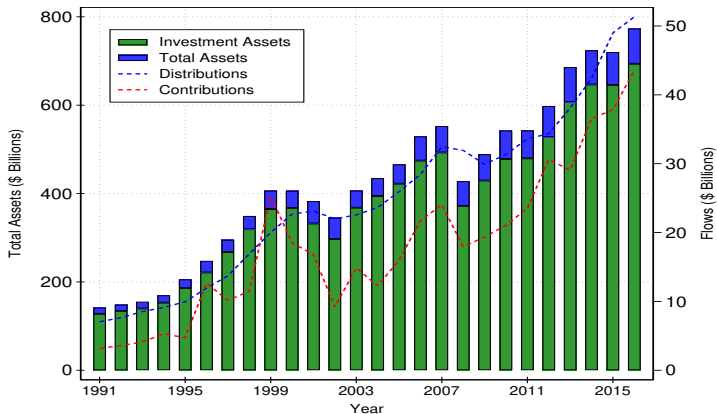# Doing Good and Doing It With (Investment) Style

Matteo Binfarè   Kyle Zimmerschied [1]

[1]University of Missouri

December 2023

Private Foundation Total Assets and Flows

▶ In 2016, private foundations comprised 16 percent of the $390 billion donated to U.S. charities

Introduction

"Suppose that our foundation hadn't invested in Gavi, the Global Fund and GPEI and had instead put that $10 billion into the S&P 500, promising to give the balance to developing countries 18 years later. As of last week, those countries would have received about $12 billion, adjusted for inflation, or $17 billion if we factor in reinvested dividends. By investing in global health institutions, however, we exceeded all of those returns: The $10 billion that we gave to help provide vaccines, drugs, bed nets and other supplies in developing countries created an estimated $200 billion in social and economic benefits."

— Bill Gates (2019)

Example Foundation   Largest Private Foundations

▶ Despite their impact, little is known about private foundations

   ■ Investment Performance
   ■ Exploitation of Private Foundations
   ■ Self-Interested Giving

Motivation

1. Importance of Private Foundations
   - Private foundations increase the efficiency of charitable giving through grant-making processes (Allen & McAllister (2019)) Impact Gates Foundation
2. Novelty of Investment Setting Example
   - Following their creation, private foundations rely almost completely on investment returns to fund their philanthropic efforts
   - Private foundations are subject to a five percent rate of mandated distributions of their net investment assets
3. Out-of-Sample Learning from Private Foundations
   - Data on the asset allocation, investment performance, fees paid, and spending by private foundations allows an examination of theoretical results and empirical results within a new investment vehicle

Research Questions

1. Asset Allocation Decisions
   - Campbell & Sigalov (2021) theoretically show that reaching for yield results from imposing a sustainable spending constraint on an infinitely-lived investor
     - ▶ How do private foundations' asset allocations change in response to the investment environment given their spending constraint?

2. Investment Performance of Private Foundations
   - Prior literature documents underperformance of private foundation and nonprofit investors after 2008
     - ▶ Do private foundations achieve positive risk-adjusted returns?

Research Questions

3. Relation between Fees and Investment Returns

- Evidence within the current literature is mixed on the relationship between fees and investment performance
- IRS Form 990-PF discloses fees in a more transparent process while analysis on investment management fees has often been limited due to issues of data availability
  - ▶ Are investment fees associated with superior performance, and what types of fees are most strongly connected to investment performance?

4. Do Private Foundations do Good?

- Prior literature shows that some corporate private foundations give for personal rather than societal interest
  - ▶ Does the universe of private foundations exist for societal benefit?

Main Results

1. Private foundations significantly increase their allocation to "risky" assets in response to declines in the real interest rate

2. The largest foundations exhibit positive risk-adjusted returns of about 100 bps per annum
   - Significant time variation in alphas
   - Concentration increases returns at the cost of increased risk

3. Investment wages are positively associated with returns

4. Most private foundations exist for societal benefit
   - On average, private foundations increase giving in response to shocks to the marginal benefit of giving
   - Small subset of private foundations avoid the five percent spending rule through the use of Donor-Advised Funds (DAFs)

Institutional Background

▶ A private foundation is an independent legal entity that provides a vehicle for charitable giving
  - Enables greater donor control of the timing and use of donations
▶ Private foundations are primarily tax-exempt and donor contributions of appreciated stock is fully deductible
▶ Private foundations must pay out five percent of investment assets annually or are subject to a 30 percent excise tax
▶ Have a governance structure that best aligns donor and societal interest
  - Donor-Advised Funds lack spending requirements and anonymize giving
  - 35 percent of DAFs did not make a distribution to charity in 2020

Data Sources and Sample

▶ Data collected from annual tax return filings of private foundations on Internal Revenue Service's (IRS) Form 990-PF from 1991-2016
  - Contains an asset-weighted sample of all 990-PF filings (foundations with greater than $10 million in investment assets are included with certainty)
▶ Sample contains less than 20 percent of foundations' filings but covers over 80 percent of the total fair market value Sample 990-PF

Total Assets and Flows

	N	Mean	SD	p25	Median	p75	AUM^w
Panel A: Assets, Investment Assets, and Flows ($M)							
Total Assets ($M)	231,495	45.49	402.55	0.94	9.89	24.01	3,608.10
Investment Assets ($M)	231,495	41.07	373.90	0.81	7.32	21.27	3,330.16
Contributions ($M)	231,495	1.53	37.17	0.00	0.00	0.00	142.06
Contributions (% Assets)	231,495	2.76	9.84	0.00	0.00	0.02	3.29
Distributions ($M)	231,495	2.55	20.62	0.04	0.41	1.34	173.81
Distributions (% Assets)	231,495	6.43	6.73	4.10	4.91	6.08	5.51

▶ Average foundation had nearly $46 million in total assets while the asset-weighted average is over $3.6 billion

▶ Foundations receive minimal contributions from outside donors

Asset Allocation

	N	Mean	SD	p25	Median	p75	AUM^w
			Panel B: Asset Allocation (%)				
Cash	231,495	7.79	12.41	1.62	3.74	7.98	6.04
Government Bonds	231,495	7.00	15.40	0.00	0.00	6.96	7.22
Corporate Bonds	231,495	11.29	16.23	0.00	3.72	17.72	7.64
Equity	231,495	56.93	31.05	35.54	61.85	82.35	53.05
Alternatives	231,495	14.99	27.39	0.00	0.00	16.19	24.25
Other	231,495	2.01	9.05	0.00	0.00	0.00	1.79

▶ Larger foundations hold less cash and equity than smaller foundations while investing much more in alternatives Time-Varying Asset Allocation   Cross-Sectional Regression

Reach for Yield ($\uparrow$ Risk when $R_f \downarrow$)

▶ Campbell & Sigalov (2021) show that increases in risk-taking occur for a decline in the real interest rate when an infinitely-lived investor faces a sustainable spending constraint

- Reaching for yield previously shown in a variety of for-profit contexts (Becker & Ivashina, 2015; Choi & Kronlund, 2018; Lu *et al.*, 2019)

▶ We estimate the following model using cross-sectional variation in a foundation's lagged spending rate

$$Y_{i,t} = \beta_1 Yield_{t-1} + \beta_2 \frac{Distr_{i,t-1}}{Req.\ Distr_{i,t-1}} + \beta_3 \underbrace{Yield_{i,t-1} \times \frac{Distr_{i,t-1}}{Req.\ Distr_{i,t-1}}}_{\text{Reach-for-Yield}} + \gamma X_{it} + \nu_i + \varepsilon_{it}$$

(1)

▶ Reach for Yield: $\beta_3 \geq 0$ for risky assets and $\beta_3 \leq 0$ for safe assets

▶ Expect for foundations with a high $\frac{Distr_{i,t-1}}{Req.\ Distr_{i,t-1}}$ (QD) ratio to be less constrained and less likely to reach for yield

Reach for Yield ($\uparrow$ Risk when $R_f \downarrow$)

Size

$$Y_{i,t} = \beta_1 Yield_{t-1} + \beta_2 \frac{\text{Distr}_{i,t-1}}{\text{Req. Distr}_{i,t-1}} + \beta_3 \underbrace{Yield_{i,t-1} \times \frac{\text{Distr}_{i,t-1}}{\text{Req. Distr}_{i,t-1}}}_{\text{Reach-for-Yield}} + \gamma X_{it} + \nu_i + \varepsilon_{it}$$

(2)

	Equity		Alternatives		Gvt. Bonds	
	(1)	(2)	(3)	(4)	(5)	(6)
	Panel A: Reach for Yield and Minimum Spending Rule					
$Yield_{t-1}$	-0.73***	-0.88***	-0.59***	-0.62***	0.88***	0.94***
	[0.11]	[0.13]	[0.15]	[0.17]	[0.09]	[0.09]
QD_{t-1}		-0.01***		-0.00		0.00*
		[0.00]		[0.00]		[0.00]
$Yield_{t-1} \times QD_{t-1}$		0.11***		0.02		-0.05***
		[0.04]		[0.02]		[0.02]
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Adj-R^2	0.70	0.70	0.68	0.68	0.59	0.73
Observations	209922	209922	209922	209922	209922	209922

▶ $\frac{\partial Equity}{\partial Yield} = \beta_1 + \beta_3 \times \frac{\text{Distr}_{i,t-1}}{\text{Req. Distr}_{i,t-1}} \sim$ 18 bps less for a $\sigma \uparrow$ in $\frac{\text{Distr}_{i,t-1}}{\text{Req. Distr}_{i,t-1}}$

Investment Performance and Fees

1. We estimate gross return as (Validity):

$$R_{it}^{Gross} = \frac{\text{Net Assets}_{it} - \text{Net Assets}_{it-1} - \text{Contributions}_{it} + (\text{Distributions}_{it} + \text{Expenses}_{it})}{\text{Investment Assets}_{it-1}} \quad (3)$$

2. We subtract disclosed investment fees to get a net measure:

$$R_{it}^{Net} = R_{it}^{Gross} - Fees_{it} \quad (4)$$

	N	Mean	SD	p25	Median	p75	AUM^w
			Panel C: Investment Return and Fees (%)				
Total Net Return	231,495	8.32	13.76	1.39	8.46	14.94	10.10
Dividend Yield	231,495	3.28	1.99	2.17	2.86	3.87	2.57
Realized Gains	231,495	3.26	6.62	0.00	1.98	5.29	4.30
Unrealized Gains	231,495	2.04	13.80	-4.68	2.04	8.68	3.15
Investment Fees	231,495	0.81	0.84	0.28	0.63	1.06	0.58

▶ Larger foundations significantly outperform equal-weighted return

Descriptive Returns of Private Foundations
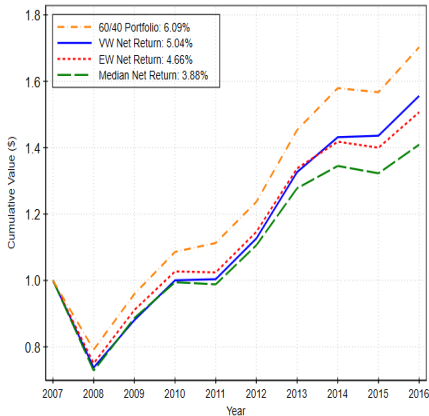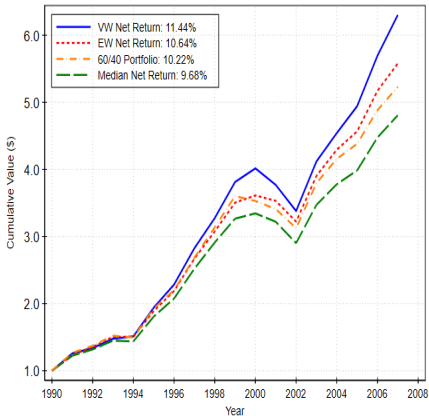
▶ Private foundations outperform prior to 2008 while underperforming afterwards

Descriptive Returns of Private Foundations
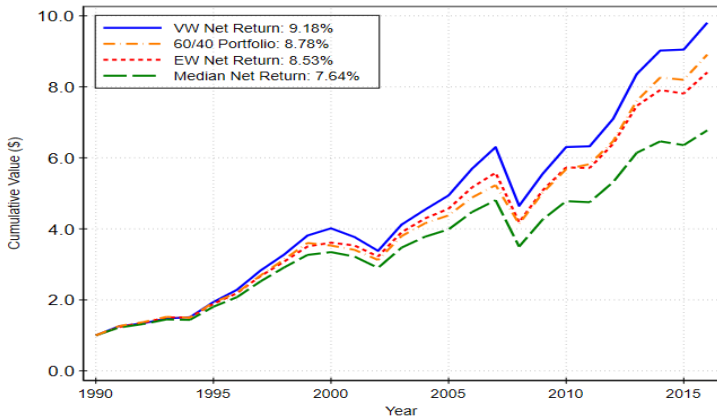
▶ Value-weighted private foundations outperform a 60/40 portfolio by 0.40 percent from fiscal years 1991 to 2016

Risk-Adjusted Returns

1. Time series regression of the return of private foundations on asset class and equity-style factors (Carhart (1997) and Fama & French (1993))

$$R_{it}^{Net} - R_{ft} = \alpha_i + \sum_{k=1}^{K} \beta_{ik} f_{kt} + \epsilon_{it} \tag{5}$$

2. Performance persistence in Fama-MacBeth regressions (Fama & MacBeth (1973)) Persistence Literature

3. Examine variation in return performance driven by concentration and foundation type Concentration Structure

Risk-Adjusted Performance

	All	V. Large	Large	M. Large	M. Small	Small	V. Small
	Kosowski *et al.* (2006) Bootstrap Method						
Percentile							
10	-4.7	-2.9	-2.6	-4.3	-4.7	-4.7	-4.8
	0.00	0.96	0.98	0.00	0.00	0.00	0.00
90	4.6	6.8	6.3	6.3	6.1	4.6	1.3
	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Mean^{EW}	-0.4	1.4	1.3	0.6	0.2	-0.4	-1.5
	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mean^{VW}	1.0	1.7	1.4	0.6	0.2	-0.3	-1.4
	0.00	0.00	0.00	0.00	0.00	0.00	0.00

▶ On a value-weighted basis, private foundations significantly outperform
their estimated factor exposure

■ Outperformance driven by large foundations prior to 2008 `Time-Varying Alpha`
`Attribution`

A Closer Look at Investment Fees

1. We scrape form 990-PF in their XLM format on AWS, 2010-2019
2. More granular view of (disclosed) investment fees (internal and external)

| efile Public Visual Render | ObjectId: 201813189349103206 - Submission: 2018-11-14 | | | TIN: 43-6064859 |

TY 2017 IRS 990 e-File Render

Name: EWING MARION KAUFFMAN FOUNDATION
EIN: 43-6064859

Category	Amount	Net Investment Income	Adjusted Net Income	Disbursements for Charitable Purposes
GENERAL ATLANTIC PARTNERS	2,432,621	2,432,621		
FIRST EAGLE INVESTMENT MNGT	1,346,396	1,346,396		
DRIEHAUS CAPITAL MNGT, LLC	1,131,027	1,131,027		
HARRIS ASSOCIATES L.P.	951,234	951,234		
SANDS CAPITAL MANAGEMENT, LLC	883,883	883,883		
BRETTON WOODS GROUP INC.	647,574	44,143		603,431
DBAG FUND VII	567,240	567,240		

Introduction
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Data
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Performance
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Fees
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Spending
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Conclusions
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References

Performance and Fees

	Panel B: Performance and Internal and External Fees				
	Net Return_t				
	(1)	(2)	(3)	(4)	(5)
Total Inv. Fees	-0.59*** [0.05]				
Investment Wages		0.69*** [0.06]			0.49*** [0.07]
External Fees			-0.63*** [0.04]		-0.51*** [0.04]
Ancillary Fees				-2.16*** [0.14]	-2.01*** [0.14]
Log(Assets)	0.46*** [0.02]	0.56*** [0.02]	0.55*** [0.02]	0.41*** [0.02]	0.46*** [0.03]
Year × Style Fixed Effects	Yes	Yes	Yes	Yes	Yes
Adj.-R^2	0.32	0.32	0.32	0.32	0.33
Observations	149387	149387	149387	149387	149387

▶ Investment wages are positively associated with future net investment return performance Fees Summary

  ■ All other fee types reduce future expected returns

Do Private Foundations Do Good?

▶ Historically, some private foundations have existed for primarily personal rather than societal benefit

- Tax Reform Act of 1969 specifies a minimum spending spending requirement, a 20 percent maximum voting interest in a given stock, and no self-dealing

▶ Empirically investigate these motivations using evidence from:

1. Private foundation giving to Donor-Advised Funds (DAFs)
2. Responsiveness of private foundation giving to shocks to the marginal benefit of giving

Giving to DAFs
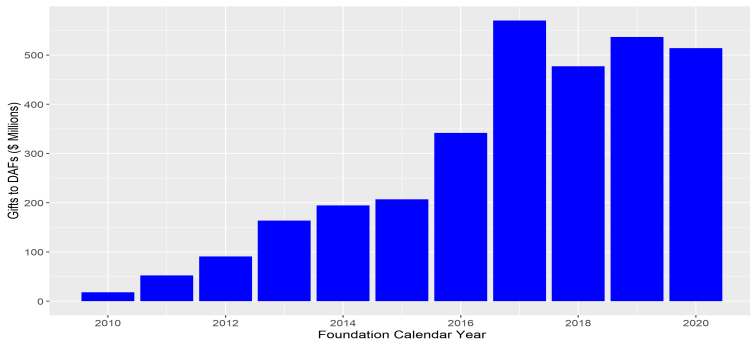
- ▶ Private foundations gave nearly $3 billion to DAFs from 2010 to 2020 ($\approx$ 0.5 percent of distributions)
- ▶ While not nefarious in nature, these gifts potentially reflect less altruistic motives Musk Foundation
- ▶ Larger, more sophisticated foundations give to DAFs while gifts occur in larger proportions following a positive return shock DAF Regression

Responsiveness to Marginal Benefit of Giving Shocks?

| | Spending Ratio$_t$ | |
	(1)	(2)
FEMA$_{t-1}$	0.03**	0.00
	[0.01]	[0.02]
Private Grantmaking Foundation $\times$ FEMA$_{t-1}$		0.05**
		[0.02]
Controls	Yes	Yes
Fund Fixed Effects	Yes	Yes
State Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Adj-R^2	0.62	0.62
Observations	167117	167117

▶ Private foundations significantly increase spending in response to shocks to the marginal benefit of giving
  - Effect size driven by foundations providing more general support
  - Effect size understated due to failure to capture substitution in giving causes

Conclusions and Implications

1. Private foundations are sophisticated investors that are key to sustaining the charitable sector in the United States due to their level and efficiency of giving
2. The asset allocation of private foundations has shifted towards increasingly risky assets in response to accommodating monetary policy
3. Private foundations exhibit positive risk-adjusted returns that is driven by larger foundations and the time period preceding the Great Recession
4. Investment wages are positively associated to future subsequent returns
5. While a small subset of private foundations exist for personal benefit, in aggregate private foundations serve societal benefit

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Ted Arison Family Foundation

Source: ArisonFoundation.com

Source: YouTube

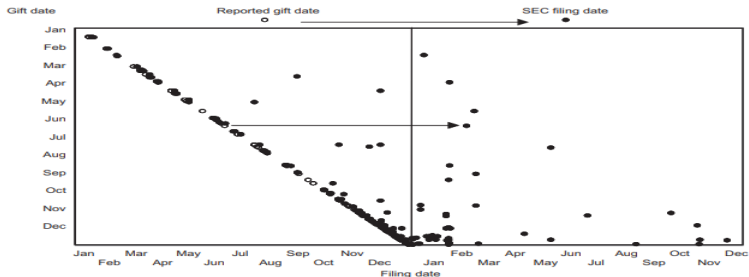▶ Founded in 1981, Ted Arison Family Foundation has given more than $436 million in social causes

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The Largest Private Foundations in the U.S. in 2016

Foundation	Inv. Assets	Asset Alllocations			
		Gov. Bonds	Corporate Bonds	Equity	Other
Bill & Melinda Gates Foundation	$ 39,910.70	$ 5,352.00	$ 712.50	$ 27,647.40	$ 6,225.90
Ford Foundation	$ 11,950.00	$ 789.20	$ 83.70	$ 214.30	$ 10,862.70
Lilly Endowment	$ 10,241.10	$ -	$ -	$ 9,236.10	$ 1,005.00
Robert Wood Johnson Foundation	$ 9,644.60	$ 267.10	$ -	$ 1,741.00	$ 7,636.40
William and Flora Hewlett Foundation	$ 8,857.10	$ 475.50	$ 413.90	$ 2,916.90	$ 5,050.80
Bloomberg Family Foundation	$ 7,817.70	$ -	$ -	$ -	$ 7,817.70
W. K. Kellogg Foundation	$ 7,663.30	$ 170.60	$ 0.90	$ 4,844.10	$ 2,647.60

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Investment Performance

Foundation Performance Indices

Data through March, 2023

60/40 Index

GIV Index

Source: FoundationMark©

▶ Dahiya & Yermack (2021) estimate underperformance of US non-profits of about 40 basis points from 2009 to 2018

Private Foundation Gift Back-Dating

Source: Yermack (2009)

► Yermack (2009) documents that CEOs fraudulently backdate stock gifts
  ■ Stock gifts are followed by a decline in share price

Back

Corporate Philanthropy?

Source: New York Times

▶ Bertrand *et al.* (2021) documents that firms use gifts to nonprofits to make policy recommendations

- Coca-Cola and PepsiCo make gifts to NAACP and Hispanic Federation preceding their recommendations to not ban large sugary drinks

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Private Foundation Giving Impact(Orol, 2021)

► *Private foundations "constitute a powerful instrument for evolution, growth, and improvement in the shape and direction of charity."*

— Treasury Department Study (1965)

1. Carnegie Corporation: Support for public libraries in late 19th century and early 20th century
2. Rockefeller Foundation: Grants to fight the yellow fever epidemic in 1915
3. Sarah Scaife Foundation: Grants leading to the development of a cure for polio
4. Robert Wood Johnson Foundation: Development of the 911-dial emergency response system
5. Bill and Melinda Gates Foundation: Support in fighting the Covid-19 pandemic

Gates Foundation

"Bill [Gates] and I believe that philanthropy can only be effective if it starts things and proves whether they actually work or not. That's the place that governments often don't want to, or can't, work."
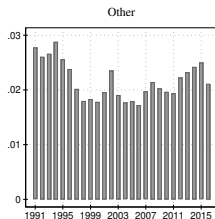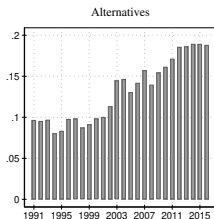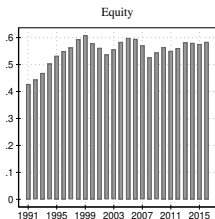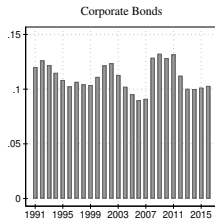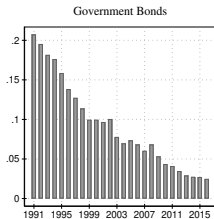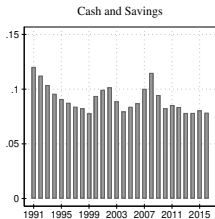
— Melinda Gates

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Ted Arison Family Foundation: 990-PF 2020

Part II	Balance Sheets — Attached schedules and amounts in the description column should be for end-of-year amounts only. (See instructions.)	Beginning of year (a) Book Value	End of year (b) Book Value	(c) Fair Market Value
1	Cash—non-interest-bearing		1	1
2	Savings and temporary cash investments	39,742,534	33,297,080	33,297,080
3	Accounts receivable ▶ _____			
	Less: allowance for doubtful accounts ▶ _____	18,000		
4	Pledges receivable ▶ _____			
	Less: allowance for doubtful accounts ▶ _____			
5	Grants receivable			
6	Receivables due from officers, directors, trustees, and other disqualified persons (attach schedule) (see instructions)			
7	Other notes and loans receivable (attach schedule) ▶ _____			
	Less: allowance for doubtful accounts ▶ _____			
8	Inventories for sale or use			
9	Prepaid expenses and deferred charges			
10a	Investments—U.S. and state government obligations (attach schedule)			
b	Investments—corporate stock (attach schedule)	25,715,017	29,777,864	45,586,149
c	Investments—corporate bonds (attach schedule)	64,015,486	65,412,933	68,104,754
11	Investments—land, buildings, and equipment: basis ▶ _____ 407,732			
	Less: accumulated depreciation (attach schedule) ▶ _____	407,732	407,732	407,732
12	Investments—mortgage loans			
13	Investments—other (attach schedule)	322,577,267	312,621,057	387,468,432
14	Land, buildings, and equipment: basis ▶ _____ 27,389,133			
	Less: accumulated depreciation (attach schedule) ▶ _____	27,389,133	27,389,133	27,389,133
15	Other assets (describe ▶ _____)			
16	Total assets (to be completed by all filers—see the instructions. Also, see page 1, item I)	479,865,169	468,905,800	562,253,281

Assets (side label)

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Time-Varying Asset Allocation

Cash and Savings

Government Bonds

Corporate Bonds

Equity

Alternatives

Other

Asset Allocation Decisions

$$Y_{it} = \lambda_t + \nu_i + \gamma X_{it} + \varepsilon_{it} \tag{6}$$

	Gov. Bonds	Corp. Bonds	Equity	Alternatives
	(1)	(2)	(3)	(4)
Log(Assets)	0.24***	-0.31***	0.13	0.55***
	[0.05]	[0.05]	[0.09]	[0.08]
Log(Age)	0.73***	0.61***	-0.58**	-0.96***
	[0.12]	[0.14]	[0.25]	[0.21]
Investment Fees	-0.62***	-0.69***	-2.72***	0.70***
	[0.10]	[0.10]	[0.21]	[0.18]
Distributions (% Expenses)	0.02***	0.00	0.05***	-0.07***
	[0.00]	[0.00]	[0.01]	[0.01]
Contributions (% Income)	-0.02***	-0.05***	-0.10***	0.04***
	[0.00]	[0.00]	[0.01]	[0.01]
Log(Paid)	-0.94***	-0.57***	-2.36***	4.04***
	[0.15]	[0.19]	[0.44]	[0.48]
Log(Unpaid)	-0.19*	-1.79***	-1.36***	1.35***
	[0.11]	[0.12]	[0.21]	[0.19]
Year Fixed Effects	Yes	Yes	Yes	Yes
Adj-R^2	0.12	0.02	0.03	0.03
Observations	232524	232524	232524	232524

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Reach for Yield by Size

	Equity		Alternatives		Gvt. Bonds	
	(1)	(2)	(3)	(4)	(5)	(6)
	Panel A: Reach for Yield and Minimum Spending Rule					
	$\geq$ 50M	< 50M	$\geq$ 50M	< 50M	$\geq$ 50M	< 50M
Yield_{t-1}	0.01	-1.17***	-1.34***	-0.32	0.93***	0.94***
	[0.17]	[0.15]	[0.18]	[0.19]	[0.12]	[0.09]
QD_{t-1}	-0.00	-0.01***	-0.00**	0.00	0.00	0.00*
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
$\text{Yield}_{t-1} \times \text{QD}_{t-1}$	0.00	0.13***	0.12**	-0.00	-0.04	-0.05**
	[0.07]	[0.04]	[0.05]	[0.03]	[0.03]	[0.02]
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Adj-R^2	0.73	0.69	0.78	0.67	0.75	0.73
Observations	31639	177818	31639	177818	31639	177818

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Performance Persistence

	Panel A: Performance Persistence Matrix				
Previous	Current Return Decile				
	(1)	(2)	(5)	(9)	(10)
(1)	22.0	11.3	5.3	11.4	19.3
(2)	10.8	14.9	8.8	9.8	8.5
(5)	5.0	8.8	14.6	6.7	4.0
(9)	10.1	9.2	7.2	16.1	12.7
(10)	17.9	8.2	4.6	13.8	26.6
	Panel B: Fama-MacBeth Persistence Regressions				
	Net Returns	Pre 2008	Post 2008	Size-Adjusted	60/40
$R_{t-1:t} \rightarrow R_{t:t+1}$	0.08***	0.11***	0.01	0.08***	0.08***
	[0.02]	[0.03]	[0.04]	[0.02]	[0.02]
$R_{t-1:t} \rightarrow R_{t+1:t+2}$	0.16***	0.25***	0.04	0.15***	0.14***
	[0.05]	[0.05]	[0.07]	[0.04]	[0.04]

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University of Missouri vs. Kauffman Foundation vs. WashU

FY 2015	MU	Kauffman	WashU
Fiscal Year	June	December	June
Total Assets ($M)	1480	2097	6820
Distributions ($M)	47.51	104.00	271.44
Distributions (%)	3.21%	5%	4%
Investment Return (%)	1.90%	7.00%	4.40%
Contributions ($M)	30	0	263
Contributions (%)	2%	0%	4%

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IRS Form 990-PF Return Validity

Private Foundation	Investment Assets ($M)	Audited	990-PF
Lilly Endowment Inc	15094.34	26.27	26.35
Ford Foundation	12652.56	0.20	0.22
Robert Wood Johnson Foundation	10780.67	3.91	3.96
William and Flora Hewitt Foundation	9713.04	4.08	4.09
David and Lucile Packard Foundation	7083.27	-0.32	-0.29
MacArthur Foundation	6824.10	10.56	10.53
Andrew W Mellon Foundation	6518.25	0.83	0.85
John D. and Catherine T. MacArthur Foundation	6440.08	-1.61	-1.69
Gordon and Betty Moore Foundation	6261.88	-0.90	-0.90
Kresge Foundation	3623.40	-1.74	-1.79
Carnegie Foundation	3572.41	7.71	7.72
Duke Foundation	3568.45	2.91	2.96
Mott Foundation	2994.97	2.24	2.22
Margaret A. Cargill Foundation	2874.53	-2.54	-2.51
Casey Foundation	2522.03	-2.25	-2.18
Conrad Hilton Foundation	2366.28	11.66	11.51
Richard King Mellon Foundation	2348.34	-1.69	-1.68
James Irvine Foundation	2241.86	3.49	3.49
McKnight Foundation	2235.38	-3.83	-3.97
Ewing Marion Kauffman Foundation	2143.49	6.96	6.95
John S. and James L. Knight Foundation	2095.41	-4.15	-4.16
Doris Duke Foundation	1757.11	1.79	1.80
Alfred P. Sloan Foundation	1730.05	-2.98	-2.88
Moody Foundation	1688.87	8.87	9.14
The Annenberg Foundation	1559.29	15.00	15.00
Rockefeller Foundation	1134.92	-1.37	-0.99
Bush Foundation	897.45	5.44	5.50
The Henry Luce Foundation	826.52	-0.93	-0.93

Risk-Adjusted Returns and Performance Persistence

1. Literature results mixed on ability of institutional investors to generate positive risk-adjusted returns
   - FoundationMark[©] documents the underperformance of the median private foundation to a 60/40 portfolio from 2007-2023
   - Dahiya & Yermack (2021) find negative risk-adjusted performance of nonprofits from 2009-2018
   - Kosowski *et al.* (2007) and Fung *et al.* (2008) find top-performing hedge funds generate positive risk-adjusted returns
   - Barber & Wang (2013) and Binfarè *et al.* (2023) document the ability of some university endowments to select high-performing managers and outperform

2. ...as well as on the persistence of outperformance
   - Brown & Goetzmann (1995) and Carhart (1997) document performance persistence within mutual funds but it is not reflective of superior investment skill
   - Busse *et al.* (2010) find modest evidence of persistence in active equity funds
   - Harris *et al.* (2020) on the weakening persistence of private equity returns

Performance Attribution

	Panel A: Performance Attribution CPI Adj. Assets > $50 million											
	Very Large				Large				Medium			
Russell 3000	0.64*** [0.01]	0.49*** [0.02]	0.45*** [0.02]	0.45*** [0.02]	0.66*** [0.01]	0.52*** [0.02]	0.48*** [0.02]	0.50*** [0.02]	0.62*** [0.00]	0.50*** [0.01]	0.47*** [0.01]	0.47*** [0.01]
BB Aggregate	0.36*** [0.01]	0.35*** [0.01]	0.20*** [0.02]	0.22*** [0.02]	0.34*** [0.01]	0.33*** [0.01]	0.23*** [0.02]	0.22*** [0.02]	0.38*** [0.00]	0.37*** [0.00]	0.26*** [0.01]	0.26*** [0.01]
ACWI ex-US		0.16*** [0.02]	0.07*** [0.02]	0.06*** [0.02]		0.16*** [0.01]	0.10*** [0.02]	0.09*** [0.02]		0.13*** [0.01]	0.07*** [0.01]	0.07*** [0.01]
HFRI Fund-Weighted			0.28*** [0.03]	0.21*** [0.04]			0.18*** [0.03]	0.20*** [0.03]			0.21*** [0.01]	0.21*** [0.01]
CA Private Equity/Venture Capital				0.06*** [0.02]				-				-
Alpha (bp)	1.38*** [0.21]	1.84*** [0.21]	1.23*** [0.22]	1.03*** [0.25]	0.94*** [0.19]	1.40*** [0.19]	1.04*** [0.20]	0.89*** [0.22]	0.86*** [0.07]	1.18*** [0.07]	0.80*** [0.07]	0.75*** [0.07]
RMSE	0.114	0.113	0.111	0.110	0.106	0.105	0.104	0.105	0.105	0.109	0.108	0.108
Observations	3388	3388	3388	2942	3458	3458	3458	2958	28804	28804	28804	24412

▶ Large foundations outperform their estimated benchmark exposure with an estimated alpha around one percent

▶ Increasing root-mean squared error(RMSE) of larger foundations suggests increased activeness

Performance Attribution

	Panel B: Performance Attribution CPI Adj. Assets < $50 million											
	Small				Very Small				Tiny			
Russell 3000	0.62***	0.50***	0.47***	0.48***	0.62***	0.51***	0.48***	0.48***	0.62***	0.45***	0.42***	0.42***
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
BB Aggregate	0.38***	0.38***	0.30***	0.30***	0.38***	0.38***	0.31***	0.31***	0.38***	0.38***	0.29***	0.29***
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
ACWI ex-US		0.12***	0.07***	0.07***		0.12***	0.08***	0.08***		0.17***	0.12***	0.13***
		[0.00]	[0.00]	[0.00]		[0.00]	[0.00]	[0.00]		[0.00]	[0.00]	[0.00]
HFRI Fund-Weighted			0.15***	0.15***			0.13***	0.13***			0.16***	0.16***
			[0.01]	[0.01]			[0.01]	[0.01]			[0.01]	[0.01]
CA Private Equity/Venture Capital				-				-				-
				-				-				-
Alpha (bp)	-0.07*	0.29***	0.11***	0.03	-0.70***	-0.29***	-0.48***	-0.49***	-2.12***	-1.45***	-1.45***	-1.43***
	[0.04]	[0.04]	[0.04]	[0.05]	[0.04]	[0.04]	[0.05]	[0.06]	[0.04]	[0.04]	[0.04]	[0.05]
RMSE	0.102	0.101	0.101	0.101	0.096	0.095	0.094	0.095	0.077	0.074	0.074	0.074
Observations	83606	83606	83606	70575	56678	56678	56678	46477	55561	55561	55561	46747

▶ Smaller foundations underperform their estimated benchmark exposure despite more closely tracking their estimated index exposure

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Time-Varying Alpha

Time Period	Method	All	Very Large	Large	Medium	Small	Very Small	Tiny
1991-1999	Median	0.73 0.00	-0.93 0.02	0.00 0.60	0.79 0.00	0.90 0.00	0.91 0.00	-0.07 0.60
	Mean (EW)	0.94 0.00	-0.98 0.06	0.43 0.31	0.85 0.00	1.16 0.00	1.56 0.00	-0.28 0.35
	Mean (VW)	0.60 0.62	0.43 0.73	0.56 0.20	0.82 0.01	1.04 0.00	1.75 0.00	0.11 0.21
2000-2008	Median	-0.13 0.16	1.34 0.02	1.61 0.00	0.30 0.01	0.14 0.00	-1.02 0.00	-0.96 0.01
	Mean (EW)	0.81 0.00	1.11 0.17	3.28 0.00	0.72 0.03	0.98 0.00	0.16 0.01	1.09 0.00
	Mean (VW)	1.71 0.02	2.00 0.08	3.68 0.00	0.64 0.21	1.13 0.00	0.48 0.00	1.33 0.00
2009-2016	Median	-0.88 0.00	-0.36 0.00	-0.21 0.42	-0.66 0.00	-0.68 0.00	-1.01 0.00	-0.98 0.00
	Mean (EW)	-0.87 0.00	-0.41 0.01	0.49 0.49	-0.81 0.00	-0.55 0.00	-0.98 0.00	-1.22 0.00
	Mean (VW)	-0.37 0.06	-0.20 0.18	0.51 0.41	-0.89 0.00	-0.58 0.00	-0.80 0.00	-1.28 0.00

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Concentration Driving Outperformance?

► 12 percent of large private foundations hold >30 percent in a single stock holding

| | Sample > 250M | | | |
| | Net Return | | SR | |
	(1)	(2)	(3)	(4)
Concentrated	1.58**	-1.57	-0.12	-0.25**
	[0.76]	[1.05]	[0.10]	[0.11]
$Return_{t:t-12}^{Concentrated}$		0.26***		0.01***
		[0.08]		[0.00]
Controls	Yes	Yes	Yes	Yes
Year × Style Fixed Effects	Yes	Yes	Yes	Yes
Adj-R^2	0.43	0.46	0.40	0.41
Observations	9759	9759	8257	8257

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Foundation Structure and Net Return Components

	Full Sample	
	Net Return (1)	SR (2)
Log(Assets)	-0.05 [0.06]	0.01 [0.00]
Log(Age)	0.08 [0.08]	0.02** [0.01]
Investment Fees	-0.22** [0.10]	-0.05*** [0.01]
Log(Paid)	0.38*** [0.13]	0.03** [0.01]
Trust	-1.00*** [0.20]	-0.03 [0.02]
Operating Foundation	1.36*** [0.41]	0.10*** [0.03]
Corporate Foundation	0.15 [0.36]	-0.02 [0.02]
Controls	Yes	Yes
Year × Style Fixed Effects	Yes	Yes
Adj-R^2	0.46	0.46
Observations	198804	149097

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Summary Investment Fees

	Panel A: Summarized Investment Fees				
	Total	Internal	External	Ancillary	Misc.
Fees (% Inv. Assets)	0.90	0.25	0.44	0.14	0.06

Musk Foundation–DAFs

Elon Musk *Tesla*

Name of Foundation	Musk Foundation
DAF sponsor(s) of choice	Fidelity Charitable, Vanguard Charitable
Foundation assets	$2.96 billion (Dec. 2020)
Grants, 2015-20	$106.84 million
Grants to DAFs*	$77.23 million
Share to DAFs	72%

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Giving to DAFs?

	DAF		DAF % of Gift Amount	
	(1)	(2)	(3)	(4)
Log(Assets)	0.01*** [0.00]	0.01*** [0.00]	-0.03 [0.02]	-0.03 [0.02]
Log(Age)	-0.00* [0.00]	-0.00* [0.00]	-0.04 [0.03]	-0.05* [0.02]
Log(Paid)	0.08*** [0.01]	0.08*** [0.01]	-0.03 [0.02]	-0.03 [0.02]
Net Return	-0.01 [0.01]	-0.01 [0.01]	0.40** [0.14]	0.42** [0.14]
Trust	-0.00 [0.00]		0.01*** [0.00]	
Operating Foundation	-0.00*** [0.00]		-0.00 [0.00]	
Corporate Foundation	0.00 [0.00]		0.00 [0.00]	
Year × NTEE Fixed Effects	Yes	No	Yes	No
NTEE Fixed Effects	No	Yes	No	Yes
Year Fixed Effects	No	Yes	No	Yes
Adj-R^2	0.08	0.08	0.14	0.15
Observations	32394	32394	688	705

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