ASU W. P. Carey School of Business
Arizona State University

# Semi-Annual Presentation

Undergraduate Student Investment Management Fund

Team A

Friday, December 3rd, 2021

# Team Introduction

ASU W. P. Carey School of Business
Arizona State University

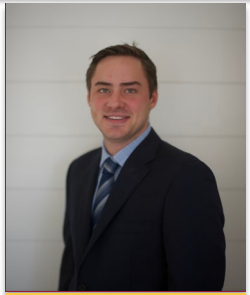
## Fund Manager

Jacob Mosier

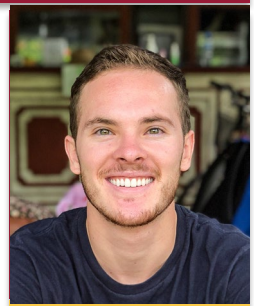
## Fund Analysts

Jacob Nance

Rushini Randeniya



Jack Kreber



Jacob Henwood

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Jakob Krygier

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Jonathan Kim

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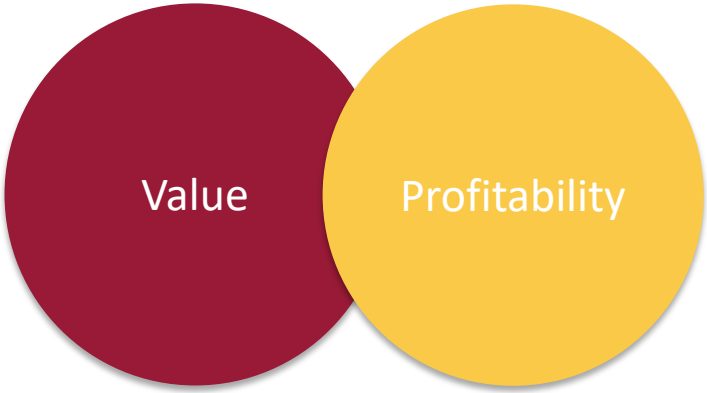
# Investment Thesis

# Investment Universe

- **Importance of Jointly Distributed Among Value & Profitability**
- **Value Traps**
  - Solutions
    - Adjust Book Values
    - Target Value & Profitability Jointly



# Value

## Eisfeldt et al. (2020) And Arnott et al. (2021) Asserts that the Traditional Definition and Measurement of Value is Misrepresented by the Market

- Currently Missing Intangibles

**Reports of Value's Death May Be Greatly Exaggerated**

**Robert D. Arnott, Campbell R. Harvey, Vitali Kalesnik & Juhani T. Linnainmaa**

**To cite this article:** Robert D. Arnott, Campbell R. Harvey, Vitali Kalesnik & Juhani T. Linnainmaa (2021) Reports of Value's Death May Be Greatly Exaggerated, Financial Analysts Journal, 77:1, 44-67, DOI: 10.1080/0015198X.2020.1842704

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INTANGIBLE VALUE

Andrea L. Eisfeldt
Edward Kim
Dimitris Papanikolaou

Working Paper 28056
http://www.nber.org/papers/w28056

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
November 2020

# Accounting for Intangibles

New B/M = $B_{it}^{INT}$/Market Cap

$$B_{it}^{\mathrm{INT}} = B_{it} + \mathrm{Int}_{it},$$

$$\mathrm{Int}_{i,t} = \underbrace{\mathrm{Int}_{i,t}^{know} + \mathrm{Int}_{i,t}^{org}}.$$

$$\mathrm{Int}_{i,t}^{know} = (1 - \delta_{R\&D})\mathrm{Int}_{i,t-1}^{know} + R\&D_{i,t},$$

$$\mathrm{Int}_{i,t}^{org} = (1 - \delta_{SG\&A})\mathrm{Int}_{i,t-1}^{org} + \theta SG\&A_{i,t},$$

INTANGIBLE VALUE

Andrea L. Eisfeldt
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Dimitris Papanikolaou

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# Profitability

## Define Profitability as Cash-Based Operating Profitability

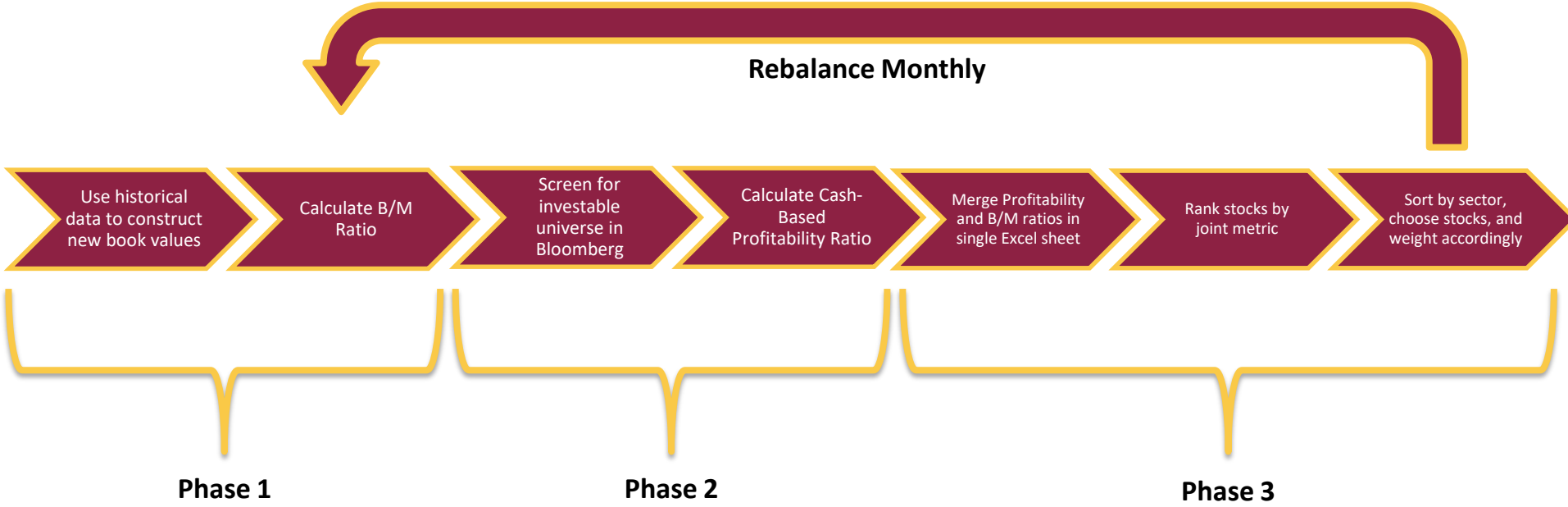
Cash-based operating profitability
= Operating profitability
− Δ(Accounts receivable (RECT))
− Δ(Inventory (INVT))
− Δ(Prepaid expenses (XPP))
+ Δ(Deferred revenue (DRC+DRLT))
+ Δ(Trade accounts payable (AP))
+ Δ(Accrued expenses (XACC)).

Accruals, cash flows, and operating profitability in the cross section of stock returns☆

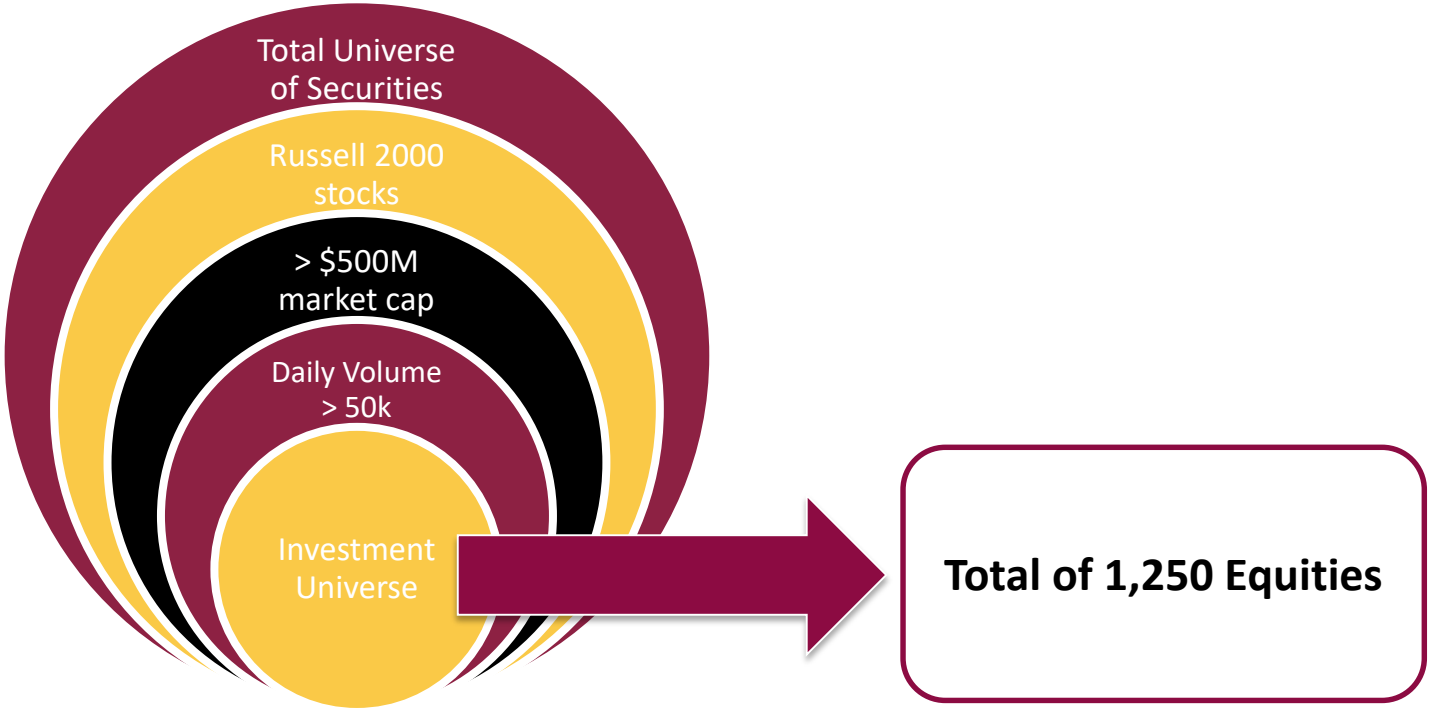
Ray Ball[a,*], Joseph Gerakos[a], Juhani T. Linnainmaa[b,c], Valeri Nikolaev[a]

# Strategy Implementation

# Portfolio Construction Overview



# Equities Universe



# Intangible-Augmented Value Measure

$$\mathrm{Int}_{i,t}^{know} = (1-\delta_{R\&D})\mathrm{Int}_{i,t-1}^{know} + R\&D_{i,t},$$
$$\mathrm{Int}_{i,t}^{org} = (1-\delta_{SG\&A})\mathrm{Int}_{i,t-1}^{org} + \theta SG\&A_{i,t},$$
$$\mathrm{Int}_{i,t} = \mathrm{Int}_{i,t}^{know} + \mathrm{Int}_{i,t}^{org}.$$

| Parameters of Interest | |
|---|---|
| $\delta_{R\&D}$ | Sector-specific (Hall); = 0.15 for sectors without defined rate |
| $\delta_{SG\&A}$ | = 0.2 by assumption (Eisfeldt) |
| $\theta$ | = 0.3 by assumption (Eisfeldt) |

- Initialize knowledge-based capital and organization capital at earliest year of company data
- Apply recursive formula through data to reach 2020 book value of intangibles

# Cash-Based Profitability Measure

Cash-based operating profitability
= Operating profitability → Operating Income
− Δ(Accounts receivable (RECT)) → Accrued Interest Receivable for banks
− Δ(Inventory (INVT))
− Δ(Prepaid expenses (XPP))
+ Δ(Deferred revenue (DRC+DRLT))
+ Δ(Trade accounts payable (AP)) → Accrued Interest Payable for banks
+ Δ(Accrued expenses (XACC)).

**Total Assets**

Accruals, cash flows, and operating profitability in the cross section of stock returns[☆]

Ray Ball[a,*], Joseph Gerakos[a], Juhani T. Linnainmaa[b,c], Valeri Nikolaev[a]

Source data from Bloomberg

↓

Export to Excel

↓

Reconcile balance sheet and statement of cash flows data

↓

Apply formula

# Evaluating Value & Profitability Jointly

$$By\ construction,$$
$$each\ company's\ joint\ metric, j, \epsilon\ [0,2].$$

Rules-Based Investment Strategy

- Invest in companies with joint metric > 1.5
  - But take minimum of two stocks per sector
- Take no more than 8 stocks per sector
- Take no more than 1 company with market cap < $1B per sector

| Sector | Joint > 1.5 | # of Stocks in Portfolio |
|---|---|---|
| Energy | 2 | 2 |
| Materials | 6 | 4 |
| Consumer Discretionary | 39 | 8 |
| Technology | 13 | 8 |
| … | … | … |

# Sector Allocation

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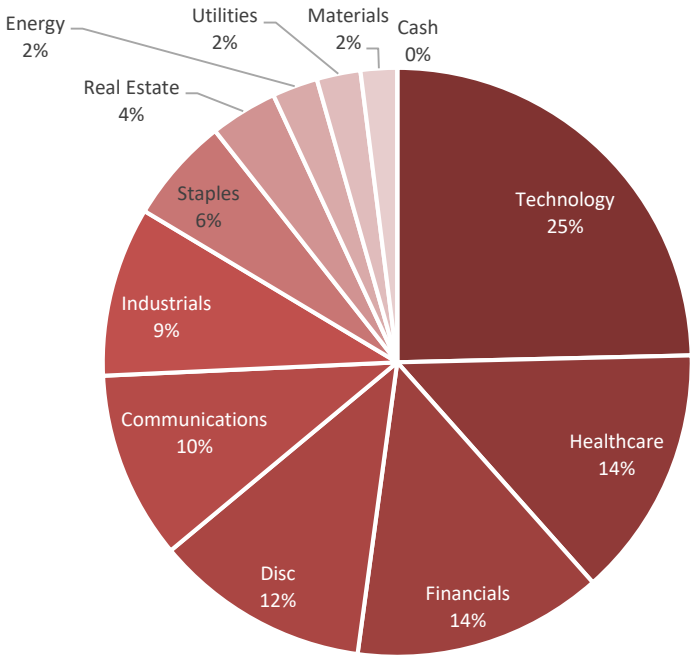
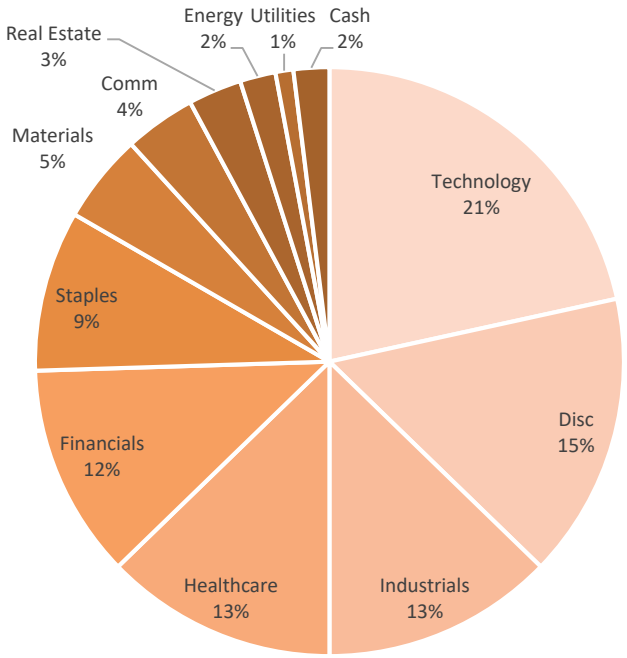
## Russell 3000 Portfolio




*As of November 21, 2021*

## Our Portfolio



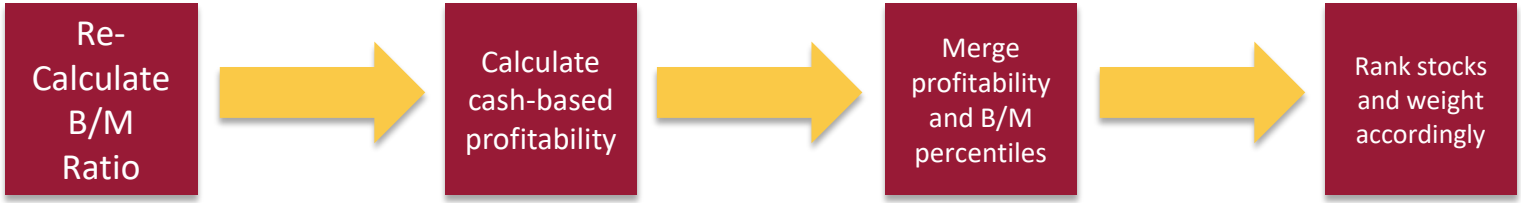
# Individual Security Allocation

**Within each sector, securities hold weights proportional to their joint metric.**

Example: Netgear, Inc (NTGR) – Technology

$$\frac{\text{Netgear's joint metric}}{\text{Technology's joint metric}} = \frac{1.835}{13.026} = 0.141 \times \underbrace{0.21}_{\text{Target weight for technology sector}} = \boxed{0.030} \rightarrow \text{Netgear's portfolio weight}$$

# Rebalancing Process



# Benchmarks

American Century ETF Trust - Avantis US Small Cap Value ($AVUV)

iShares Russell 2000 Value Index ($IWN)

DFA US Small Cap Value Portfolio Institutional Class ($DFSVX)

Vanguard Small Cap Value Index Fund ($VISVX)

* Seeded our portfolio on 11/30/21 - Benchmarks vs. Portfolio returns are unavailable

# Thank You.
# Questions?