
EVALUATING SPENDING FOR FEEDING AMERICA PARTNERS

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NONPROFIT EXPENSES

- Nonprofits in the United States declare three types of expenses.
 - Program Spending
 - Fundraising Spending
 - Administrative Spending
- These expenses add up to a nonprofit's total budget.

FINANCIAL PERFORMANCE AND SPENDING

- The financial performance of nonprofits are typically evaluated by how they spend their budget.
- Charity watchdogs and general belief suggest that nonprofits should prioritize program spending over other expenses.
- However, underspending towards administrative and fundraising expenses can have repercussions in the future, including entering a starvation cycle.



FEEDING AMERICA PARTNERS

- Feeding America is the United States leading nonprofit organization that focuses on providing food to people in need.
- To do this, Feeding America works with a network of over 200 food banks in the United States to help them find food, raise funds, and build capacity.
- Some ways that Feeding America does this is through securing food and grocery donations from businesses and government agencies, supporting transportation of food to locations, and advocating for legislation.



PROJECT SCOPE

- This project focuses on the differences in spending between two groups of food banks – those partnered with Feeding America, and those who are not partnered with Feeding America.
- We examine the financial performance of the two food bank groups based on their tax data in 2013-2019.
- We also look at how the relationship between program spending relative to the total budget and marginal returns on fundraising can be estimated.

IRS-990 FILINGS DATASET

- Every nonprofit in the United States except for nonprofits with an annual gross below \$50,000 and churches must file an annual return with the IRS (IRS-990).
- The IRS-990 filings dataset consists of 1,112 IRS-990 filings from 2013 to 2019.
- Of the 1,112 filings, 772 filings are from Feeding America partners.
- Of the 1,112 filings, 340 filings are from food banks not partnered with Feeding America.

DATASET STATISTICS

- From the kurtosis and skewness values, the dataset has high chances of outliers.
- The total budget and donations for food banks not partnered with Feeding America is much smaller than for food banks partnered with Feeding America.

Variable	PROGRAM	FUNDRAISING	ADMINISTRATION	BUDGET	DONATIONS
Mean	40,234,623	1,023,076	782,277	42,039,976	41,057,485
Median	26,075,361	643,112	518,306	27,366,593	26,372,238
Mean Absolute Deviation	23,667,529	607,444	382,996	24,765,181	23,878,588
Kurtosis	5	6	9	4	6
Skewness	2	2	3	2	2
IQR	47,255,902	1,036,921	583,861	48,641,849	46,707,302
Min	2,713,258	-	14,485	2,881,407	2,574,416
Max	306,613,013	7,666,153	5,570,564	308,361,319	338,286,583
Standard Deviation	35,970,616	1,070,343	843,756	37,358,837	37,176,791
Range	303,899,755	7,666,153	5,556,079	305,479,912	335,712,167

Descriptive statistics the IRS-990 dataset, filtered to keep only filings from Feeding America partners. 772 filings.

Variable	PROGRAM	FUNDRAISING	ADMINISTRATION	BUDGET	DONATIONS
Mean	16,091,393	223,297	682,221	16,996,911	11,553,508
Median	4,080,057	121,805	143,421	4,436,081	4,382,801
Mean Absolute Deviation	3,563,537	86,157	99,662	3,801,888	3,523,077
Kurtosis	294	16	332	299	41
Skewness	17	4	18	17	6
IQR	8,957,138	126,431	143,134	9,002,599	8,843,918
Min	626,720	-	2,762	631,806	639,082
Max	1,608,656,855	2,450,711	156,477,678	1,765,134,533	237,187,328
Standard Deviation	89,367,584	357,284	8,478,363	97,656,020	22,300,922
Range	1,608,030,135	2,450,711	156,474,916	1,764,502,727	236,548,246

Descriptive statistics for the IRS-990 dataset, filtered to remove filings from Feeding America partners. 340 filings.

DATASET STATISTICS

- Food banks tend to allocate 95% of their budget for program spending, with the remaining 5% going to administrative and fundraising expenses.
- On average, non-Feeding America partners allocate more of their budgets to administrative spending.

Financial Performance Ratios	All IRS-990 Filings	Only Feeding America Partners	Only Non-Feeding America Partners
Program Spending Ratio	94.64%	95.30%	93.14%
Admin Spending Ratio	2.63%	2.16%	3.69%
Fundraising Spending Ratio	2.72%	2.53%	3.16%
Overhead Ratio	27.35	26.11	30.17

Average Percentage of Budget for Expense Types in the IRS-990 dataset. 1112 filings.

DONATIONS AND THE PROGRAM SPENDING RATIO

- Donations can be estimated as a function of fundraising spending and the ratio of program spending to the sum of program, fundraising, and discretionary administration spending.
- Using this function and the data, we can evaluate how the program spending ratio can impact the marginal return on fundraising.

MODELING DONATIONS

- Three models estimating donations from fundraising spending and the program spending ratio were created using the IRS-990 dataset.
 - One model uses the entire IRS-990 dataset.
 - One model uses only the filings from Feeding America partners.
 - One model uses only the filings from food banks not partnered with Feeding America.

MODEL OUTCOMES AND COEFFICIENT INTERPRETATIONS

- The coefficient ζ can be used to identify the marginal return on fundraising for donations relative to the program spending ratio.
- If a Feeding America partner was spending 90% of its budget on program, the marginal return on fundraising would be 25.11.
- If a non-Feeding America partner was spending 90% of its budget on program, the marginal return on fundraising would be 23.85.

Filing Segements	Zeta (ζ)
All IRS-990 Filings	29.4
Only Feeding America Partners	27.9
Only Non-Feeding America Partners	26.5

Estimated ζ coefficient for marginal returns on fundraising using the IRS-990 dataset. 1112 filings.

MODEL OUTCOMES AND COEFFICIENT INTERPRETATIONS

- An alternative interpretation of ζ is the volatility of the marginal return on fundraising.
- The greater the magnitude, the higher the volatility.
- A Feeding America partner would experience a change in their marginal return on fundraising of 1.39 for a 5% change in their program spending ratio.
- A non-Feeding America partner would experience a change in their marginal return on fundraising of 1.33 for a 5% change in their program spending ratio.

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THANK YOU!

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