

# Endowment Tme Series for Report

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## Notes on Percent Change

We compute the relative change from one year to the next as

$$\text{Relative change} = \frac{\text{End Value} - \text{Start Value}}{\text{Start Value}}.$$

The percent change is then simply  $\text{Relative Change} \times 100$ .

For a relative change of value  $R$ , we can interpret it by considering the formula

$$\text{End Value} = (R + 1) \times \text{Start Value}.$$

A couple of examples include: \* If the percent change is  $-50\%$ , the current year value is half of that in the previous year. \* If the percent change is  $100\%$ , the current year value is twice that in the previous year. \* If the percent change is  $-100\%$ , the current year value is zero.

## Table of Company Communications

### Annual Growth Rate

The annual growth rate is the percent change in a year. That is,

$$\text{growth rate} = \frac{\text{Beginning Value} - \text{End Value}}{\text{Beginning Value}}.$$

We can compute this for the S&P 500 for the same time interval. Here, we use mean value of the S&P 500 to the previous week compared to the beginning and end dates of each company's fiscal year.

To account for withdrawals and contributions, we add back withdrawals and subtract contributions, so we calculate the annual growth rate as

$$\text{Annual Growth Rate} = \frac{(\text{End Value} + \text{Other Expenditures} + \text{Grants and Scholarships} + \text{Administrative Expenses} - \text{Contributions}) - \text{Beginning Value}}{\text{Beginning Value}}$$

This adjustment is important because we want to see how much of the change from the beginning of year balance to the end of year balance is due to the investments, not, for example, a large contribution.

### Compound Growth Rate

Letting  $t$  denote the number of years considered,

$$\text{Compound Annual Growth Rate} = \left( \frac{\text{End Value}}{\text{Beginning Value}} \right)^{\frac{1}{t}} - 1$$

Now, we note that we can compute the withdrawals using other variables reported in the 990:

$$\text{Withdrawals} = \text{Other Expenditures} + \text{Administrative Expenses} + \text{Administrative Expenses} + \text{Grants and Scholarships}.$$

To adjust for contributions and expenditures, we define the Compound Annual Growth Rate as

$$\left( \frac{\text{End Value} + \sum_{i=1}^{t-1} \text{Withdrawals} - \sum_{i=1}^{t-1} \text{Contributions}}{\text{Beginning Value}} \right)^{\frac{1}{t}} - 1$$

We visualize the compound growth rates for all companies in Figure 2. Notably, San Francisco Ballet, Joffrey Ballet, and

We see immediately in Figure 2 that some companies have a compound growth rate is indistinguishable from zero. This includes:

- Oregon Ballet: reported no investment earnings/losses for any year
- Harlem Ballet: investment earnings/gains were extremely small ( $\pm 13$  dollars)

## Annual Growth of the S&P 500 Compared to the Annual Growth in Endowments



Figure 1: Annual growth rate of a company's endowment when adjusting for contributions and withdrawals, compared to the annual growth S&P 500 for the corresponding time period.

## Compound Annual Growth Rate

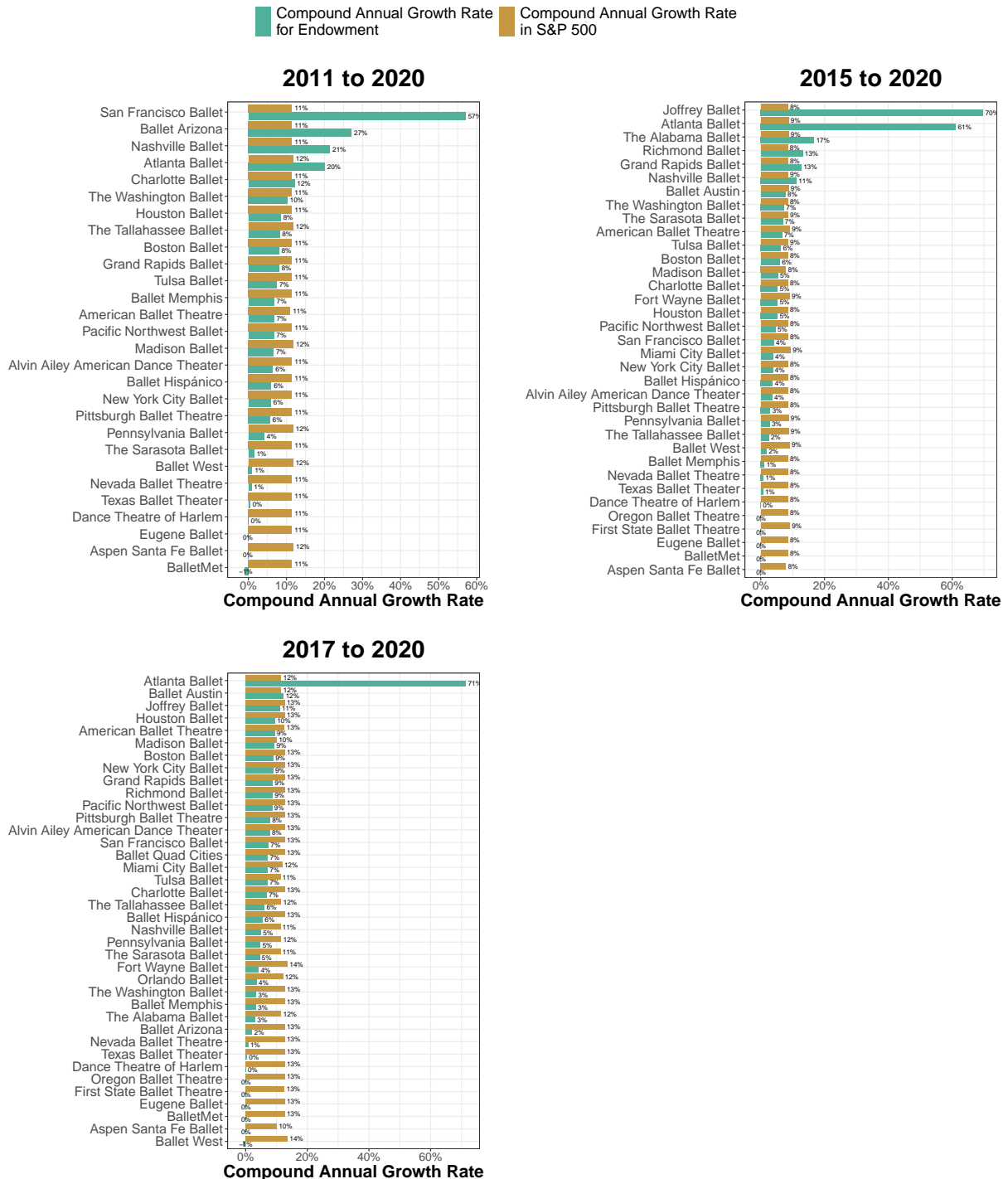


Figure 2: Compound annual growth rates for all organizations compared to the compound annual growth rate for the S&P 500 for three time periods. Not all companies are present in each plot, since not all companies have data going back the same number of years. Of note, year to year differences in the compound annual growth rate of the S&P 500 are due to differences in companies' fiscal years.

Table 1: Companies Reached Out to Regarding Discrepancies

Company	Discrepancy
Aspen Santa Fe	The current year value for other expenditures for fiscal year 2018 is \$6,906,449, but in 2019 the prior year value for other expenditures is \$6,356,449 and, in accordance with the 2019 report, in 2020 the two years back value is \$6,356,449.
BalletMet	In 2015, the current year beginning of year balance is reported as \$262,509, but then in 2016, the prior year beginning year balance is said to be \$235,225; future year filings are in accordance with the \$235,225 value.
Ballet Arizona	In the 2016 and 2017 filings, the beginning of year balance corresponding to fiscal years 2016 and 2017 were reported as \$101,399. However, in the 2018 filing the value for 2016 was reported to be \$601,399, and the value corresponding to 2017 was reported as \$4,126,424.
The Alabama Ballet	In the filings for fiscal years 2016, 2017, and 2018, the beginning and end of year balances are marked as \$250,000 for all included years. However, in 2019, the value reported for the prior year (2018) is \$477,040, and in the filing for fiscal year 2020, the values are not concordant with the \$250,000 value.
Fort Wayne Ballet	In the 2017 filing, the beginning of year balance is \$1,264,981. However, in the 2018 filing, the beginning of year balance for the prior year is reported as \$1,291,109 (second image below, and then the 2019 and 2020 filings both report the value corresponding to 2017 as \$1,413,780. There are similar discrepancies for the end of year balances.
Joffrey Ballet	First, in the filing for the 2015 fiscal year, the value corresponding to 2015 is \$1,443,297, and the value corresponding to the 2014 filing is recorded as \$170,360. However, in 2016, the value corresponding to 2015 is reported as \$1,136,139, and the value for 2014 is reported as \$35,600. Additionally, the reported contributions amount (under Part V: endowment funds) for the filing on fiscal year 2016 is \$236,579, but in 2017 the contributions amount reported for the prior year (2016) is \$278,281; the value of \$278,281 is reported in following years.
The San Francisco Ballet	In San the tax filings corresponding to fiscal year 2015, the beginning of year balance for 2013, 2014, and 2015 are reported as \$174. These values are in accordance with the fiscal year 2016 filing, and the beginning of year balance for 2016 is also reported as \$174. However, in the filing for the 2017 fiscal year, the reported beginning of year balance for the prior year (2016) was \$107,033,575, for two years back (2015) it was 105,867,946, for three years back (2014) it was 92,513,161, and for four years back (2013) it was \$79,137,681.
Pittsburgh Ballet Theatre	In the filing for fiscal year 2018, the current year net investment earnings/losses/gains is \$475,508, but in the filing for fiscal year 2019, the value \$556,273 is reported for the prior year (2018), and in the 2020 filing again we see the value \$556,273 for 2 years back (2018). Also, in the filing corresponding to fiscal year 2020, the reported investment earnings/losses/gains is \$147,166, but in the 2021 filing the prior year value is reported as \$172,248.

- First State Ballet Theatre: reported no investment earnings/losses for any year
- Eugene Ballet: only reported investment earnings/losses for 2020 and 2021

Table 2: Organizations with 100% of their Endowments in One Category for All Years on File

Organization Name	Number of Years on File
<b>Board designated or quasi-endowment</b>	
The Tallahassee Ballet	6
Ballet Quad Cities	2
Canyon Concert Ballet	1
<b>Permanent endowment</b>	
Pittsburgh Ballet Theatre	7
Dance Theatre of Harlem, Madison Ballet	6
BalletMet	5
Aspen Santa Fe Ballet, Ballet West	4
New Mexico Ballet Company	3
Oregon Ballet Theatre	2
American Repertory Ballet, Colorado Ballet, Orlando Ballet	1
<b>Temporarily restricted endowment</b>	
First State Ballet Theatre	6
Ballet Des Moines	2

- American Repertory Ballet: reported no investment earnings/losses for any year

We see in Figure 1 that each of these companies annual growth rates are essentially zero when accounting for contributions and withdrawals.

## Where Endowments are Held

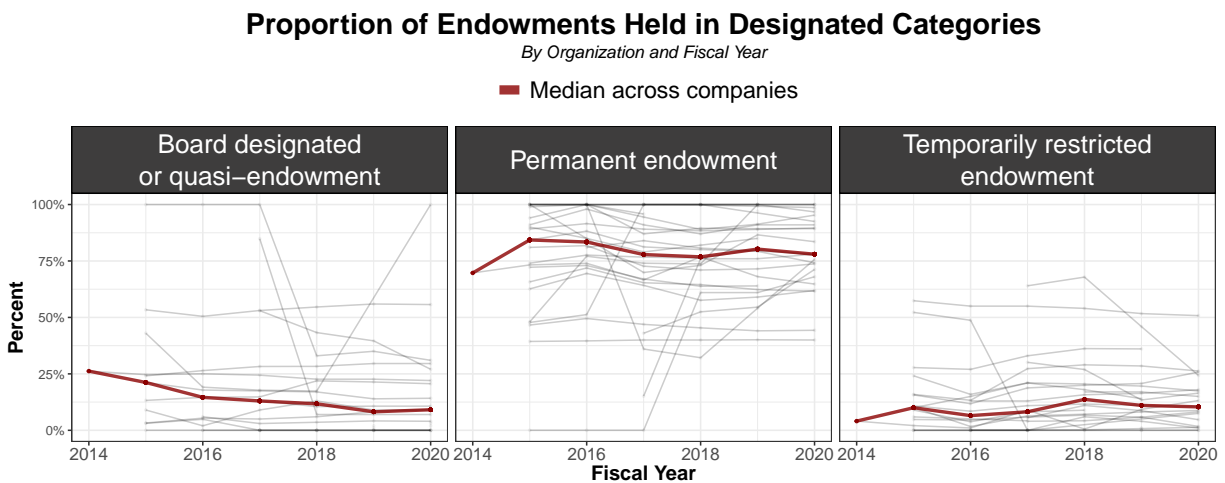


Figure 3: The percent of endowments held in temporarily restricted endowment, permanent endowment, or board designated or quasi-endowment. The median across all companies by fiscal year is shown in red.

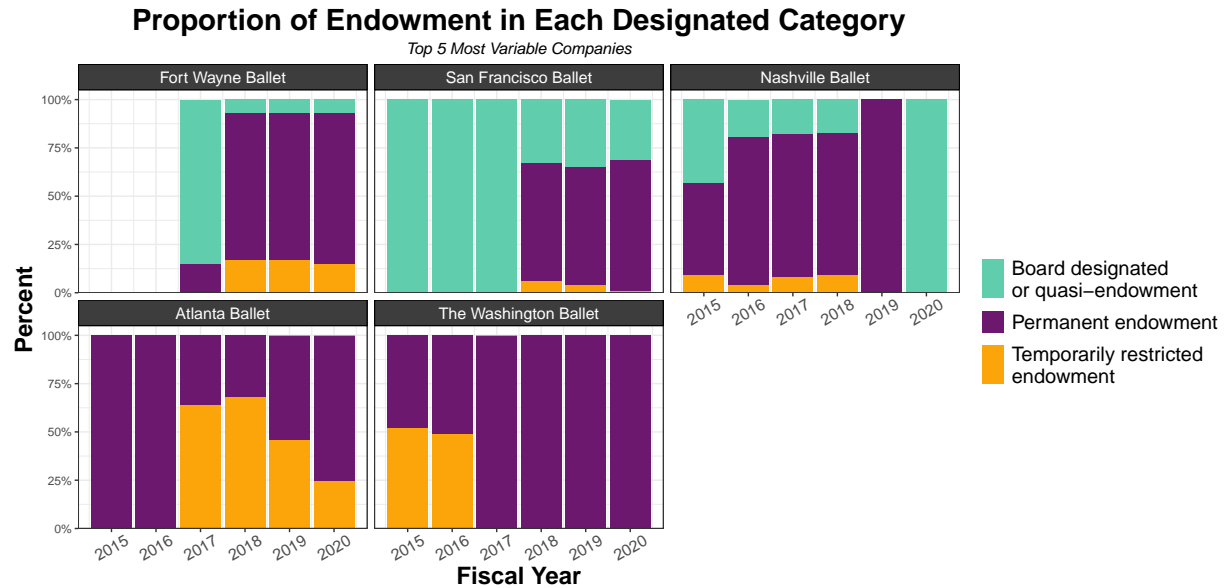


Figure 4: Proportions of endowments in each designated category over time for the 5 companies with the most variability.

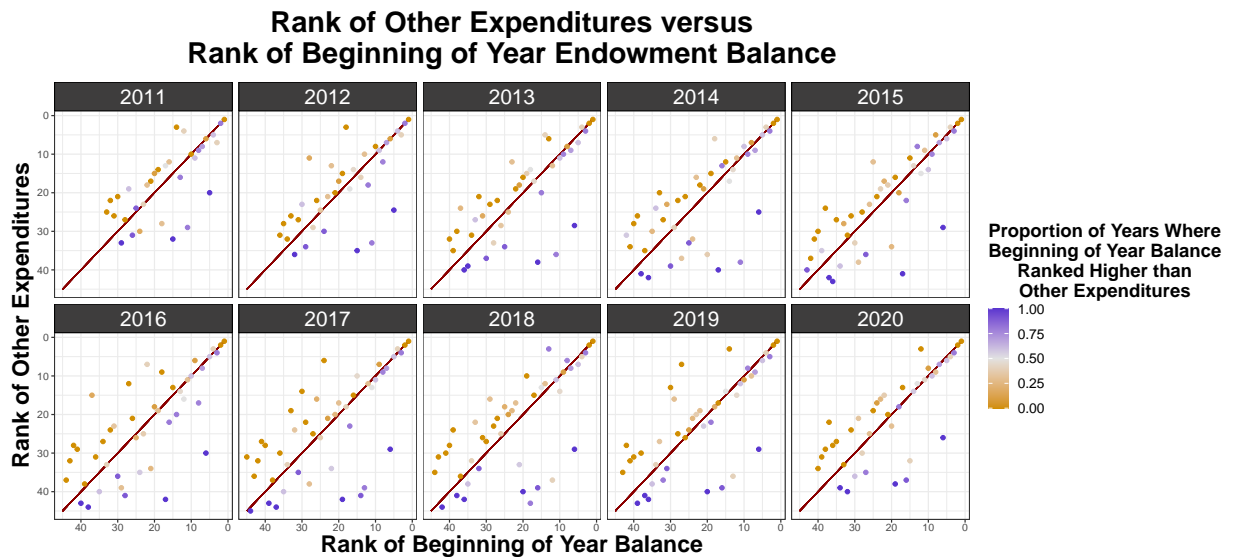
## Rankings

### Beginning of Year Balance versus Contributions

#### Rank Plot

#### Bar Plot

### Beginning of Year Balance versus Other Expenditures



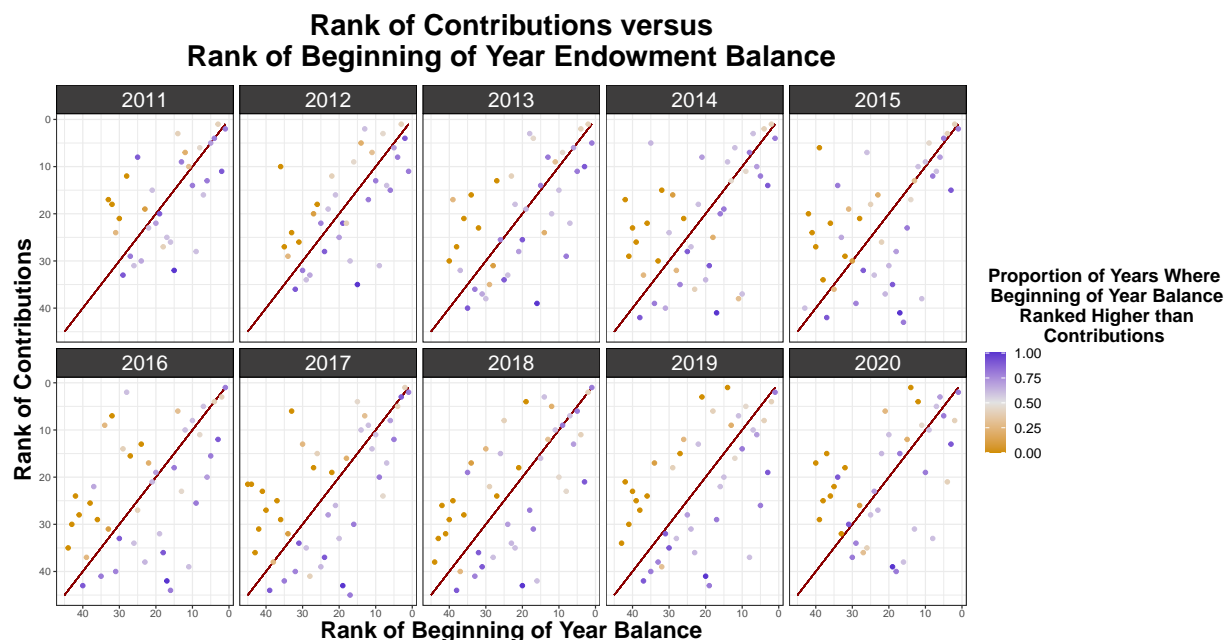


Figure 5: Comparing the rankings of beginning of year balance of the endowment to the ranking of contributions recieved.

## How ranks change over time

## Ranking of Endowment Beginning of Year Balance

## Ranking of Contributions

## Reporting of Endowments

## Compensation

## Top Employees Compensation Compared to Other Employee Compensation

- For total employee compensation - CYSalariesCompEmpBnftPaidAmt: Salaries, other compensation, employee benefits (Part IX, column (A), lines 5-10).
- For top employee compensation - Schedule J, looking at total compensation

Only included companies with more than 5 observations.



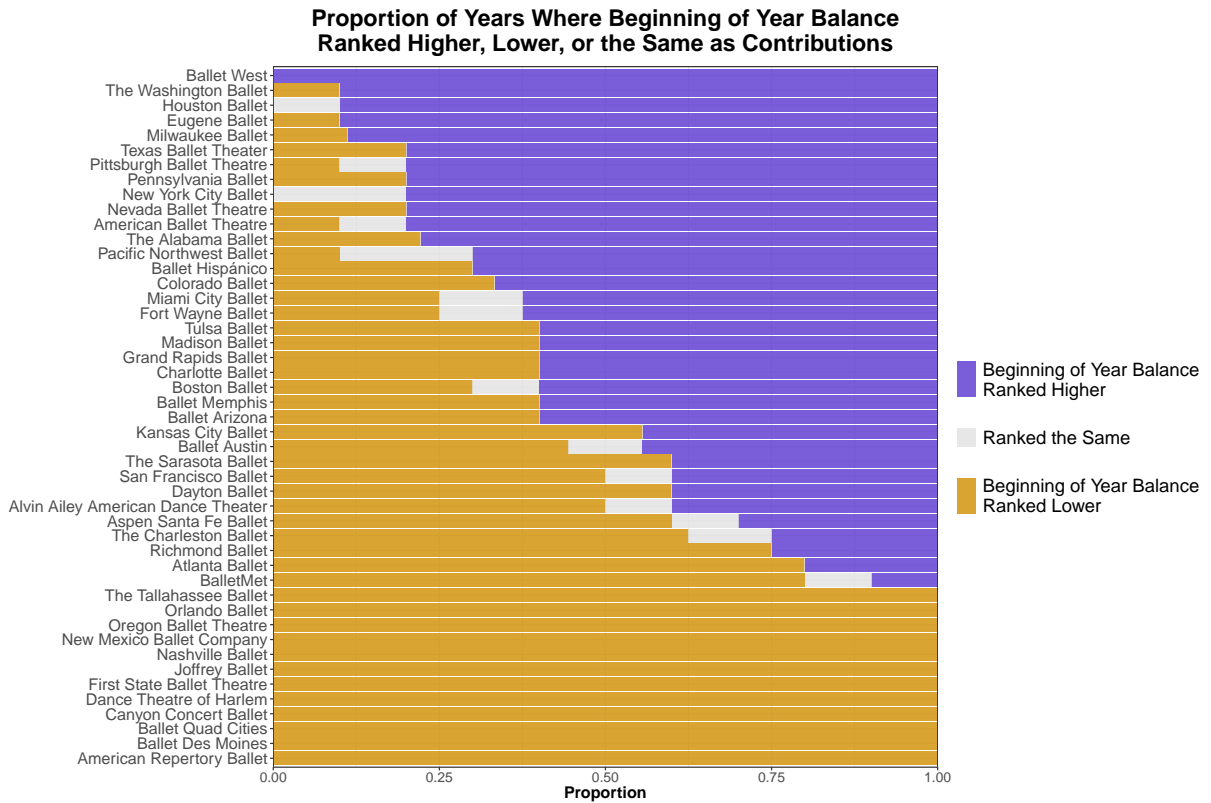


Figure 6: Comparing the proportion of years where a company ranked higher, lower, or the same in beginning of year balance compared to contributions received. A higher rank means a rank closer to 1, where 1 is the top possible rank.

Table 3: Number of Companies that Reported an Endowment

	Reported an Endowment	Did Not Report an Endowment
<b>By Year</b>		
2014	6	1
2015	70	35
2016	79	37
2017	83	42
2018	96	40
2019	106	40
2020	83	40
2021	21	6
<b>Reported an Endowment at Least Once</b>	122	47

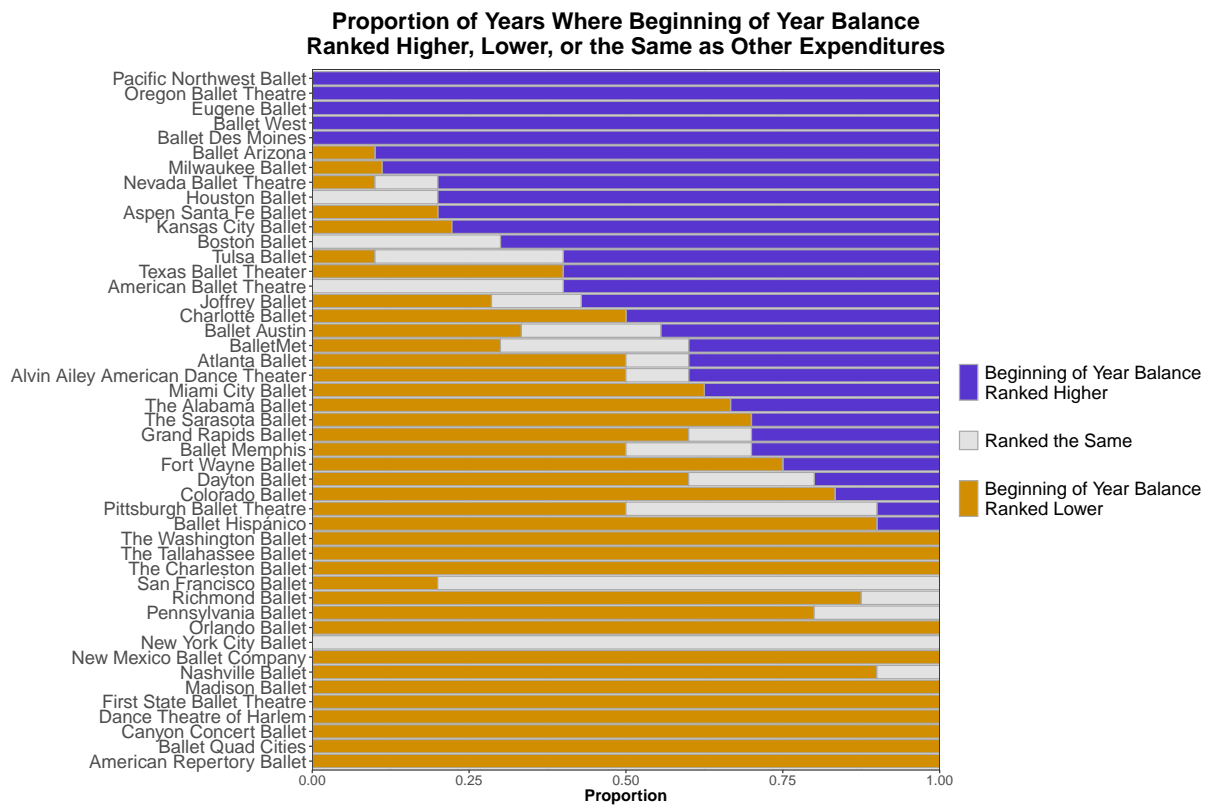


Figure 7: Comparing the proportion of years where a company ranked higher, lower, or the same in beginning of year balance compared to expenditures.

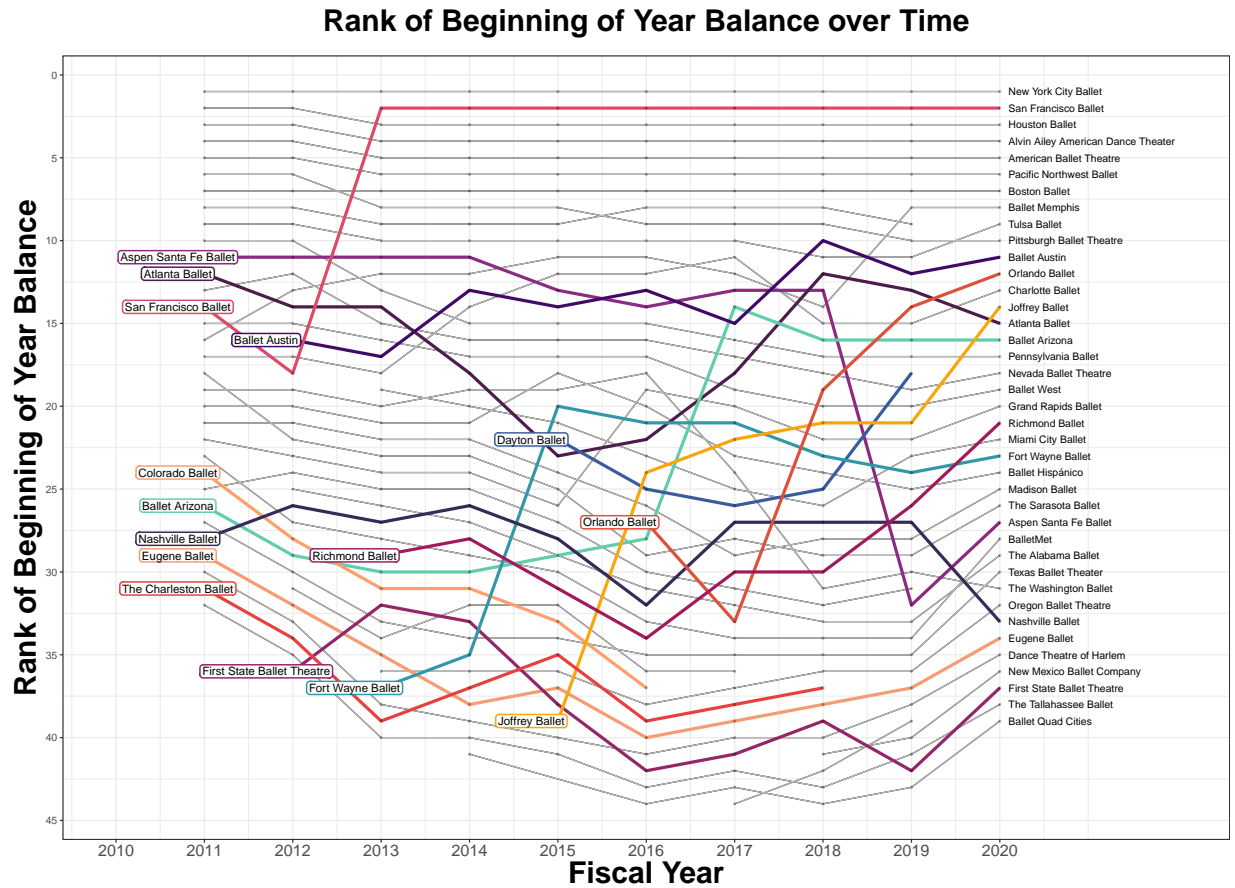


Figure 8: Rank of the endowment beginning of year balance over time. The 15 companies with the most variability in ranking, defined as the mean difference in rankings between fiscal years, are shown in color. Names of all companies are on the right.

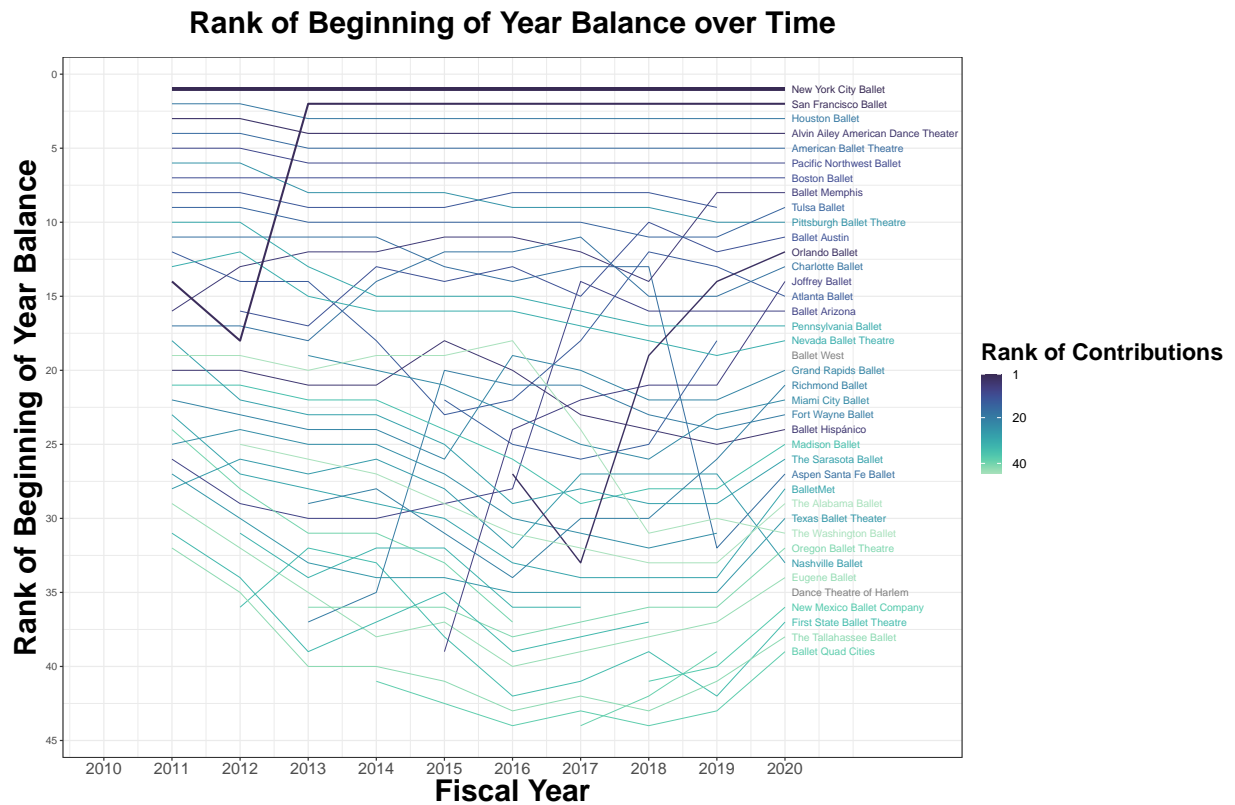


Figure 9: Rank of the endowment beginning of year balance over time, where the color indicates the ranking of the mean contributions received over all years on file for the company.

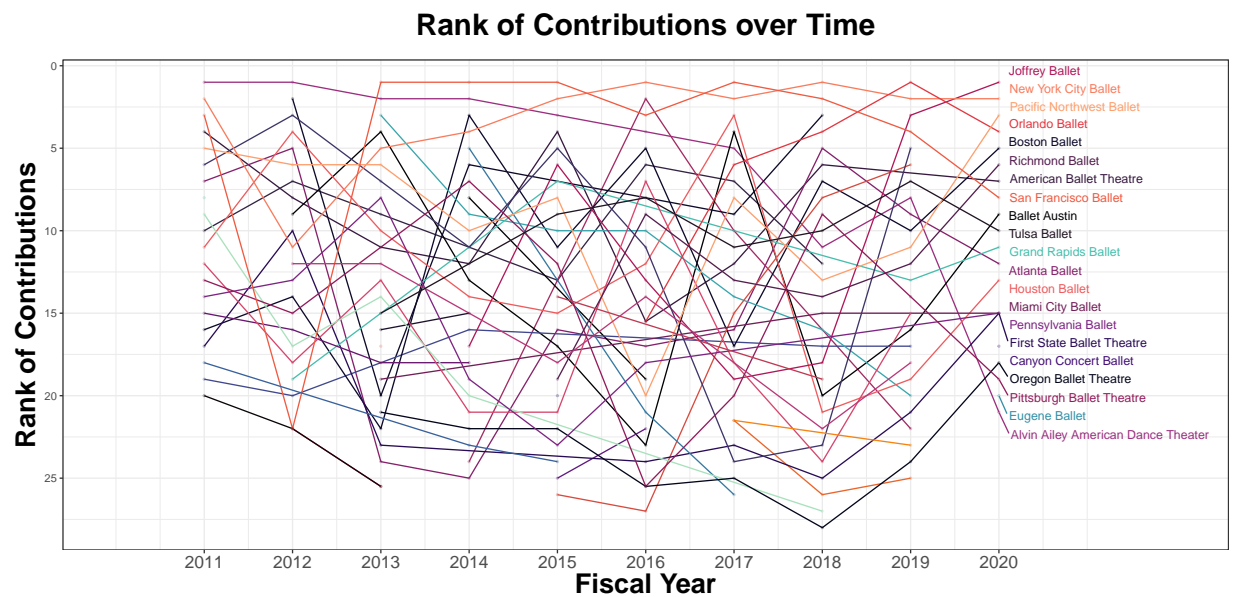


Figure 10: The rankings of contributions over time, by organization.

## Percent of Total Compensation Paid to C-Suite Employees

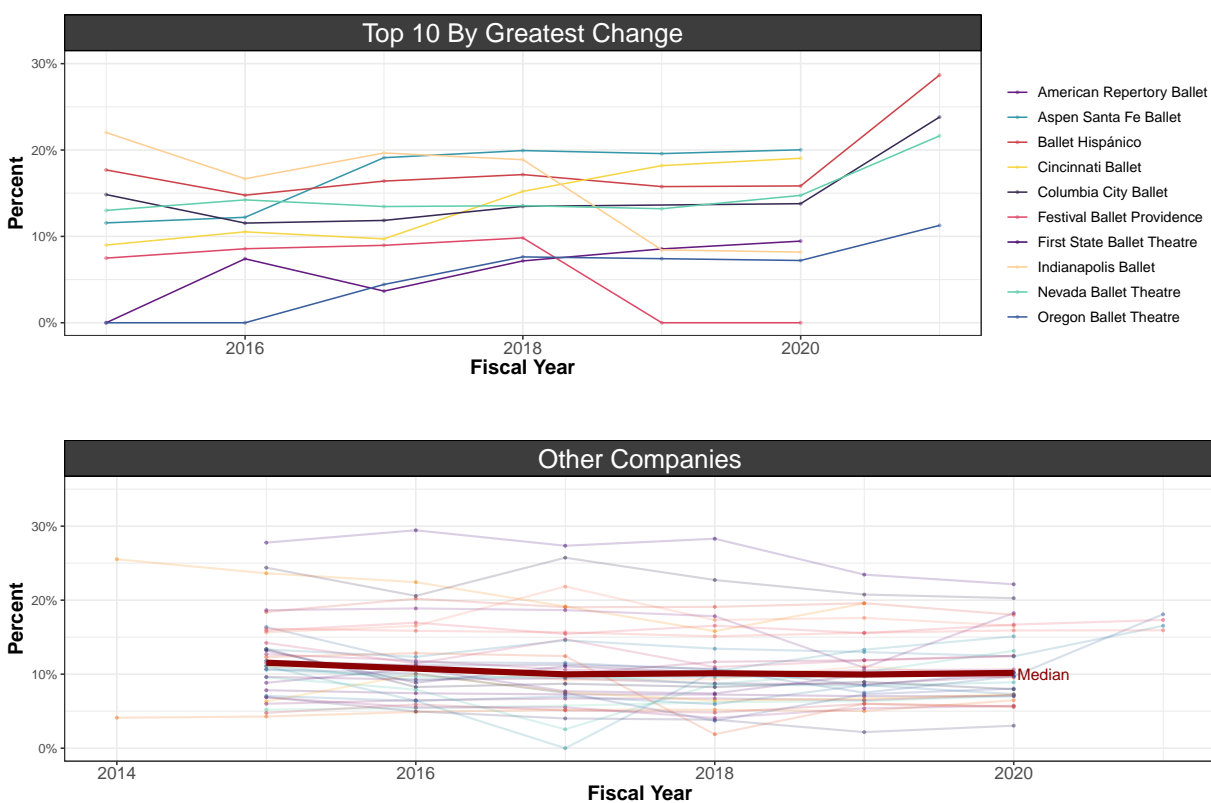


Figure 11: percent of the total compensation paid to employees that was paid to officers, directors, trustees, or key employees, as reported in Part IX of the Form 990. Highlighted in the first panel are the 10 companies that had the greatest change in the percent paid to C-Suite employees from the earliest year on file to the latest. Only companies with more than 45 employees and that reported complete data for more than 5 years are included.

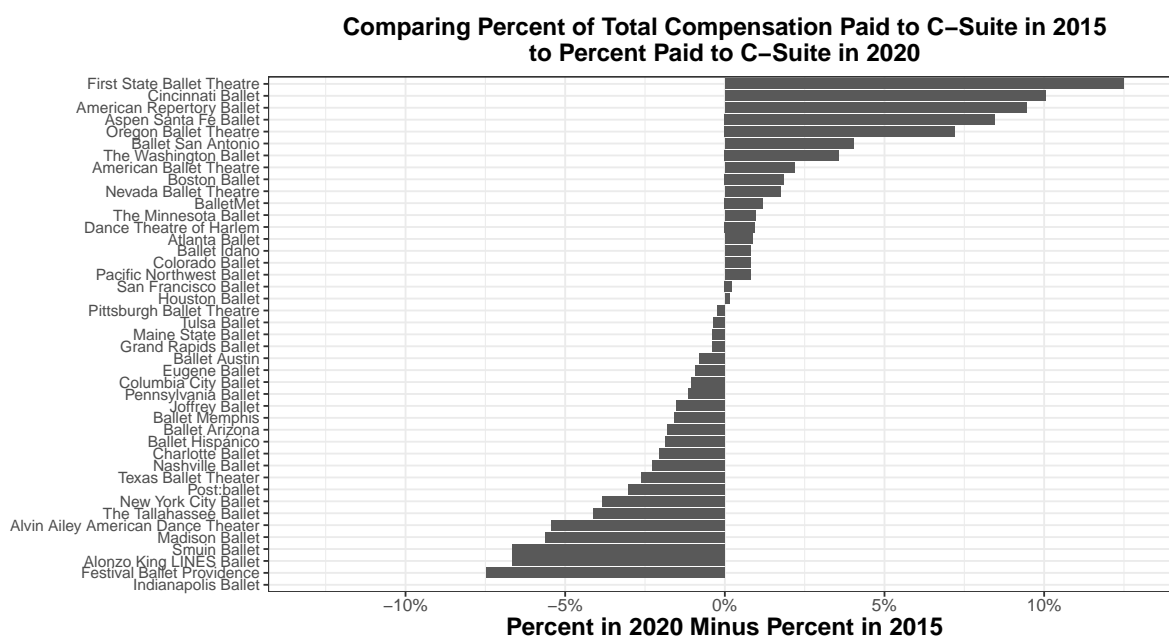


Figure 12: