Candid Seals of Transparency. Contributions were negatively related (r=0.15) to pay ratio, suggesting that organizations for which officer salary constituted a large proportion of overall expenses tended to get fewer contributions. P-values are not reported here as, due to our large sample size, they are not a practical assessment of relationship strength.

Table 6. Correlation matrix

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Transparency	1.00													
2. Governance index	0.22	1.00												
3. Independent	0.09	0.23	1.00											
4. Audit	0.12	0.48	0.14	1.00										
5. Operating margin	0.00	0.00	0.00	0.00	1.00									
6. Pay ratio	0.02	-0.03	-0.06	-0.18	0.00	1.00								
7. Employees (log)	0.09	0.27	0.09	0.24	0.01	0.02	1.00							
8. Donation reliance	0.03	0.01	0.01	0.00	-0.06	0.01	-0.01	1.00						
9. Total assets (log)	0.08	0.42	0.11	0.56	-0.01	-0.27	0.30	-0.01	1.00					
10. Contributions (FYE 2022)	0.12	0.26	0.06	0.29	0.00	-0.15	0.19	0.02	0.49	1.00				
11. Program revenue	-0.06	0.13	0.03	0.17	0.01	-0.12	0.26	-0.07	0.27	0.06	1.00			
12. Fundraising expenses (log)	0.33	0.31	0.17	0.20	0.01	0.06	0.16	0.04	0.20	0.16	-0.03	1.00		
13. Program ratio	-0.04	0.01	0.02	0.04	0.00	-0.15	0.08	-0.01	0.05	0.08	0.11	-0.12	1.00	
14. Age (log)	0.02	0.12	0.10	0.15	0.00	-0.09	0.11	-0.01	0.21	0.07	0.12	0.06	0.04	1.00

Regression model results

Model 1: Transparency model

The first logistic regression model was run to assess which variables predicted the likelihood of transparency (i.e., voluntarily sharing information with Candid and earning a Seal of Transparency). The results of this model suggest several statistically meaningful predictors of nonprofit transparency. Among the strongest predictors was donation reliance, with a standardized coefficient of 4.50, indicating that organizations more dependent on charitable contributions are substantially more likely to attain a Seal of Transparency. This finding is consistent with Harris and Neely's original study, as well as with a previous study conducted by Candid regarding

nonprofit organizations' willingness to share demographic data (as part of the Gold Seal of Transparency; Cai & Yu, 2023).

Operating margin also showed a strong positive association (coef ≈ 0.81), suggesting that financially healthy organizations are more likely to be transparent. Similarly, higher governance index scores (coef ≈ 0.34) and greater organizational size, as measured by the log of employees (coef ≈ 0.12), were associated with greater transparency.

All predictors were standardized, so coefficients represent the change in log-odds of transparency for a one standard deviation increase in each variable. See Table 7 for full results (note *p*-values are displayed for the sake of transparency, but may not have practical significance given the large sample size).

Table 7. Results of model 1 (transparency model)

Dependent variable	Coefficient	*p*-value
Governance index	0.34	0.00
Independent	0.05	0.00
Audit	0.06	0.00
Operating margin	0.81	0.00
Program ratio	-0.08	0.00
Pay ratio	0.02	0.01
Employees (log)	0.12	0.00
Donation reliance	4.50	0.00
Total assets (log)	-0.01	0.00

Model 2: Contributions model

Next, we ran a robust linear regression using a Huber Regressor to examine the relationship between transparency and subsequent contributions while controlling for key financial, operational, and governance characteristics. This approach was chosen to mitigate the influence of outliers and non-normal error distributions in the dependent variable (log-transformed FYE 2023 contributions).

The model included transparency as the primary independent variable of interest, along with log total assets, program expense ratio, log fundraising expenses, log program revenue, operating margin, a governance index, and an inverse Mills ratio (IMR) to adjust for potential selection bias.

To assess the stability of our estimates, we performed 10 iterations of stratified training/testing splits and cross-validated the results. Across replications, the model demonstrated consistent performance with an adjusted R^2 of 0.27. This adjusted R^2 is considered an acceptable, moderate amount of variance explained for social science research and is similar to the model fit reported in the original paper (adjusted R^2 = 0.33).

The coefficient on the transparency variable was 0.482 (SD = 0.004), indicating that transparent nonprofits are associated with an estimated 62% higher level of contributions, holding all else constant (exp(0.482) – 1 ≈ 0.62; following the recommended equation by Halvorsen & Palmquist, 1980). Other covariates positively associated with contributions included fundraising expenses (coef ≈ 18.42), log total assets (coef ≈ 16.59), and operating margin (coef ≈ 2.86) (Table 8). Similar to the original study, the IMR term carried a negative coefficient (–1.10).

Table 8. Results of model 2 (consequences model)

Independent variable	Coefficient	*p*-value
Transparency	0.48	0.00
Total assets (log)	16.59	0.00
Program ratio	0.96	0.00
Fundraising expenses (log)	18.42	0.00
Program revenue (log)	0.26	0.00
Operating margin	2.86	0.00
Governance index	1.33	0.00
IMR	-1.10	0.00

Follow-up analysis with small nonprofits

An identical procedure was used with a subsample of organizations with either revenue or expenses below $1 million. Our pattern of results held when looking at these smaller organizations separately. Specifically, the results of model 2 suggest that smaller transparent nonprofits are associated with an estimated 61% higher level of contributions, holding all else constant (adjusted R^2 of 0.25).

Sensitivity analysis: Effect of downsampling organizations with zero employees

Approximately 40% of the raw dataset consisted of organizations with no reported employees. As mentioned above, we chose to downsample on these organizations to prevent them from skewing the model. To determine what proportion of zero-employee organizations to remove, we conducted a sensitivity analysis. Specifically, we developed a procedure that: 1) downsampled a specified proportion of zero-employee nonprofits; 2) re-trained the logistic regression model to estimate transparency likelihood and compute the inverse Mills ratio (IMR); and 3) re-estimated the impact of transparency on subsequent contributions using robust regression. For each sample, this process was repeated 10 times to capture variability in the estimated effects.

We then applied this procedure across a range of downsampling ratios—from 0.1% to 30%—to evaluate how our estimates of transparency's impact on contributions changed as zero-employee cases were progressively removed. For each ratio, we computed the average estimated effect of transparency on contributions and the adjusted R^2 values. These results allowed us to assess the consistency of our model estimates under different assumptions about the representativeness of nonprofits without employees and to select the downsampling cut-off that resulted in the best model fit (see Figure 3). Results of these analyses showed that as more zero-employee organizations were added to the sample, the calculated impact of transparency increased, but the model fit went down.

Figure 3. Meta-analysis of downsampling organizations with zero employees

We also reran our analyses on a subset of nonprofits with zero employees. Results mirrored our sensitivity analyses, with a relatively high increase in contributions (89%) but a low model fit (adjusted $R^2 = 0.10$).

Limitations and future directions

This study is limited to organizations that used the IRS Form 990, which is generally required for tax-exempt organizations with gross receipts of $200,000 or more or total assets of $500,000 or more. This was necessary, as it is the only IRS form that includes specific pieces of information—about governance, number of employees, etc.—that were required for our statistical models. The analysis, therefore, excludes some smaller organizations using the Form 990-EZ or 990-N. Nonetheless, the dataset included a large number of organizations with few contributions or with no employees—so much so that it required downsampling—suggesting a solid representation of small organizations.

Additionally, our results suggested that the model used for the overall sector showed a poorer fit for nonprofit organizations with zero employees. Based on these findings, we hypothesize that the current model may not be best-suited for volunteer-run nonprofits, as they may have different funding models (e.g., relying more heavily on personal networks or family donations). We recommend that future research explore what models may be appropriate for best understanding the impact of transparency on volunteer-run nonprofits.

It is also worth noting that a difference between the original study and the current study is the exclusion of third-party ratings. This was done because the data was not readily available at scale and gathering it was impractical given our large sample size. However, future research may also want to explore the impact of third-party ratings on contributions.

Finally, because we wanted to examine the universe of Form 990-filing organizations, the latest year of available data was FYE 2023. This study, therefore, demonstrates the effects of transparency two years ago and does not necessarily reflect the current nonprofit environment. Given that emerging trends in 2025 suggest a competitive funding landscape coupled with increased scrutiny of the nonprofit sector, it would be interesting to replicate this study in a few years to re-examine the link between transparency and contributions.

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