Executive Summary (FINAL PORTFOLIO SUMMARY)

This capstone project examines how publicly available nonprofit financial data can be used to support transparency, accountability, and data-driven decision-making. Using IRS Form 990 annual financial extracts, the study analyzes how nonprofit organizations allocate resources, manage administrative costs, and maintain financial sustainability over time.

Through structured data preparation, SQL-based analysis in Google BigQuery, and visualization in Google Sheets, key accountability metrics were derived, including program expense ratios, administrative and fundraising cost ratios, operating margins, and asset coverage ratios. The findings demonstrate that while nonprofits largely prioritize mission-related spending, many operate with thin margins and varying levels of financial resilience. These insights highlight the importance of using multiple financial indicators—not just program spending ratios—to evaluate nonprofit performance and sustainability.

ASK (Problem Definition)

Topic

The use of nonprofit financial data to support decision-making and accountability.

Problem Statement

Stakeholders such as nonprofit boards, donors, regulators, and the public often rely on limited indicators (e.g., program expense ratios) to evaluate nonprofit effectiveness. This approach can obscure financial risks and sustainability challenges.

Key Metrics

- Program expense ratio
- Administrative expense ratio
- Fundraising expense ratio
- Operating margin
- Asset coverage ratio

Stakeholders

- Nonprofit executives and boards
- Donors and funders
- Regulatory and oversight bodies
- Data analysts and researchers

Audience

Non-technical stakeholders with an interest in nonprofit accountability, requiring clear metrics and accessible visualizations.

PREPARE (Data Collection & Credibility)

Data Source

- IRS SOI Annual Extract of Tax-Exempt Organization Financial Data
- Forms 990, 990-EZ, and 990-PF
- Public-domain U.S. government data

Data Credibility (ROCCC)

- **Reliable**: Official IRS source
- **Original**: Primary administrative filings
- **Comprehensive**: Nationwide coverage
- **Current**: Multi-year historical data
- **Cited**: IRS documentation provided

Data Organization

- Raw CSV files uploaded to Google BigQuery
- Schema validated using IRS extract documentation

PROCESS (Data Cleaning & Preparation)

Tools Used

- Google BigQuery (SQL)
- Google Sheets (visualization)

Key Processing Steps

- Loaded raw IRS data into BigQuery
- Created a cleaned **analysis view** with readable column aliases
- Filtered invalid records (zero revenue or expenses)
- Created a **metrics view** aggregating accountability indicators by tax period

All transformations were documented and performed using reproducible SQL queries.

ANALYZE (Metrics & Insights)

Metrics Calculated

- Average program expense ratio
- Average administrative expense ratio
- Average fundraising expense ratio
- Average operating margin
- Average asset coverage ratio

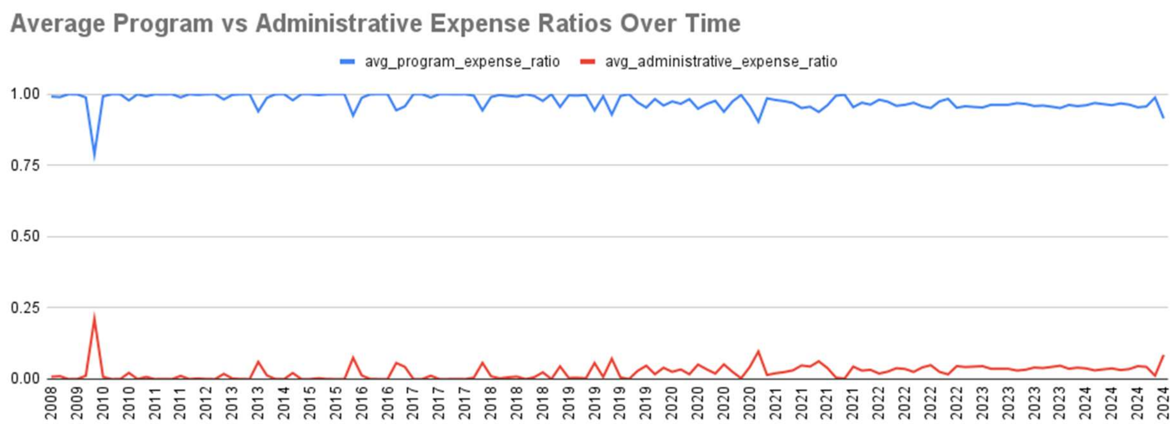
Key Findings

- Program spending consistently accounts for the majority of expenses
- Administrative and fundraising costs remain relatively low
- Operating margins fluctuate, with some periods showing deficits
- Asset coverage has increased over time, indicating improved financial buffers for some organizations

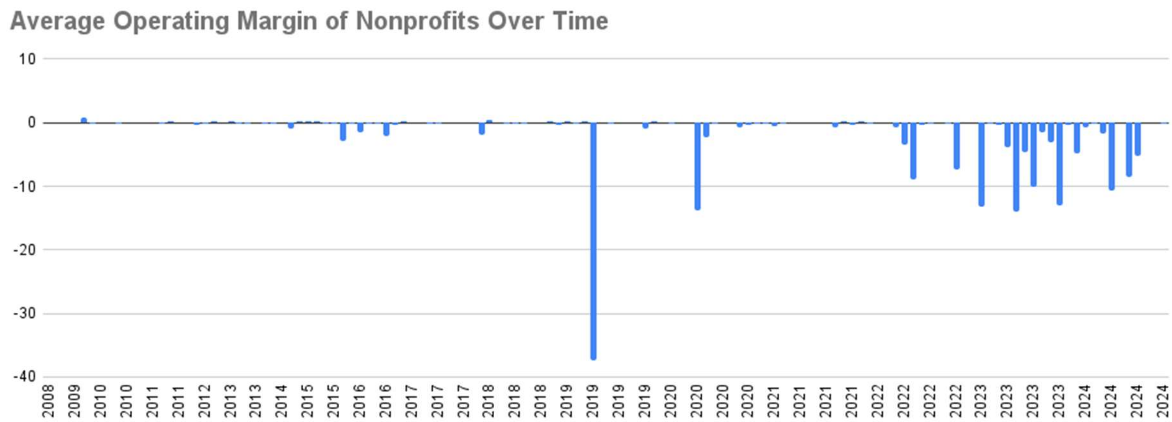
SHARE (Visualizations & Interpretation)

Inserted Charts:

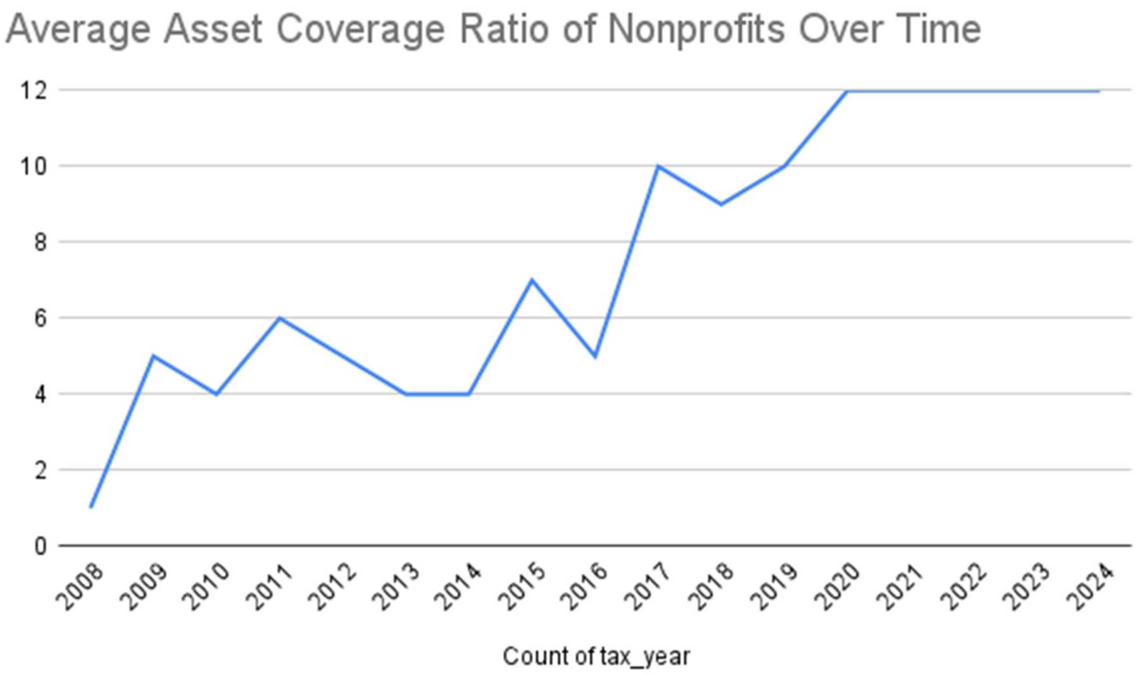
1. Average Program vs Administrative Expense Ratios Over Time



2. Average Operating Margin of Nonprofits Over Time



3. Average Asset Coverage Ratio of Nonprofits Over Time



These visualizations demonstrate that high mission spending does not always translate into financial stability, reinforcing the need for multi-dimensional evaluation.

ACT (Recommendations)

For Nonprofit Leaders & Boards

Monitor operating margins and asset coverage alongside program spending to ensure long-term sustainability.

For Donors & Funders

Use financial resilience indicators in addition to program ratios when making funding decisions.

For Regulators

Encourage standardized reporting practices to improve transparency and comparability.

For Analysts & Researchers

Incorporate longitudinal metrics to identify early warning signs of financial distress.

Limitations & Future Work

- Expense classification inconsistencies across filings
- Fundraising costs may be underreported
- Future analysis could segment nonprofits by size, mission area, or geography

Conclusion

This case study demonstrates how publicly available nonprofit financial data can be transformed into actionable insights that support accountability and informed decision-making. By combining multiple financial indicators, stakeholders can move beyond simplistic metrics and better assess organizational performance and sustainability.