Berkeley
Haas

Sustainable Investment Fund
Annual Report
2021-2022

Dear SIF Stakeholders & Haas Community, May 9, 2022

We are excited to share with you a comprehensive update on the Haas Sustainable Investment Fund, now in its fourteenth year. Managing, operating, and improving the Fund has been an incredible learning opportunity for each of us — we have refined our thinking about portfolio construction, defined the impact we want to achieve through our investments, and deepened our skills in fundamental and ESG analysis. Along the way, we made important decisions to ensure the future success of the fund for future principals.

In the year that began May 1, 2021 and ended April 30, 2022, the SIF returned -8.80% compared to our blended benchmark, which returned -4.54%. Currently, the total value of the fund is $4.54M. Despite market volatility, we successfully returned $146K in invested capital for our shareholders amidst an ever changing market environment.

We continue to believe in a large allocation to equities (~ 65% of our investments) while seeking to balance risk through active and passive exposure. We maintained a 55% allocation of our portfolio with the Aperio Group, and continued our partnership together to craft a personalized, passive portfolio that aligns with our investment goals and ESG values. We have directly invested the remainder of the equities sleeve, focusing on companies where we can uncover competitive sustainable and financial advantages and engage with management to push for more responsible business practices. We continued to seek to generate outperformance within the actively managed portion of the portfolio through thoughtful selection and sale of securities. Market volatility and the need to rebalance out of losses yielded a negative return of the active equity sleeve of -49.15%. Additionally, as our world, and financial markets, look to return toward normalcy post-COVID 19, the Fund increased the diversification of its 20% allocation to Fixed Income, shortening duration and increased exposure to government debt.

This year, we took meaningful steps to improve the operational efficiency and professional quality of the Fund. We created an operational playbook to add structure and pass down procedural norms to future generations of Principals. Moreover, we added depth to the Fund's data and reporting, including a renewed framework for ESG reporting.

Finally, the passion and interest of the Principals led to a published whitepaper exploring future opportunities for private market investments within SIF as well as a standalone shareholder advocacy campaign.

We want to express our sincere appreciation to each of you and to our Faculty Advisors, John Goldstein and Anne Simpson. It has been our pleasure to learn from your unparalleled industry knowledge and inspiring leadership in moving the sustainable finance industry forward. Also, thank you to Charlie Michaels and Larry Johnson for their foundational support of this fund.

Sincerely,
2021-2022 SIF Principals

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2021 - 2022 Principals

During the 2021-2022 academic year period, the Haas Sustainable Investment Fund maintained its vision of building student knowledge and managing assets on behalf of UC Berkeley while shifting capital towards achieving sustainability goals. During this academic year, twenty principals (MBA '22's) were trained and acquired ESG skills that have translated into their professional careers. Our principals are transitioning to careers within investment management, management consulting, venture capital and renewable energy.

Sarah Beauge

Grace Brittan

Eric Edelstein

Marcelo Ferreira

Chris Hester

Lena Horvath

Lokilani Hunt

Darren Lim

Emma Leavy

Leo Liu

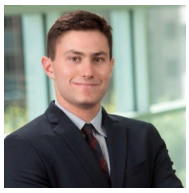
Bryan Locascio

George Milanovic

Sabin Ray

Catherine Valle

Dariush Sarrafzadeh



Matt Schneider

Rachel Stinebaugh

Stephanie Wenclawski

Christine Yee

Morgan Zemaitis

Investment Policy Statement

This year, the Haas Sustainable Investment Fund Principals kicked off oversight of the fund with a deep review and refresh of the fund's governing statements. As outlined in the IPS below, this year's Principals made changes to the fund's benchmark to better align with comparable institutional sustainable and ESG funds in the marketplace and incorporated new asset allocation and exclusionary targets.

1. **Introduction:** The Haas Sustainable Investment Fund (SIF, or "the Fund"), launched as HSRIF in 2008, is the first and largest student-led sustainable investment fund at a leading business school. The Fund is structured as a separate account managed through the University of California Berkeley Foundation (UCBF), a 501(c)(3) non-profit foundation whose primary responsibility is the management of the long-term endowment funds in support of the university. As part of a philanthropic institution, the Fund manages its assets for maximum public benefit and in compliance with fiduciary duties of care and loyalty. The purpose of this Investment Policy Statement (IPS) is to create a framework within which the Student Principals will invest and manage the Fund for the benefit of current and future students at the University of California Berkeley, Haas School of Business.

2. **Purpose:** The Fund's purpose is fourfold:
    a. Provide an applied learning opportunity for Student Principals
    b. Provide an annual distribution to the Institute for Business and Social Impact (IBSI) at the Haas School of Business, University of California, Berkeley
    c. Serve as a research platform for SRI, ESG, and sustainable investing
    d. Outperform the relevant benchmarks on a risk adjusted basis

3. **Values Statement:** The Fund believes that investing to protect the environment and elevate human well-being can be done without sacrificing risk-adjusted financial returns and is critical to creating a sustainable and equitable future for all. More specifically, the Fund believes that to ignore environmental, social, and governance issues is to ignore systemic risks that will impact the long-term stability and cash flows of its investments. Through its investment portfolio, the Fund will seek to address and reduce these systemic risks.

    When matched with strong market fundamentals, operational excellence, and financial strength, we believe companies operating with a focus on social and environmental factors will be best positioned to benefit from long-term sustainability trends and weather the risks brought on by a changing world. Given the rapid growth of sustainable investing over recent decades, many companies with high ESG ratings may not be available at attractive valuations. As a result, the Fund will look to identify investment opportunities that present as yet unrealized potential for strong ESG performance at attractive prices, including companies transitioning (or well-positioned to transition) to improved practices.

The Fund will also look for opportunities to engage with management and/or use proxy voting to help encourage productive changes in company practices.

The Fund is also conscious of its location in the state of California, and more specifically the University of California. Remembering that the University of California was founded with a mission of public service to the state, the Principals of the Fund plan to carry this tradition forward by keeping in mind the ecological and socioeconomic challenges that are most relevant to California, as we seek to create positive change through our investments.

Currently the Fund is focused on the following key challenges, where it hopes to use its investment capital to Benefit Stakeholders and Contribute to Solutions:

- **Climate Change Mitigation and Adaptation:** In alignment with the Paris Climate Agreement, the Fund will seek to contribute to the goal of limiting global warming by urgently reducing and sequestering any carbon and other greenhouse gasses emitted into the atmosphere, in order to avoid the massive disruption to the fabric of our society that will result from unchecked global warming.
- **Clean Water and Sanitation:** In light of the fact that climate change is driving increased levels of drought globally, as well as here in our home state of California, the Fund will seek to advance sustainable management of water and sanitation for all, in order to reduce disease, mitigate the impact of drought, and ensure that everyone has access to clean and safe drinking water.
- **Human Rights Protection and Responsible Consumption & Production:** Understanding that businesses play a key role in our social structure, the Fund will seek to promote ethical business practices, in order to avoid the serious human and financial costs of human rights abuses by companies.
- **Gender and Racial Equity:** Recognizing that systemic inequities have contributed to the marginalization of certain demographic groups, the Fund will seek to develop a better, more equitable society that recognizes the unique and valuable contributions of all individuals, regardless of their background and identity.

In addition, the Fund will seek to at the very least Avoid Harm in all other areas. In some cases, this may involve excluding certain industries or sectors. Please see Appendix A for a more detailed list of what is currently excluded.

4. **Fiduciary Duty:** The fiduciary duty of Student Principals, which is both legal and moral, encompasses three central obligations:
    a. *Duty of care* to make decisions in good faith and with reasonable prudence
    b. *Duty of loyalty t*o act without personal economic conflict

c. *Duty of obedience* to the mission of UC Berkeley to serve the public benefit

5. **Objective:** The purpose of the Fund is to deliver strong financial returns and positive social impact. The fund has the objective to preserve long-term, real purchasing power of assets while providing a relatively predictable and growing stream of annual distributions to IBSI.

6. **Time Horizon:** Investment decisions will be made with a five-year time horizon. Even though the Fund is a long-term pool of capital and may take advantage of this horizon to withstand year-to-year volatility.

   Counterbalancing this factor, however, is the inherent annual turnover of Principals given the length of the MBA and other graduate and professional programs at the University.

7. **Asset Allocation Targets & Allowable Ranges:**

Asset Class	Target	Range
Equity 1. Broad Equity Market Exposure *a. Domestic* *b. International* 2. Active Equity Sleeve	**65%** 55% *40%* *15%* 10%	**55-75%** 50-60% - - 5-15%
Fixed Income	**25%**	**20-30%**
Cash	**5%**	**0-10%**
Other (Real Assets, Absolute Return, etc.)	**5%**	**0-10%**

8. **Portfolio Construction:** Based on the objective of delivering strong financial returns while maintaining long-term stability for incoming Principals, the Fund will aim to hold a portfolio asset allocation of approximately 65% equity, 25% fixed income, 5% cash and 5% in other assets. Exact target allocations will be determined by each Principal class, although consistency is expected to be maintained within the above range.

   - **Equity - Passive**: Through the passive management approach, the Fund seeks broad equity market exposure with minimal tracking error to the benchmark index (see Section 9) while aligning with the Values Statement agreed upon by the Student Principals (see Section 3). This allocation is managed by an external customized account that meets the sustainability criteria determined by the Principals, avoids unwanted stock selections, and effectively manages risk.

- **Equity - Active**: The active equity sleeve maintains concentrated positions in individual companies selected by Principals through financial and ESG analysis. The purpose of the active sleeve is to achieve ESG alpha by identifying financially undervalued companies with strong ESG prospects. These concentrated positions seek outperformance above the benchmark index (see Section 9) and expose the Fund to idiosyncratic risk. The scope may be expanded beyond small- and mid-cap companies to include large-cap companies, on a case-by-case basis.
- **Fixed Income**: The purpose of the fixed income allocation is to manage fund liquidity, improve diversification, and manage risk, while maximizing direct, measurable ESG impact.
- **Cash**: A small percentage of funds should remain in cash in order to ensure liquidity.
- **Other Assets**: The Fund may invest the portfolio in other assets, such as real assets like sustainable timber or ESG absolute return funds, for the purpose of additional diversification and furthering Principal learning about other asset classes in sustainable investing. Other assets opportunities--such as private equity--will be considered across market capitalizations, and for the potential to provide strong additionality and ESG impact.

In terms of The Fund's investment process, Principals agreed that exclusionary measures would be a minimum criterion and The Fund would use more positive tilts for screening. The Principals will keep an active watch list in addition to making regular investment decisions in order to rebalance the portfolio as necessary to account for market volatility.

9. **Performance Objective & Benchmarks:** Our goal is to provide a total portfolio benchmark which aligns to our parent fund sponsor, The UC Berkeley Endowment. Akin to the UC Berkeley Endowment, the fund will use a total portfolio benchmark (82.5% MSCI ACWI / 17.5% Treasuries) that reflects our mix of equity-oriented and safe investments. With this transparent, investable total portfolio benchmark measured over long periods of time, we can see if all of our efforts in asset allocation, ESG considerations and investment selection were able to beat a simpler approach.

Asset Class	Benchmark	Definition of Benchmark
Cash & Cash Equivalents	Citigroup Three Month US Treasury Bill	The Citigroup 3-Month T-Bill is an unmanaged index that is generally representative of 3-month Treasury bills and consists of an average of the last 3-month U.S. Treasury Bill issues.

Investment Grade Fixed Income	Barclays Capital US Aggregate Bond Index & Bloomberg MSCI Global Green Bond Index**	● The Barclays Capital US Aggregate Index represents securities that are SEC_registered, taxable, and dollar denominated. The Index covers the US investment grade fixed rate bond market, with index components for government and corporate securities, and asset-backed securities. ● The index selection aligns with the fund's current fixed income allocation and the fund's goal to provide fixed income exposure via Investment grade global green bonds that are directly tied to promote climate or other environmental sustainability purposes.
Equity	MSCI ACWI & MSCI ACWI ESG Universal Index**	● The MSCI ACWI Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. ● The MSCI ACWI ESG Universal index is designed to reflect the performance of an investment strategy that, by tilting away from free-float market cap weights, seeks to gain exposure to those companies demonstrating both a robust ESG profile as well as a positive trend in improving that profile, using minimal exclusions from the MSCI ACWI Index.
US Large Cap Equity	Russell 1000 Total Return Index & MSCI USA Large Cap ESG Leaders Index**	● The Russell 1000 Index measures the performance of the 1,000 largest companies in the Russell 3000® Index, which represents approximately 92% of the total market capitalization of theRussell 3000 Index. ● The MSCI USA Large Cap ESG Leaders Index is a capitalization weighted index that provides exposure to companies with high Environmental, Social and Governance (ESG) performance relative to their sector peers. MSCI USA Large Cap ESG Leaders Index consists of large cap companies in the US market. T
US Small/Mid Cap Equity	Russell 2500 & MSCI World Small CAP ESG Leaders Select Index**	● The Russell 2500 is a market-cap-weighted index that includes the smallest 2,500 companies covered in the broad-based Russell 3000 sphere of United States-based listed equities. All 2,500 of the companies included in the Index cover the small- and mid-cap market capitalizations. ● This index provides exposure to companies with high ESG performance relative to their sector peers. This index aligns with the fund's goal of seeking a broad, diversified sustainability benchmark with relatively low tracking error.
Emerging Markets Equities	MSCI Emerging Markets Index & MSCI Emerging Markets ESG Leaders Index**	● The MSCI EAFE Index is a free float-adjusted market capitalization index that is designed to measure developed market equity performance, excluding the US & Canada.

		● The MSCI Emerging Markets (EM) ESG Leaders Index, is a capitalization weighted index that provides exposure to companies with high Environmental, Social and Governance (ESG) performance relative to their sector peers. MSCI EM ESG Leaders Index consists of large and mid cap companies across 27 Emerging Markets (EM) countries*.

10. **Risk Management:** The Fund will assess portfolio risk through its asset allocation strategy and through fundamental financial and ESG risk analysis for individual assets. In order to manage specific risk, the Fund will be diversified across a wide range of equities, including geography and market capitalization. The passive allocation is designed to minimize tracking error and provide broad market diversification to balance the concentrated individual equity positions. Principals will perform fundamental analysis to assess idiosyncratic risk in the active equity sleeve. These concentrated positions will be focused on companies in which the Principals have high conviction of financial outperformance and ESG impact. The Fund must maintain sufficient liquidity to fund annual spending of no less than 4% of the Fund's assets to maintain tax exempt status. To manage liquidity risk, the Fund will maintain a minimum of 20% of the portfolio invested in fixed income and cash securities.

11. **Responsibilities:**

Student Principals: The role of Student Principals is to lead the Fund and participate in a comprehensive learning opportunity while preserving the long-term health of the Fund. Specific responsibilities of the Student Principals include:

- Develop, adhere to, and revise the IPS as needed;
- Evaluate a range of asset classes (e.g., equity, fixed income, and real asset, etc.) and execute trades that are in line with the values of the Fund;
- Set performance expectations relative to a benchmark(s) in terms of risk and return;
- Monitor holdings on an ongoing basis to ensure financial and ESG performance align with this policy and, when necessary, make the decision to increase, decrease, or fully exit a position;
- Rebalance the portfolio to account for market fluctuations and/or cash needs up to 5 percent of assets;
- Track the portfolio's financial and impact performance (including monitoring fees for reasonability) and share progress regularly with stakeholders;
- Select, monitor, and dismiss (if necessary) any investment management firms engaged to manage the Fund's assets; and
- Maintain investment-related files, records, and accounting procedures.

Faculty: The Professors have the responsibility to monitor and guide the Student Principals in the learning experience and management of the Fund. Specific responsibilities include:

- Design the course syllabus based on educational objectives and input from Student Principals;
- Guide students through and set expectations for class deliverables throughout the year;
- Facilitate classroom discussions inclusive of all students;
- Provide students with learning material and arrange guest speakers to broaden student's knowledge on ESG-related investment topics;
- Provide counsel to Student Principals on investment decisions; and
- Ensure continuity and knowledge transfer between Student Principals from year to year.

Advisors: The Fund's Advisors have the responsibility to guide and oversee the Student Principals in the execution of the Fund. Specific responsibilities include:

- Provide counsel to the Fund in terms of investment criteria and decision-making;
- Review regular performance reports and provide guidance as necessary;
- Hold the Fund accountable in adhering to investment guidelines, as well as delivering impact and financial returns; and
- Participate in the annual report presentation and any interim presentations (e.g., semi-annual).

Investment Managers: Investment Managers are expected to pursue their own investment strategies within the guidelines created for the manager in accordance with the Fund's asset allocation strategy and manager selection criteria. Coordination of the guidelines for the individual managers assures the combined efforts of the managers will be consistent with the overall investment objectives of the Endowment. The Investment Managers' responsibilities are as follows:

- Investing assets under their management in accordance with agreed upon guidelines and restrictions;
- Exercising discretionary authority over the assets entrusted to them, subject to these guidelines and restrictions;
- Providing written documentation of portfolio activity, portfolio valuations, performance data, portfolio characteristics, and fees on a regular basis in addition to other information as requested by the Student Principals;
- Voting proxies for the assets under management (companies held within the portfolio) in the best interest of the Fund, and to the extent possible, consistent with the Fund's sustainable investing objectives;
- Notify the Student Principals of any litigation or violation of securities regulations in which the manager is involved; and

- Notify the Student Principals of any significant changes in portfolio managers, personnel, or ownership.

12. Investment Policy Setting and Review:

Setting: Every Student Principal is responsible for overseeing all aspects of the investment program, including development and approval of the Investment Policy Statement and any changes made to it after its initial adoption. As appropriate, SIF faculty and/or the Advisory Board will assist in developing, implementing, and/or monitoring implementation of the Investment Policy Statement. When setting the Investment Policy, Student Principals should consider the following, in this order:

- **Goals**: What are the financial and impact goals of the portfolio?
- **Tools**: What tools can be used to achieve these goals? What are the pros and cons of each tool? Which are most appropriate for the stated goals? *(examples of tools include negative screens, active engagement, integration of key ESG risks into investment strategies, etc.)*
- **Implementation**: What specific measures need to be taken to implement these tools across the SIF portfolio in order to achieve the stated financial and impact goals? *(for example, a specific lens, screen, or tilt applied to investment decisions, an updating of investment parameters for the indexed portion of the portfolio, the adoption of a specific set of standards or framework for measuring impact)*
- **Execution**: What needs to be done to transition the portfolio to meet the selected financial and impact goals?

Reviewing: Opportunity should be given to propose changes or consider changes proposed by every Student Principal. The proposed changes shall be centrally recorded by a designated Principal. There are three ways that the IPS can be updated:

- Within the first four weeks of the Fall semester, Student Principals will be given the opportunity to revamp the previous year's IPS. Student Principals will work to draft, agree upon, and formalize the IPS.
- Within the first two weeks of the Spring semester, Student Principals will be given the opportunity to revise the IPS. Any proposed changes to the IPS will be submitted in writing and discussed in class, and will ultimately be put to a vote. Any changes shall be approved and incorporated within four weeks of the Spring semester.
- Mid-semester changes to the IPS may be proposed by any SIF Principal on an emergency basis if necessary to address shortcomings that materially impede Principals from adequately managing the Fund. These mid-semester changes should be proposed in writing to all Principals and Faculty, and should be voted on by all Principals within two weeks of the proposal.

- When deciding whether to approve proposed changes, 100% voter turnout (either in person or electronic) shall be required and each SIF Principal may vote "Yes", "No", or "I can live with it" - the change shall be accepted provided that no more than one tenth (1/10) of Principals vote "No."

13. **Asset Allocation:** To best achieve the Fund's purpose and investment objectives, at the beginning of each academic year the SIF Principals will be responsible for reviewing and potentially revising the asset allocation stated within the IPS through the following process:
    - In concurrence with reviewing the IPS during the start of each academic year, SIF Principals are tasked with reviewing the previous year's asset allocation
    - Following their review, SIF Principals either individually or in groups will have the opportunity to submit and present revised asset allocation plans
    - Immediately following the conclusion of all presentations, SIF Principals shall vote on each proposed asset allocation plan. A quorum shall consist of three-quarters (¾) of members and SIF Principals may vote "Yes", "No", or "I can live with it" - a proposed asset allocation plan shall be accepted provided that no more than one-third (⅓) of Principals present vote "No".

14. **Operations of the Investment Committee:** The Investment Committee is a standing committee for the Fund. All of the SIF Student Principals comprise the Investment Committee which will run according to an Investment Committee Charter. A Committee Chair, who shall be a member, shall preside at all meetings and this responsibility will rotate between Student Principals. Meetings may be in person or telephonic and the Chairman shall set and follow an agenda and present any findings or recommendations to the rest of the committee. A quorum shall consist of two-thirds (⅔) of members, and SIF Principals may vote "Yes", "No", or "I can live with it" - a proposed investment decision shall be accepted provided that no more than one-third (⅓) of Principals present vote "No" . Minutes shall be kept of each Committee meeting and shall be filed with the Fund's records.

15. **Portfolio Monitoring and Reporting:** SIF Principals shall prepare the following reports for the purpose of monitoring portfolio performance and progress towards stated financial and impact goals.

    Monthly Portfolio Performance Updates and Transaction Reports: The Head of Portfolio Updates should prepare a report summarizing the portfolio's performance over the previous month, and should share it with all SIF Principals and SIF Faculty Members. The report should be delivered within one week of months-end, and should include the following:
    - Individual investment returns
    - Asset class returns vs. benchmarks

- Portfolio return vs. benchmark
- Summary of all inflows and outflows, including purchases/sales, and investments/withdrawals.

Mid-Year Update: The SIF Principals shall prepare a mid-year update for the SIF Advisory Board which shall be delivered in December of each year, ideally in person or via a virtual meeting. This update is intended to be both retrospective and prospective, and should summarize the following:

- Key decisions made in managing the fund during the Fall semester (August - November)
- Annual investment, asset class, and portfolio returns vs. relevant benchmarks during the Fall semester
- Summary of all inflows and outflows, including purchases/sales, and investments/withdrawals during the Fall semester.
- Key considerations or elements to be explored by SIF Principals during the spring semester (January - April)

Annual Report: The Fund has published an annual report each year since inception and will continue to disclose performance annually in order to disseminate knowledge about sustainable investing and share results with Fund stakeholders. This report should be prepared by all SIF Principals, delivered to SIF Faculty, Advisors, and the following year's SIF Principals in May of each year, and should include the following:

- A description of investment philosophy and portfolio strategy
- Annual investment, asset class, and portfolio returns vs. relevant benchmarks
- Returns over 3, 5, 10, and since inception periods
- Summary of all inflows and outflows, including purchases/sales, and investments/withdrawals during the academic year
- Portfolio impact report

Portfolio Management Process: In order to effect a smooth transition from each year to the next, SIF Principals should prepare an annual summary of their portfolio management process. This document should be delivered to the following year's SIF Principals in May of each year and should include a summary of:

- Key decisions made (including description of decision, rationale, outcome, and timeline)
- Lessons learned
- Recommendations for next year's SIF Principals

16. **Payout Management:** The Fund shall make an annual distribution to the Institute for Business and Social Impact (IBSI). For the purpose of making distributions, the Fund shall use a total-based spending policy, which means that it will fund distributions from net investment income, net realized capital gains, and proceeds from the sale of

holdings. Annual distributions will be calculated at a net 4% of a twelve-quarter moving average market value of the fund, to smooth distributions and mitigate volatility. The distribution of Fund assets will be permitted to the extent that such distributions do not exceed a level that would erode the Fund's real assets over time.

17. Appendix A: Excluded Industries and Sectors

I. **Weapons:** The Fund will not hold any companies that manufacture, sell and/or distribute anti-personnel mines, cluster munitions, white phosphorus, chemical, biological and/or nuclear weapons. The Fund will not invest in any companies that manufacture, sell, and/or distribute assault and non-assault firearms or small arms, for civilian, military, and law enforcement customers. Companies that generate 5% or more of their revenues from retail sales of assault and non-assault firearms or small arms are also excluded. The Fund excludes companies that generate 5% or more of their revenues from selling weapon systems and/or integral, tailor-made components for weapons, and weapon-related products and/or services, to the military or defense industry. The exclusion does not apply to companies that provide non-weapons related products and/or services to the military or defense industry.

II. **Prison Industrial Complex:** The Fund recognizes mass incarceration due to longer sentencing and harsher policies has increased poverty and inequality. The Fund will not hold any private prison operators. The Fund will not hold companies whose core business is providing services to incarceration and detention facilities, companies that contribute to the militarization of the U.S.-Mexico border or companies whose core business relates to immigrant policing, monitoring, and surveillance.

Fund Performance

A. Portfolio Allocation

Exhibit 1: Total Portfolio Allocation as of April 30, 2022

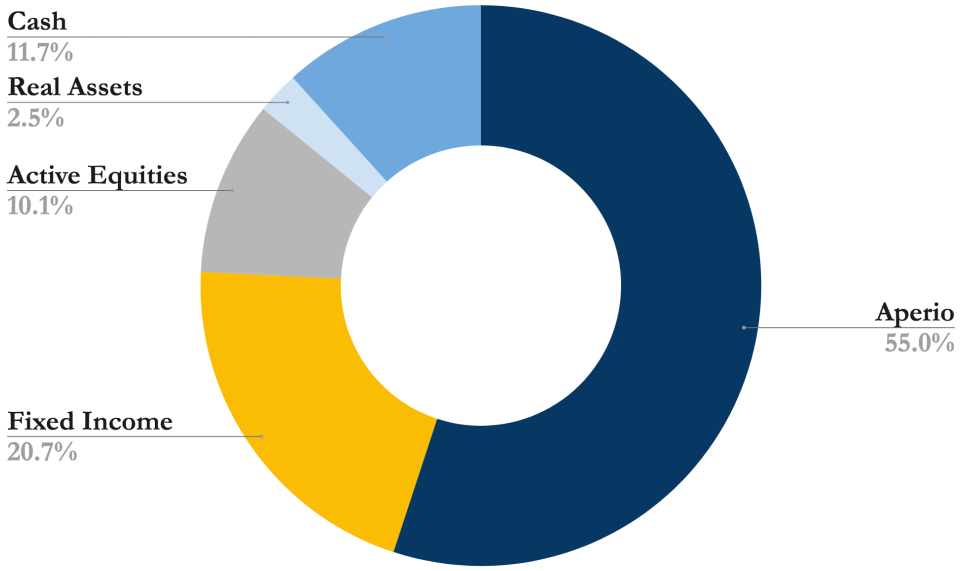
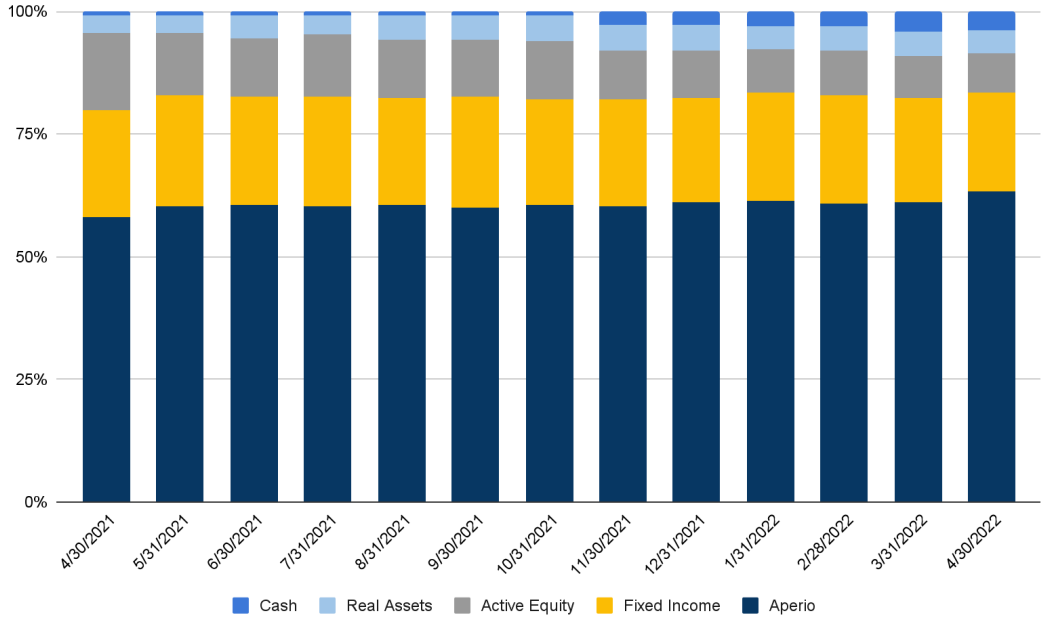


Exhibit 2: Monthly Portfolio Allocation (April 30, 2021 - April 29, 2022)



Within the equity sleeve, the Principals evaluated multiple active and passive fund strategies to understand the various approaches used by fund managers in the rapidly expanding ESG marketplace. Principals compared the intentionality and additionality of niche strategies as well as their associated cost structures versus the Fund's holding in the ESG portfolio platform Aperio.

Within the active equity portion of the portfolio, each principal was assigned existing holdings within the portfolio to analyze and track ongoing performance. Sell recommendations were presented to the management team and voted on accordingly. This resulted in the sale of six securities. Principals were split into teams with purview over the market research and security selection of new equity holdings across five key impact themes. Throughout the course of the year, there were four new security purchases, with company focuses spanning from renewable energy to medical education for emerging markets.

2021-2022 introduced an opportunity for further review and analysis of the Aperio sleeve of the portfolio. With over 50% of the fund invested with Aperio, annual reflection on this asset allocation is critical to the fund's health. In alignment with changes to the fund's IPS, Principals worked with the Aperio management team to implement an additional exclusionary screen for all privately funded prisons within Aperio's investable universe. Additional research was conducted to explore an overweight tilt toward sustainable access to water, but after careful analysis and correspondence with the Aperio team, the aperio exposure remained the same.

For the fixed income allocation, Principals continued to analyze different strategies across ESG bond funds, green bonds, CDFIs, municipal bonds and our current holdings - BGRN (Global Green Bond ETF) and CONAX (an actively managed municipal bond fund focused on social projects). Driven by market dynamics and a lack of exposure to shorter term maturities, the fund's fixed income allocation shifted to include short term government bonds, with the purchase of SGOV (iShares Short Maturity Government Bond ETF).

B. Performance

Exhibit 3: Trailing 1 Year Performance (April 30, 2021 - April 29, 2022)

Trailing 1-yr Performance *(4/30/2021-4/29/2022)*	**Return (%)**
Entire SIF	**-8.80%**
Passive Portfolio*	**-4.80%**
Active Portfolio*	**-14.39%**
Equity[1]	*-49.15%*
Fixed Income[2]	*-0.10*
Other[3]	*0.22*
Cash[4]	*4.28%*

Exhibit 4: Trailing 1 Year Benchmark Performance (April 30, 2021 - April 29, 2022)

Benchmarks: Trailing 1-yr Performance as of 04/29/22	Return (%)
MSCI ACWI	**-5.44%**
MSCI ACWI ESG Universal	**-5.28%**
Russell 1000 Total Return Index*	**-2.82%**
MSCI USA ESG Leaders Index*	**-1.60%**
Russell 2500[1]	-4.10%
MSCI World Small Cap ESG Leaders Select Index[1]	6.01%
MSCI EAFE[3]	*-8.15%*
MSCI Emerging Markets ESG Leaders Index[3]	*-20.53%*
Citigroup Three Month US Treasury Bill[4]	*-0.30%*

At the outset of the 2021-22 academic year, the SIF principals elected to maintain a target allocation for the fund of 65% equity, 25% fixed income, 5% cash, and 5% real assets. While nearly all of the SIF's active sleeve securities are U.S.-based companies, our Aperio portfolio has global equity exposure. Some of our new international stock additions include AFYA, a leading medical education group in Brazil, and Nu Bank, the largest digital banking platform also in Brazil. These two Brazilian stocks represent about 2% of the total portfolio. To appropriately match this exposure, the Fund maintained the MSCI ACWI Index as the most applicable equity benchmark. Principals also sought broad fixed income exposure through both our ETF and fund exposure, so chose the Barclays Capital US Aggregate Bond Index as the Fund's fixed income benchmark. For the Emerging Markets sleeve, the SIF principals decided to measure using MSCI Emerging Markets Index. Finally, the SIF principals added ESG benchmarks per asset classes, to compare the portfolio's impact performance against peers.

SIF's allocation to Aperio slightly outperformed the benchmark (-4.80%), while the active investment sleeve return (-49.15%) trailed the composite return during the same period. The explanation for this underperformance can be attributed to the timing of the class and holding a relatively large portion of the portfolio in cash as active equity deployments were decided upon during the Fall and Spring semesters.

The portfolio underwent a contested presidential election, historically high inflation, supply chain disruptions, and analysts who forecasted a correction that never appeared. The Fed increased

interest rates to help combat inflation and has penciled in six more rate increases in 2022. This has caused the prices of fixed-rate bonds to fall.

C. Strategic Investment Decisions

As part of the ongoing management and oversight of the Fund's overall portfolio, this year's Principals implemented strategic changes across active equity, fixed income, and Aperio holdings within the portfolio, with a focus on both optimizing investment returns and maintaining the Fund's sustainable and impact mission.

Active Equities

Through a structured process of top down industry research and fundamental security analysis, the Fund added to its long-only active equity portfolio through the acquisition of four new equity positions.

	Tlcker	Purchase Date	Purchase Price	Cost Basis	Total Return to Date (%)
	AFYA	03/31/2022	$14.40	$22,291	4.93%
	Afya is a leading medical education group in Brazil delivering an end-to-end physician-centric ecosystem that serves and empowers students and physicians to transform their ambitions into rewarding careers. Principals saw an opportunity for expansive growth across a diversified product suite, in the quickly growing high demand market for medical education in Latin America. Afya provides a much needed service in Brazil and beyond, as AFYA aims to solve Brazil & LatAm's shortages of medical services. Brazilian cities with less than 50,000 inhabitants, which corresponds to approximately 90% of all cities in Brazil, have less than 1 physician per 1,000 residents. At the intersection of healthcare and education, Afya provides medical education services to ~20k physicians annually in the fifth largest country by area and population. AFYA adds diversification to the active sleeve of the portfolio through increased emerging market exposure as well as a first education software company for the fund.				

	Tlcker	Purchase Date	Purchase Price	Cost Basis	Total Return to Date (%)

	HDSN	4/26/2022	$6.23	$21,640	7.81%
	Hudson Technologies, Inc. is a refrigerant services company, provides solutions to recurring problems within the refrigeration industry primarily in the United States. It serves commercial, industrial, and governmental customers, as well as refrigerant wholesalers, distributors, contractors, and refrigeration equipment manufacturers. HDSN is a leader in the highly fragmented refrigerant reclamation market which is experiencing strong policy tailwinds and is well positioned to take advantage of new revenue opportunities in the rapidly growing verified carbon markets Hudson is a highly impactful addition to the SIF active equities portfolio. A single year of handling the end of life of refrigerants via refrigerant destruction and recycling could save carbon equivalent to 700 coal-fired power plants.Improving energy efficiency from servicing HVAC equipment can 2x climate benefits.				

nubank	Ticker	Purchase Date	Purchase Price	Cost Basis	Total Return to Date (%)
	NU	4/26/2022	$6.48	$20,404	-7.25%
	Nubank's mission is to fight complexity and empower people in their daily lives by reinventing financial services through innovative technology, data, and thoughtful customer service. Nu aims to have a positive impact in the lives of millions by financially including the unbanked population and better serving the served and underserved. Principals recommend Nu Bank as a BUY given they are the largest digital banking platform outside of Asia. Nu has been able to penetrate the highly profitable banking system in Latin America, particularly in Brazil, Mexico and Colombia.				

stem	Ticker	Purchase Date	Purchase Price	Cost Basis	Total Return to Date (%)
	STEM	4/08/2022	$10.18	$23,156	-29.56%
	Stem is a global leader in AI-enabled asset management software and services for smart energy storage systems and solar. Renewables are driving a massive need for energy storage over the next decade and Stem has established itself and its software as a leader in energy storage and solar management. Strategic partners have established sales channels and existing relationships with utilities, IPPs, C&I companies, developers in international markets driving international market share growth. Stem is a relatively new entrant in front of the meter market,has historically focused on behind the meter.				

Note: All returns calculated from purchase date as of 04/29/2022

In addition to new security acquisitions, Principals remained in continuous review of the fund's existing holdings to find opportunities to sell securities when necessary. Within the fund's asset disposition strategy, each principal was given a subset of the existing active equity portfolio to review and propose a hold or sell recommendation to the rest of the team. Principals found opportunities to secure outsized gains and exhibited professional pragmatism in selling securities in which the investment thesis did not successfully play out. Outlined below our this year's strategic decisions to sell.

Ticker	Purchase Price	SIF Target	Sales Date	Sales Price	Return (%)
ACI	$15.38	$20.00	04/05/2022	$34.31	119.90%

The SIF portfolio purchased Albertsons with the view ACI was well-positioned to capitalize on the digital transformation in the grocery industry driven by COVID as well as WFH trends that favor at-home cooking. This year's principals believed that thesis had played out and was reflected in the current stock price. Additional headwinds such as wage pressure and inflation present more downside risk than upside risk for the stock.

Ticker	Purchase Price	SIF Target	Sales Date	Sales Price	Return (%)
APPH	$15.38	$42.50	11/9/2021	$5.59	-74.67%

Headquartered in Morehead, Kentucky, AppHarvest is aiming to solve the problem of a lack of locally grown and pesticide-free plant-based foods by growing tomatoes, cucumbers, peppers, and leafy greens in giant greenhouses. AppHarvest integrates best of bread technology in lighting, integrated pest management, rain- water collection and other variables to create Controlled Environment Agriculture (CEA) greenhouses. 2020-2021 SIF Principals believed APPH would benefit from the secular shift to plant-based foods and COVID highlighted the limitations of supply chains and global food imports so there is a need for locally grown vegetables. However, this is a very capital-intensive business, and such an early-stage investment (pre-revenue) should not have been made in SIF. The Company had disastrous Q2 results due to lower quality production and yield, low market price for tomatoes and higher distribution and shipping expenses.

Ticker	Purchase Price	SIF Target	Sales Date	Sales Price	Return (%)
CVA	$12.50	$12.30	11/9/2021	$20.23	61.84%

COVANTA was taken private for $20.25/share— a hard upper cap on price; current trading is just below this reflecting the low probability of a failed private LBO. The downside of holding in the event of a broken deal outweighed the upside of waiting for the additional several cents of appreciation.

Ticker	Purchase Price	SIF Target	Sales Date	Sales Price	Return (%)
ITMPF	$7.01	N/A	11/9/2021	$6.70	-4.41%

ITM Power (ITM) designs, manufacturers and integrates electrolyzers used to produce green hydrogen. Positioned to be a leader in electrolyzer production for nascent & growing green hydrogen industry, having strong partnerships and growing backlog with new gigafactory reducing costs and led time.
Green hydrogen electrolyzer industry is in its early stage that many large cap energy/industrial/chemical companies as well as startups are entering and highly dependent on policies to drive adoption. Capital intensive business without stable revenue as business is primarily transactional. Given the above and high valuation we recommend to sell.

Ticker	Purchase Price	SIF Target	Sales Date	Sales Price	Return (%)
OSH	$56.06	$62.00	03/08/2022	$21.40	-61.83%

The company missed earnings estimates for each quarter in FY2021, and profitability is years away. Unexpected costs related to COVID treatments and resuming elective procedures. New partnership with AARP as exclusive primary care provider, but increased marketing costs. High insider selling and uncertain risks of DOJ investigation and related lawsuits

Ticker	Purchase Price	SIF Target	Sales Date	Sales Price	Return (%)
SEDG	$258.35	$325.00	03/08/2022	$329.21	27.43%

Headquartered in Tel Aviv, Israel SolarEdge Technologies is a manufacturer and provider of PV inverters, power optimizers, residential energy storage and battery inverters. SolarEdge's manufacturing capabilities drove its market share growth for its various offerings and its best-in-class PV inverters helped the company increase margin and grow market share. The Fund's target price had been met and the growth of the company is uncertain as it faces headwinds such as supply chain issues, and more competition across its different offerings especially as key competitor Enphase grabs more ex-US market share for solar inverters which is SEDG's largest segment.

Aperio Portfolio

Within the Aperio portfolio, Principals explored both exclusionary screens to private prison operations as well as an increased tilt toward water-resource related companies. After review from both financial and sustainability perspectives, the decision was made to include an additional screen away from private prisons while maintaining all other aspects of the Aperio portfolio.

Fixed Income

Principals investigated money market funds and made the decision to focus solely on CDFIs. Principals made this decision because while most money market funds provide data on all investments and their portfolio weight, it is more difficult to decipher the social impact derived from these investments. Investing in a money market fund does not inherently align with our IPS.

Reviewing Community Development Financial Institutions (CDFIs), principals found that a “fund” approach would be the best next step, as investing in individual CDFIs is quite labor intensive. The group identified Calvert Impact Capital Community Investments and CNote as the best way to invest in CDFIs. Upon further investigation, principals identified CNote Flagship Fund as the recommended investment in CDFIs. The Flagship Fund is 25bps and offers earnings up to 2.00%. As a fund that has historically helped homeless coalitions, learning centers, and land trusts, we believe the borrower impact of such an investment is quite high. The fund has no minimum, is a 30-mooth term, and allows for quarterly liquidity (allowing for up to 10% of the investment). Due to timing constraints, Principals are leaving this recommendation to next year’s team to execute.

This year has been a turbulent period in the bond markets amid rising inflation that, once thought ‘transitory’, has forced the Federal Bank to aggressively respond. As a result, the Fed has begun unwinding the quantitative easing on their balance sheet as well as raising interest rates. This has resulted in declines in our Fixed Income portfolio as the market shifts to higher yielding bonds and reweighting portfolios with higher allocations in equity. As a result, the principals decided to reduce exposure to the fund’s flagship bond holding iShares USD Green Bond Fund (BGRN), while adding iShares 0-3 Month Treasury Bond ETF (SGOV) to help risk-adjust the fixed income portfolio for potential credit and interest rate risks.

SGOV **iShares 0-3 Month Treasury Bond ETF**	**Ticker**	**Purchase Date**	**Total Amount**	**Price**
	SGOV	05/03/2022	$427,209.08	$100.03
	The iShares 0-3 Month Treasury Bond ETF seeks to track the investment results of an index composed of U.S. Treasury bonds with remaining maturities less than or equal to three months. Given its short duration and the credit quality of treasury bonds, SGOV offers a perfect solution to risk-adjust			

	the portfolio to mitigate both credit and interest rate risk. As interest rates rise, SGOV will provide a safe-haven to leverage a bond laddering strategy while helping protect against potential credit events.

BGRN iShares USD Green Bond ETF	Ticker	Sales Date	Total Amount	Price	Percentage of Holding
	BGRN	05/03/2022	$192,217.67	$48.20	50%
	The iShares USD Green Bond ETF seeks to track the investment results of an index composed of U.S. dollar-denominated investment-grade green bonds that are issued by U.S. and non-U.S. issuers to fund environmental projects.				

D. Summary of Holdings

Active Equities as of 04/29/2022

TICKER: **AFYA**	Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
	03/31/2022	$14.40	$15.11	$25.00	4.93%
	Afya is a leading medical education group in Brazil delivering an end-to-end physician-centric ecosystem that serve and empower students and physicians to transform their ambitions into rewarding careers. Principals saw an opportunity for expansive growth across a diversified product suite, in the quickly growing high demand market for medical education in Latin America.				

TICKER: **AWK**	Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
	04/17/2020	$132.68	$154.08	N/A	18.36
	American Water Works provides water-related services, including drinking water and wastewater management to over 15 million people in 45 states and Ontario, Canada through the ownership of regulated water and wastewater 04/utilities.				

TICKER: **BWA**	Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
	2/18/2021	$43.50	$36.83	$54.00	-15.33

	BorgWarner produces clean and efficient technology solutions for vehicles across four main segments: Air Management (55% of sales), e-Propulsion and Drivetrain (40% of sales), Fuel Injection (5%), and Aftermarket (<1%). BWA is Well-positioned to benefit as the global auto industry evolves towards efficient and electric vehicle. .The EV trend continues to accelerate with nearly all major automakers to committing to electrifying their fleets. BWA is investing in its electrification capabilities through its acquisitions of Delphi Technologies (2020) and AKASOL (2021) and the company continues to win long-term contracts from European and North American automakers.

COMFORT SYSTEMS USA

TICKER: **FIX**

Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
02/10/2020	$47.65	$84.42	$54.00	77.17%

Comfort Systems USA, Inc. provides commercial and industrial heating, ventilation and air conditioning (HVAC) and building automation services. The company delivers engineering, design, installation, energy assessment, and maintenance services in a wide range of customer sectors, operating across 85 locations in the US via B2B business model.

HUDSON TECHNOLOGIES

Reclaiming the Future Together.

TICKER: **HDSN**

Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
4/26/2022	$6.23	$6.71	$9.87	7.81%

Hudson Technologies, Inc. is a refrigerant services company, provides solutions to recurring problems within the refrigeration industry primarily in the United States. It serves commercial, industrial, and governmental customers, as well as refrigerant wholesalers, distributors, contractors, and refrigeration equipment manufacturers.

nubank

TICKER: **NU**

Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
4/26/2022	$6.48	$6.01	$14.00	-7.25%

Nubank's mission is to fight complexity and empower people in their daily lives by reinventing financial services through innovative technology, data, and thoughtful customer service. Nu aims to have a positive impact in the lives of millions by financially including the unbanked population and better serving the served and underserved.

PingIdentity

TICKER: **PING**

Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
12/1/2020	$22.50	$26.13	$30.00	16.13%

	Headquartered in Denver, Colorado (PING) engages in the provision of intelligent identity solutions.Seen as the inventor of SSO, its mission is to secure the digital world through intelligent identity-pioneer in leveraging AI for secure access. PING has defensible moat with expanding partner network and greater value proposition through innovation & acquisitions. The company also has the potential to capture greater market share from upselling, new customer base, and expanding use cases.

TICKER: **PGNY**

Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
11/18/2020	$29.50	$38.45	$34.00	30.34%

Headquartered in New York, NY, Progyny (PGNY) is a data-driven fertility benefits provider with a differentiated model in a large and growing fertility market. Fertility benefits solutions includes differentiated benefits plan design, personalized concierge style member support services, selective network of fertility specialists, Progyny Rx, & surrogacy and adoption expenses.

TICKER: **STEM**

Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
4/08/2022	$10.18	$7.17	$19.90	-29.56%

Stem is a global leader in AI-enabled asset management software and services for smart energy storage systems. Renewables are driving a massive need for energy storage over the next decade and Stem has established itself and its software as a leader in energy storage and solar management. Strategic partners have established sales channels and existing relationships with utilities, IPPs, C&I companies, developers in international markets.

TICKER: **THO**

Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
04/17/2020	$52.25	$76.55	$75	46.51%

Thor Industries (THO) is the world's largest manufacturer of recreational vehicles (RVs). The company saw record sales in 2020, driven by pandemic-related travel tailwinds, but was recently downgraded by Keybanc on overproduction worries that will make it difficult for the company to pass on price increases to 03/31 customers. The company has committed to reducing Scope 1 and 2 emissions by 50% by 2030, and reaching net-neutral emissions by 2050, but currently has not made any commitments to electrifying its vehicles or addressing its Scope 3 emissions.

TICKER: **TYL**	Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
	02/23/2021	$455.82	$394.71	$460.59	-13.41%
	Tyler Technologies is a provider of integrated software and service solutions designed to automate mission-critical public sector operations. Tyler offers technologies that scale from small offices to large organizations, with coverage in multiple sub-sectors.				

Real Assets

TICKER: **EQIX**	Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
	4/27/2021	$710.00	$719.19	$830	1.29%
	Equinix, Inc. operates as a real estate investment trust. The Company invests in interconnected data centers. Equinix focuses on developing network and cloud-neutral data center platform for cloud and information technology, enterprises, network, and mobile services providers, as well as for financial companies.				

TICKER: **HASI**	Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
	03/19/2019	$18.20	$40.64	$30.00	119.08%
	HASI is a hybrid of an ‘equity REIT’ and a ‘mortgage REIT’—equity REITs own and lease physical assets, collecting rent, mortgage REITs buy mortgages with higher interest than the debt used to purchase themHASI is a hybrid of an ‘equity REIT’ and a ‘mortgage REIT’—equity REITs own and lease physical assets, collecting rent, mortgage REITs buy mortgages with higher interest than the debt used to purchase them.				

TICKER: **PLD**	Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
	03/19/2019	$111.78	$168.05	$118.00	43.43%
	PLD is an owner, operator, and developer of industrial real estate, focused on global and regional markets across the Americas, Europe, and Asia. PLD poised to perform well due to 1) potential to capture growth in logistics, which was projected to be a high performing vertical of property through 2024 2) ESG potential, with direct to home sales reducing emissions as well as advancements in smart buildings 3) growth opportunities by scaling up its customer services by leveraging big data capabilities.				

	Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
Weyerhaeuser TICKER: **WY**	02/02/2021	$32.98	$41.22	$35-51	25.00%
	Weyerhaeuser Company is an integrated forest products company REIT with offices and operations worldwide. The Company primarily grows and harvests trees, develops and constructs real estate, and makes a range of products.				

Fixed Income

SGOV **iShares 0-3 Month Treasury Bond ETF**	Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
	05/03/2022	$100.03	$100.03	N/A	--
	The iShares 0-3 Month Treasury Bond ETF seeks to track the investment results of an index composed of U.S. Treasury bonds with remaining maturities less than or equal to three months. Given its short duration and the credit quality of treasury bonds, SGOV offers a perfect solution to risk-adjust the portfolio to mitigate both credit and interest rate risk. As interest rates rise, SGOV will provide a safe-haven to leverage a bond laddering strategy while helping protect against potential credit events.				

BGRN **iShares USD Green Bond ETF**	Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
	03/31/2022	$53.18	$48.47	N/A	-8.86%
	The iShares USD Green Bond ETF seeks to track the investment results of an index composed of U.S. dollar-denominated investment-grade green bonds that are issued by U.S. and non-U.S. issuers to fund environmental projects.				

COLUMBIA THREADNEEDLE INVESTMENTS TICKER: **CONAX**	Purchase Date	Purchase Price	Current Price	SIF Target	Return (%)
	03/09/2020	$10.94	$9.69	N/A	-10.49%
	Columbia Threadneedle US Social Bond Fund focuses on finding solid financial investment opportunities and then invests in those that make the most positive social and environmental impact, particularly within underserved areas and populations				

Notes:
**Holding period returns reported for April 3 - April 30, 2022*
***5-year returns reported for November 16, 2018 (first trading record) to April 30, 2022*

Operational Improvements

Portfolio Management Operating Norms

This year the principals decided to build an Operating Playbook to capture procedures, best practices, and education materials in order to better facilitate new principal transition and learning.

The playbook includes the following sections:

- **Getting Started:** An overview of important things to consider as new principals assume control of the portfolio. Items include: *Approving the IPS, Electing Roles*
- **Managing Accounts**: This section details how to log into the various SIF accounts, as well as best practices to know for operation. Accounts include: *Aperio, Schwab, Bloomberg, MSCI*
- **Portfolio Risk Management:** This section details general portfolio management techniques for principals to consider, as well as specific SIF practices to follow. Items include: Portfolio Composition, *Purchase Sizes, Rebalancing*
- **Reporting Processes:** An overview of important reporting processes that principals most perform. Items include: *Annual Report, Annual Cash Disbursement*
- **Education:** In the spirit of providing our learnings, a running list of items that we felt were critical to principals learning who may not have had previous investment experience. Items include: *Developing a Thesis, Macro Trends, Stock Pitches, Rebalancing, Bond Duration*

ESG Data & Reporting

We set out to develop an ESG reporting process that was standardized, informative, and could be built upon by future SIF principals. We understand there are gaps, but we are optimistic that they will be filled in as ESG reporting industry wide is standardized and more information becomes available.

For the **Active Sleeve (including Real Assets)**, we leveraged metrics on carbon footprint (E), board and management gender diversity (S), and whether they had a sustainability report (G). We then used the Materiality Finder from the Value Reporting Foundation (formerly SASB) to determine the industry for each of our holdings. Finally, we used publicly available information on the company to fill in metrics related to the industry issue.

For the **Passive Sleeve**, which is managed by the Aperio Group and constitutes 55% of our fund, we highlighted the exclusions and social scores of the Aperio portfolio. This portfolio's SRI score is 20% higher than the MSCI ACWI index while maintaining similar risk-return characteristics.

In the **Fixed Income Sleeve**, over 20% of the fund is allocated to iShares Global Green Bond ETF (BGRN) and Columbia US Social Bond Fund (CONAX). BGRN is a fund that focuses on producing a measurable environmental impact from its portfolio, while CONAX focuses on creating positive social outcomes. BGRN's impact report approach quantifies how a $1M investment in their holdings can create an environmental impact equivalent to 11,600 new passengers on public transit annually. CONAX uses frameworks developed with Sustainanalytics, a leading ESG research firm, to identify 6 thematic areas and their High & Elevated Impact.

Impact Overview

The impact approach used by the 2021-202 Principals first took an exclusionary approach to narrow down the investable universe of securities by sector, topic, and particular assets, changes in methodology now included in the IPS. The investment team then took an integrated approach to assess financial performance alongside sustainability propositions from ESG-material fundamentals and key themes. This year, Principals established a framework which overlaid the S&P GICS sector methodology across five key impact pillars, which aim to govern the impact thesis of the fund moving forward.

Exclusionary Approach

Principals began with an exclusionary approach to eliminate sectors and opportunities that the group considered uninvestable (primarily based on fund values). Through this lens, the Principals excluded weapons and energy companies that had not started to shift towards clean energy. Companies with reports of human rights violations or scandals were also excluded. With the intention of advancing the agenda for ESG reporting, Principals also disregarded firms that did not provide any disclosures. Since reporting adoption is in early-stages, disclosures did not have to follow SASB's guidelines. Types of disclosure varied from sustainability reports, risk discussions in 10K filings, voluntary sustainability goals, and outcome measurements. SIF Principals focused on industry-specific reporting metrics, including emissions and resource intensity, human right codes of conduct, supply chain transparency, and board diversity.The 2021-2022 expanded upon the fund's exclusionary methodology with the strategic addition of weapons and prison industrial complex exclusions.

- **Weapons:** The Fund will not hold any companies that manufacture, sell and/or distribute anti-personnel mines, cluster munitions, white phosphorus, chemical, biological and/or nuclear weapons. The Fund will not invest in any companies that manufacture, sell, and/or distribute assault and non-assault firearms or small arms, for civilian, military, and law enforcement customers. Companies that generate 5% or more of their revenues from retail sales of assault and non-assault firearms or small arms are also excluded. The Fund excludes companies that generate 5% or more of their revenues from selling weapon systems and/or integral, tailor-made components for weapons, and weapon-related products and/or services, to the military or defense industry. The exclusion does not apply to companies that provide non-weapons related products and/or services to the military or defense industry.

- **Prison Industrial Complex:** The Fund recognizes mass incarceration due to longer sentencing and harsher policies has increased poverty and inequality. The Fund will not hold any private prison operators. The Fund will not hold companies whose core business is providing services to incarceration and detention facilities, companies that

contribute to the militarization of the U.S.-Mexico border or companies whose core business relates to immigrant policing, monitoring, and surveillance.

Impact Framework

- **Clean Tech & Infrastructure:** This category comprises companies that are accelerating the transition away from fossil fuels, including utilities, renewable energy, energy storage, industrial hardware, software, and infrastructure. This sector is essential in addressing environmental risks and opportunities associated with the climate crisis. The Fund invested in Stem, Inc., a global leader in AI-enabled energy storage and solar asset management software and services. To combat the worst effects of the climate crisis, the world needs to transition to zero carbon energy generation. The intermittency of renewable energy is driving a massive need for energy storage. Stem has established itself as a leader in the energy storage management space. Stem's technology can help maximize renewable energy generation and build a cleaner, more resilient grid.

- **Health & Wellbeing:** Investment opportunities within the Health & Wellbeing sub-sector are evaluated on an impact basis in terms of how specific companies are building innovative solutions to offer holistic and sustainable approaches to mental, emotional, physical and financial wellbeing. Given the increased focus on individual and communal health on the back of the COVID pandemic, a number of new and incumbent companies have increased emphasis on and commitment to providing a full-range of health and wellness services. A crucial component of the evaluation process for investment opportunities within this space is whether specific companies are focused on offering affordable and innovative solutions to addressing clients' needs, and whether these companies are also expanding their footprint to offer their services to historically underserved communities. This involves an evaluation of the accessibility and clinical outcomes of services offered that includes: affordability, patient lifecycle and monitoring, and metrics of success based on outcomes.

  A key point of emphasis for this space is to ensure that all companies evaluated have business models that are in accordance with the United Nations Principles for Responsible Investing, and are following industry best practices based on the National Institute for Health's Health & Wellness Council.

- **Social Equity:** With the fund underweight across several social goals, the social equity pillar of our impact framework addresses an opportunity to expand the fund's impact scope. The team aimed to source investment opportunities from a global universe of public equity securities to invest in companies whose business model is centered around improving social wellness. The impact goal has a three pronged mandate across Education and Equity. This semester, the social equity team aims to increase the fund's exposure to education names. The portfolio had no exposure to education and the

addition of education to the portfolio will increase portfolio diversification, introduce a new impactful social focus, and grow the fund's coverage expertise . Our focus toward education was in alignment with the fourth Sustainable Development Goal (SDG 4), which is dedicated to education and aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities" by 2030 . Our belief is that the education technology and services industry sits at a unique intersection, where post-covid valuations alongside increasing adoption pose excellent investment opportunities.

- **Sustainable Materials:** The fund focused on sustainable materials, which was defined to include companies using natural resources as efficiently as possible for materials production. This included beginning of life manufacturing and novel/green materials, as well as end of life waste management, capture, and re-use. The team initially planned to prioritize investments in the circular economy, they moved away from this to focus on sustainable materials as the driving force that could enable the circular economy.

  The team focused on this sector because it was previously underrepresented in the SIF portfolio, and believed it would add a diversification benefit to the overall allocation. Materials are seen as a hedge in times of volatile inflation, therefore an allocation to this sector made sense, given the macroeconomic environment. Additionally, materials are historically a source of hard-to-abate emissions, which was seen as an opportunity to invest in those companies seeking to create a new, less extractive materials industry. The team segmented the space by looking at Established Players vs. New Entrants (for example, Ball Corp. vs. Origin Materials) and Enablers vs. Doers (Carbios vs. BASF). The sustainable materials team ultimately pitched an investment in Hudson Technologies, who is both enabling other companies with its services and creating more sustainable refrigerants. The company's business model is becoming increasingly important to a market concerned by the growing impact of refrigerant usage and the need for recycled refrigerants in a warming world.

- **Sustainable Products:** The sustainable products team focused on opportunities in areas with low consumer price elasticity so as to provide relative protection against inflation. Furthermore, given the inflationary macroenvironment and following the sale of SIF's position in Albertsons, the team felt it was important to explore ways to maintain exposure to Consumer Staples. There is significant opportunity for impact within Consumer Staples across a variety of impact areas, from labor rights and human health to environmental impacts of sourcing and food waste.

Shareholder Engagement

The Fund aims to drive further impact through active shareholder engagement. Below is an outline of the Fund's strategic plan for active engagement and SIFs participation in the Intentional Endowments Network's annual Corporate Engagement Competition.

Overview of Shareholder Engagement Strategy

Active engagement priorities and goals should begin at the beginning of the academic term (September/October) so that potential shareholder voting actions can coincide with annual general meetings (AGMs)/Investor Days (March/April).

Active engagement with respect to portfolio companies is broad and may include:

- Holding direct conversations with portfolio companies, regulators and issue experts
- Collaborating with other investors, companies and advocates
- Soliciting shareholder proposals
- Sponsoring academic and other intellectual analysis on the issues, to increase market participant awareness
- Attending annual general meetings (AGMs) and making remarks
- Informed proxy voting
- Targeting board of directors members through "vote no" campaigns

Developing a focus list on which portfolio companies it makes sense to engage with is paramount. A common way to develop this list includes reviewing the financial return and looking at the worst performers over a specific period of time. This process can be tied with the portfolio monitoring process. Make sure to review the following factors for detractors from fund performance:

- *Financial performance:* Is the company an outlier in their industry? How has the company performed over time?
- *ESG ratings:* How is the company ranked on ESG scores vs. the industry average? A weighted average approach from different rating providers can be used (Sustainaltyics, Bloomberg, MSCI, etc.)
- *Ownership percentage:* How much do you own? Since we are not large investors, look through shareholder registers/holdings to see if we can partner with similar minded investors.
- Which ESG practices are of concern at the companies, and of those, which are most important to SIF?
- Has there been a controversial proxy vote or a controversy in general?
- Has the company been unresponsive to majority votes on shareholder proposals?
- Has the company worked against shareholder rights (e.g., through bylaw amendments) without shareholder approval?

Once a list of companies to engage with and concern areas have been identified, reaching out to the Board of Directors could make sense. Before making contact, make sure to go over this checklist to see if that is the best course of action.

- If the company or its board ignored repeated attempts by yourself (or other shareholders) to discuss needed improvements, increased disclosure or greater risk oversight, then perhaps shareholder collaboration or public strategies are actually what are needed.
- If the C-suite becomes so entrenched and recalcitrant that private measures no longer have traction, then the board may be a better target for communication.
- If other shareholders share your concerns then collaboration with other investors will be easier and more effective.
- If other investors are already engaging the company or industry and topic then hop on their efforts so that you are not duplicating efforts or the company cannot use a divide and conquer strategy.
- If you are worried that public knowledge of your engagement might harm the company's reputation or impact the share price, then keeping dialogue confidential might be your best option.
- If your engagement involves multiple asset classes, you will need different tools for them and must set different expectations for outcomes.
- If you prioritize deep and long-term relationships with some of your core holdings then holding an in-person meeting with the Chief Executive or board members might get you further than meeting merely with a company expert.
- If you have access to the Company's board of directors or C-suite executives, it might be more effective and use less resources to start at the top.

Some tips on how to effectively engage with the board of directors:

- *Identify the best member to engage with.* Research the company's board of directors and evaluate each director's background and professional experience. Generally, the best director to engage with is an independent director who is in a leadership position on the board.
- *Write a letter.* Send a letter addressed to the director articulating your concerns. Explain why your ESG issue is a concern for shareowners more broadly. Do not assume that the director is aware of the issue you are raising. Let the facts speak for themselves, and try to write persuasively, rather than argumentatively.
- *Send the letter.* You should refer to the company's proxy statement for instructions on how to communicate with the board. You may wish to copy the entire board. In addition to sending the letter via the company, send your letter to the director's primary place of business or hand deliver the letter at the AGM. Registered mail works well.
- *Follow up.* If a satisfactory response is not received after a reasonable time, contact the director by telephone, or engage a director privately at a public forum, such as an

investor conference. Or try an annual meeting of another company where the director serves on the board.

- *Meet with the director.* If the director responds to your letter, offer to meet in person or arrange a telephone call. Consider including other shareowners in the conversation (but make that transparent to the director). Usually, a representative of company management (e.g., a Corporate Secretary or General Counsel) will also want to participate.

Suggestions when making contact with the board: In making contact with a board, check first with the Corporate Secretary whether board meetings are held monthly, quarterly or otherwise. It will be important to know when the board might discuss your issue of concern and whether it will do so before filing the company's annual proxy statement. Please provide advanced warning of concerns to companies via a call to Investor Relations, Corporate Secretary or General Counsel. A letter of concern to the board can be delivered via the General Counsel or the Corporate Secretary, although addressed to the board chair or lead independent director. It is preferable to direct the concerns to the companies first rather than going through the press. If you intend to discuss the concerns with the media please indicate that to the company before discussions begin. If diplomacy breaks down and an agreement cannot be reached, investors will often turn to more formal methods, such as shareholder proposals. They will argue that filing a proposal is a clear way to get management's attention, if not the board's, and once investors have that attention, progress can likely be made.

"Vote No" Campaigns: If shareholder engagement with the board is unsuccessful, pursuing a "vote no" campaign n to urge shareowners to withhold their vote from the director's re-election. Alternatively, consider nominating a new director to the board by suggesting names to the nominating committee or conducting a proxy solicitation.

Tips for successful "vote no" campaigns:

- *Identify your fellow shareowners*. Research the proxy voting policies and contact information for key decision-makers at the company's major shareowners.
- *Send shareholders a "fight letter."* Circulate your campaign materials as soon as practical after the company publishes its proxy statement. Consider using Broadridge Financial Solutions to forward your materials to beneficial owners who are bank and broker clients.
- *Comply with the SEC's solicitation rules*. Under Rule 14a-2(b)(1), "vote no" campaigns are generally exempt from certain SEC proxy rules so long as you do not seek to act as a proxy for other stockholders. However, if you own more than $5 million in shares, you must file your materials and a "notice of exempt solicitation" with the SEC under Rule 14a-6(g).
- *Educate proxy voting advisors*. Share your campaign materials with key proxy voting advisors, such as Institutional Shareholder Services and Glass, Lewis.

- *Contact the proxy voters*. Although many institutional investors will not disclose how they plan to vote, call their proxy voting staff to explain your concerns.
- *Publicize your campaign.* Talk to reporters who follow the company, industry, or issue area, and use social media, like blogs and networking sites.
- *Attend the annual general meeting.* Speak from the floor at the company's AGM to voice the concerns of shareowners that supported your campaign.

Active Shareholder Engagement Competition

This year, four members of SIF participated in the Intentional Endowments Network's annual Corporate Engagement Competition. Participating members wrote a written investment recommendation and a proposed shareholder engagement strategy around a key issue area in climate change and social equity. SIF has regularly participated in this challenge, winning it the first year it was offered in 2020 and submitting a proposal for SIF portfolio company Thor Industries in 2021.

This year, SIF student principals were strongly interested in bringing to light environmental justice issues in industrial sectors that often do not get a spotlight. The team pursued an engagement strategy for industrial product conglomerate 3M and its culture of complacency that has led to continued environmental and health risks (and resulting shareholder liabilities) from per- and polyfluorinated alkyl substances ("PFAS") chemical production and usage. The shareholder proposal specifically asked that 3M: 1) institute more proactive product safety measures, 2) review the company's product mix to move away from PFAS, and 3) replace board members with new leadership ready to help 3M read the changing social and environmental landscape and pursue additional opportunities for revenue growth in safe and sustainable product innovation.

Private Markets Whitepaper

EXECUTIVE SUMMARY

The Haas Sustainable Investment Fund (SIF) has evolved tremendously in the last several years, expanding its investments to include both passive and active public holdings, bonds, and cash/cash equivalents. The evolution of the Fund's strategy paired with the recent rise in private market investing to an all-time high of $9.8 trillion in assets under management (AUM)[1] begs the question:

Should SIF Engage in Private Investing?

From a financial perspective, access to private markets provides a degree of diversification for the SIF portfolio. Private market performance has been level with or have outperformed public market performance in recent years, with private equity driving this performance[2]. Academic institutions like the University of North Carolina, Yale University, and many others have set a precedent for investing in private markets and have earned strong financial returns. In addition, as the volume of public-to-private deals continues to climb[3], investing in private markets will allow SIF to maintain (perhaps albeit limited) exposure to growth-stage companies that are flocking to the private markets or forgoing IPO.

There is also great potential for impact within the private markets. More than half of total fundraising in the private markets went to funds with formalized environmental, social and governance (ESG) policies in 2021[4], and substantive ESG efforts such as the creation of Novata, a central database that will collect data and benchmark the ESG performance of privately held companies[5] point toward increasing opportunities for SIF within these markets. WIth the rise in popularity of ESG investing in the public markets, there is greater risk of darling ESG stocks trading at inflated valuations. In entering the private markets, SIF would potentially be able to find more companies that are at the beginning of their ESG journeys, capitalizing on

[1] "McKinsey's Private Markets Annual Review." McKinsey Insights, March 24, 2022. Accessed April 25, 2022. https://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/mckinseys-private-markets-annual-review

[2] "McKinsey's Private Markets Annual Review." McKinsey Insights, March 24, 2022. Accessed April 25, 2022. https://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/mckinseys-private-markets-annual-review

[3] "The Private Equity Market in 2021: The Allure of Growth." Bain Insights, March 7, 2022. Accessed April 25, 2022. https://www.bain.com/insights/private-equity-market-in-2021-global-private-equity-report-2022/#:~:text=Global%20funds%20raised%20across%20the,their%20second%2Dbest%20year%20ever.

[4] "McKinsey's Private Markets Annual Review." McKinsey Insights, March 24, 2022. Accessed April 25, 2022. https://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/mckinseys-private-markets-annual-review

[5] "Foundations, Private Equity Firms Create ESG Reporting Platform." The Wall Street Journal, October 7, 2021. Accessed April 25, 2022. https://www.wsj.com/articles/foundations-private-equity-firms-create-esg-reporting-platform-11633599002

both the impact potential and any associated financial benefits that come with their growth in these areas. SIF could also leverage ownership of privately held companies toward the private equivalent of shareholder campaigns, leading the next generation of ESG-oriented activism to demand better of private companies in its portfolio.

However, investing in private markets brings about several challenges given the structure of SIF. From an operational perspective, capital calls may come during times when the Fund's Principals are not available for consecutive terms, (such as during summer and winter breaks). In addition, the investment time horizon of private investments would require future generations of the fund to engage in whatever strategy is adopted by the Principals of the current class year. Though this does not necessarily preclude the Fund from engaging in private investments, it does necessitate due care and diligence processes not currently in place to ensure that future generations of Principals have the same opportunity to learn from and actively engage with whatever strategy is adopted.

The limitations included here are only a short list of the potential barriers to executing a private investment fund.

For more information and discussion, please see Appendix 5 for the full white paper.

Appendix

Appendix 1 – Long Term Performance of SIF Portfolio

Fund performance data for the last 12 years (2010-2022) are presented in the table below in comparison to the Russell 3000 and S&P 500 indices. Overall, the Fund performance tracked the MSCI ACWI and S&P 500 fairly well except a few years (2016, 2015, 2013, and 2010) where they diverged significantly. SIF has produced 152 alumni with ESG knowledge in the investment field, competitive returns to the market, and contributions exceeding $900,000 to UC Berkeley.

Long Term Performance Comparisons: Annual Fiscal Year End Performance				
Date	**SIF**	**MSCI ACWI**	**MSCI ACWI ESG Leaders**	**MSCI USA ESG Leaders**
2010-2011	0.90%	16.12%	15.00%	11.74%
2011-2012	5.00%	-7.91%	-6.90%	1.62%
2012-2013	20.80%	12.40%	14.08%	15.17%
2013-2014	13.30%	12.09%	12.02%	17.60%
2014-2015	18.20%	5.36%	5.14%	8.30%
2015-2016	-4.30%	-7.55%	-6.31%	-1.61%
2016-2017	14.80%	12.85%	11.32%	13.34%
2017-2018	13.05%	11.98%	11.61%	11.16%
2018-2019	-1.70%	2.97%	3.63%	11.73%
2019-2020	13.05%	-6.80%	-4.71%	0.51%
2020-2021	40.90%	43.47%	42.01%	43.38%
2021-2022	-8.80%	-6.86%	-6.29%	-0.70%

Appendix 2 - Active Equities Case Study (STEM)

STEM Inc. (NYSE: STEM) Case Study

stem

Market with Long-term Secular Growth Drivers

- Global energy storage deployment projected to grow at **31%** CAGR from 2020-2030
- Continuous global renewable energy generation growth
- Increased grid unreliability
- Battery energy storage systems and solar costs continue to decrease
- Global mandates, policies, financial incentives push energy storage and renewables adoption

Differentiated Player with Sustainable Competitive Moat

- Software service focused, capital light, no proprietary hardware products
- Hardware agnostic, patented protected, AI driven technology
- **2nd** largest global commissioner of ESS (+600 MWh) and operates the world's **largest** digitally connected energy storage fleet
- Leading solar asset management software with **33GW** AUM
- Established strategic partnership with leading renewables owners/operations/developers and leading global energy companies (Total, Mitsui, RWE, Exelon, Copec, Iberdrola)

Attractive Relative Valuation

Company	Mkt Cap ($B)	P/S
STEM inc.	**1.26**	**2.9x**
Tesla	822	9.8x
Enphase Energy	22.9	10.1x
Fluence Energy	1.86	1.2x
SolarEdge	16.79	5.2x
Bloom Energy	4.05	9.9x
Average		6x
Median		5.2x

BerkeleyHaas

Sustainable and Impact Finance UC Berkeley

STEM Case Study (cont.)

stem

STEM Investment Thesis

1. Renewables are driving a massive need for energy storage over the next decade and STEM has established itself and its software as a key component/leader in energy storage management
2. Hardware revenue will dominate revenue contribution for next few years but recurring services business and Also Energy Holdings acquisition will expand total adjusted gross margins from 11% in 2020 to ~40% in 2026
3. Strategic partners have established sales channels and existing relationships with utilities, IPPs, C&I companies, developers in international markets driving international market share growth
4. STEM will strengthen long-term revenue growth sustainability by gaining market share in U.S. FTM market. STEM is relatively new entrant to FTM market, has historically focused on C&I BTM

Risks

1. Energy storage demand is lower than expected potentially due to the following
   - Slower reduction in energy storage system costs
   - Policy changes
   - Slower adoption of renewables
2. Change in competitive landscape
   - Future competition in software market from existing ESS vendors and developers
   - New energy storage market entrants from adjacent industries such as solar trackers
3. Supply chain issues and higher commodity costs resulting in battery shortage

Target Price: $19.90
143% Upside

Bear Case 22.2% Downside

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Appendix 3 – Active Equity & Real Asset Holdings

Active Portfolio: Equities, Real Assets (as of 03/29/22)					
Symbol	**Description**	**Price**	**Market Value**	**SIF Return %**	**Asset Class**
AFYA	Afys Limited	$15.11	$23,390	4.93%	Equity
AWK	American Water Works	$154.08	$61,016	16.13%	Equity
BWA	Borg Warner Inc	$36.83	$27,107	-15.33%	Equity
FIX	Comfort Systems USA	$84.42	$52,763	77.17%	Equity
HDSN	Hudson Technologies	$6.71	$21,640	7.81%	Equity
NU	Nu Holdings Limited	$6.01	$20,404	-7.25%	Equity
PING	Ping Identities Holding Group	$26.13	$36,399	16.13%	Equity
PGNY	Progyny Inc	$38.45	$40,834	30.34%	Equity
STEM	Stem Inc	$7.17	$16,312	-29.56%	Equity
THO	Thor Industries Inc	$76.55	$40,725	46.51%	Equity
TYL	Tyler Technologies	$394.71	$26,840	-13.41%	Equity
EQIX	Equinix Inc	$719.08	$40,268	1.28%	Real Assets
HASI	Hannon Armstrong US REIT	$39.99	$67,183	115.58%	Real Assets
PLD	Prologis Inc REIT	$160.29	$57,384	43.40%	Real Assets
WY	Weyerhaeuser Co REIT	$41.22	$48,681	25%	Real Assets

Appendix 4: Active Equity Holdings Beyond SIF Targets

Portfolio Holdings Surpassed SIF Targets (as of 03/29/22)			
Symbol	**Description**	**Price**	**SIF Target**
FIX	Comfort Systems USA	$84.42	$54.00
PING	Ping Identities Holding Group	$26.13	$14.00
PGNY	Progyny Inc	$38.45	$34.00
THO	Thor Industries Inc	$76.55	$75.00

Appendix 5: Alternative Investments Whitepaper

Case for Alternative Investments

Not a whitepaper, a SIF Meditation…

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[7] "McKinsey's Private Markets Annual Review." McKinsey Insights, March 24, 2022. Accessed April 25, 2022. https://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/mckinseys-private-markets-annual-review

[8] "The Private Equity Market in 2021: The Allure of Growth." Bain Insights, March 7, 2022. Accessed April 25, 2022. https://www.bain.com/insights/private-equity-market-in-2021-global-private-equity-report-2022/#:~:text=Global%20funds%20raised%20across%20the,their%20second%2Dbest%20year%20ever.

[9] "McKinsey's Private Markets Annual Review." McKinsey Insights, March 24, 2022. Accessed April 25, 2022. https://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/mckinseys-private-markets-annual-review

central database that will collect data and benchmark the ESG performance of privately held companies[10] point toward increasing opportunities for SIF within these markets. WIth the rise in popularity of ESG investing in the public markets, there is greater risk of darling ESG stocks trading at inflated valuations. In entering the private markets, SIF would potentially be able to find more companies that are at the beginning of their ESG journeys, capitalizing on both the impact potential and any associated financial benefits that come with their growth in these areas. SIF could also leverage ownership of privately held companies toward the private equivalent of shareholder campaigns, leading the next generation of ESG-oriented activism to demand better of private companies in its portfolio.

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CASE STUDIES

Profiles of Potential Investment Vehicles

Elite universities have increasingly leaned into alternative investments within their portfolio to drive returns and diversify holdings in the public equities and fixed income markets. This strategy has resulted in bumper performance in recent years buoyed by alternative sleeves. The University of North Carolina, for example, has a $10 billion endowment and reported a 142% return from its alternatives investing in 2021[11]. There has been a surge of interest in private market investing in the Haas community. Should SIF pursue this strategy, there could be potential to partner with the Haas Impact Fund. The Haas Impact Fund is a Applied Innovation course that annually awards a

[10] "Foundations, Private Equity Firms Create ESG Reporting Platform." The Wall Street Journal, October 7, 2021. Accessed April 25, 2022. https://www.wsj.com/articles/foundations-private-equity-firms-create-esg-reporting-platform-11633599002

[11] "Harvard's Investment Report Card: Big college endowments had a bumper year." The New York Times, October 15, 2021. Accessed April 25, 2022. https://www.nytimes.com/2021/10/15/business/dealbook/college-endowment-funds-harvard.html

$50k equity investment in an early stage impact startup.

The universe of private investing is a large one, and should SIF move forward there are many directions to go in. There are many choices to make:

- Stage. Pre-seed rounds all the way through to mature, leverageable, private equity style investing offer different opportunities as well as risk / return profiles.
- Thematic focus. There is a broad range of impact philosophies guiding investments. SIF would need to determine whether it would prefer to invest in a fund that brings impact into its selection of entrepreneurs (ex. Fund at Loud Ventures - a dedicated fund for investing in LQBTQ+ entrepreneurs) or if it would prefer to invest in a fund with a specific thematic focus (ex. Lower Carbon Capital - invests in technology that offsets / reduces carbon).
- Return profile and timeline: Some funds aim to make market rate returns while also pursuing an impact goal, whereas others intentionally aim for concessionary returns as a tradeoff for maximum impact. Some impact funds offer more generous timelines ("patient capital") than the typical 5-10 year return cycle.

IMPLEMENTATION

There is a spectrum of different approaches for SIF and its future classes of Principals to deploy private capital that range from the difficult and impactful strategy of raising a dedicated, pooled fund, to the much simpler process of maintaining a pipeline of ad-hoc, optional co-investment opportunities. The potential options and their related roadmap and challenges are complex, and best understood by using the most traditional method–the dedicated pool of capital–as a starting point and then backing down the complexity of the undertaking from there. In this study of strategic scope we can understand how certain tradeoffs–such as the ability to source, pick, and manage specific investments–are made in favor of increasing the potential of incorporating a private strategy into future generations of SIF.

1) Raising a dedicated fund

SIF could collect capital commitments from either the current endowment it manages or additional external LP's and raise a pool of capital in the range of 5-10% of the total SIF fund for deployment in private opportunities. Raising capital from external LP's is a long and complex task typically requiring more institutional tenure than the standard year of SIF operations. Allocating additional capital from the endowment would be more straightforward.

The challenges that follow post-raise are threefold:

A. **Financial - Asset selection and investment:** Due to their inherent non-public nature, private investments are sourced, executed, and managed in bespoke processes which require time and transaction costs that often necessitate larger positions than a capital pool in the range of $100-$500K could support. Additionally the range of investments in which check sizes of this magnitude could be effective would largely be angel, pre-seed, and seed round investments in early companies–an exciting opportunity, but potentially outside the risk profile for SIF. Similarly, companies at this stage typically select investors that would be able to bring consistent advisory skills and capacity, something that SIF–with its annual Principal turnover–could struggle to provide.
B. **Operational - Fund Management:** Non-public companies do not report financials publicly and keeping up to speed on the performance of a private investment can be a full time job that spans multiple years–something the SIF turnover may struggle to support. Additional bureaucratic and legal processes such as maintaining share certificates, negotiating with future rounds of investors, conducting valuations, and processing tax documents (whether or not they apply to SIF's tax-exempt status) require strong institutional processes that are likely out of the scope for SIF's operations.
C. **Transformative - Annual transition and tenure:** Private investments are inherently non-liquid positions and often take many years if not decades for their full value to be recognized in liquidity events. That means that any investment decision made by a SIF cohort of Principals will become the responsibility of many cycles of SIF Principals to come–whether they agree or disagree with the position. This means that a decision to move into private investments is one that affects much more than just the existing cohort of Principals, and discussions around this strategy may be best if they involve future generations as well.

2) Mandatory co-investing with a dedicated fund

SIF could allocate a portion of its existing capital into a pool (5-10% of the current fund) and commit to a trusted partner fund to co-invest alongside its existing deals. It is important to note that this would be different than SIF simply becoming an LP in another private fund. Rather, the co-investment would be made not as a part of this partner fund's equity investments, but alongside it, making SIF the direct owner of the equity and a portion of the funded targets' cap table. The 'mandatory' nature of this option means that SIF would not be able to pick and choose which investments to take part of within the partner fund–which would require significant diligence and a proprietary view on the market–but rather it would invest a pro-rata portion of its

co-invest commitment in each deal.

Pros:

- This would allow SIF the opportunity to be a part of the deal process with a trusted partner and offer both the private markets learning opportunity to its Principals while protecting SIF from some of the burdensome fund management responsibilities that could outstrip SIF's institutional abilities.
- Because SIF's investment would be limited to the capital it would commit, SIF could be part of much larger opportunities than if it were solely responsible for leading acquisitions. For example, if the partner fund in question were making a $100M equity investment in a target out of a $1B pooled fund of theirs and SIF had committed $100K, SIF would simple by making a $10K equity investment (1/10th pro rata) into the target, thereby accessing a large and ideally more stable opportunity with an appropriate commitment for SIF's scale.

Cons:

- SIF would inherently be a "follower"--indexing another fund's decisions rather than developing proprietary theses and operating across the full spectrum of the deal process (sourcing, diligence, modeling, legal, execution, funding, and active management). However, while these are exciting opportunities to forgo, they also likely go beyond SIF's bandwidth.
- Regardless of how insulated SIF would be from the complex and time consuming deal execution process, there would still be legal requirements, signatures, wiring/funding, and other logistics to execute on–many of which would be the responsibility of future SIF generations.
- SIF would be responsible for co-investment capital calls into investments made years (and therefore multiple SIF generations) after the initial commitment. These capital calls could come at times when SIF principals are not actively working on the portfolio (e.g., Summer or break periods), and would require constant maintenance and monitoring so as not to be delinquent on its co-investment obligations.

3) Optional co-investing with a dedicated fund

Very similar to the mandatory coinvest strategy, the optional co-invest route would come with the option for SIF to choose whether it would like to coninvest. This process would come with all the same pros and cons as the mandatory co-invest, with the added potential benefit of requiring meaningful diligence from the SIF Principals. This diligence would provide a much greater

learning opportunity than simply indexing a fund via a co-investment obligation, but would also mean that the diligence requirements would land on future generations–not necessarily the ones that chose to make this co-investment choice.

Pros:

- Greater attention to, impact generated, and learnings from diligence
- Ability to apply more agency to specific deals (i.e., not just an index)

Cons:

- Capital calls and other legal/logistical burdens could still require constant management of the SIF portfolio at times when student Principals would otherwise be disengaged

4) Becoming a minor LP in a dedicated fund

Similar to options 2 and 3, the LP route could allow SIF to participate in the higher-upside potential of private markets where so much of the climate- and social-related venture development is taking place. However, it would limit SIF's involvement to a bystander, simply responsible for executing on its capital calls, with no diligence rights. This would be an easier option logistically, though would potentially preclude much of the learning that could come with a private investment strategy.

Pros:

- Only responsible for capital calls
- Much lower operational burden

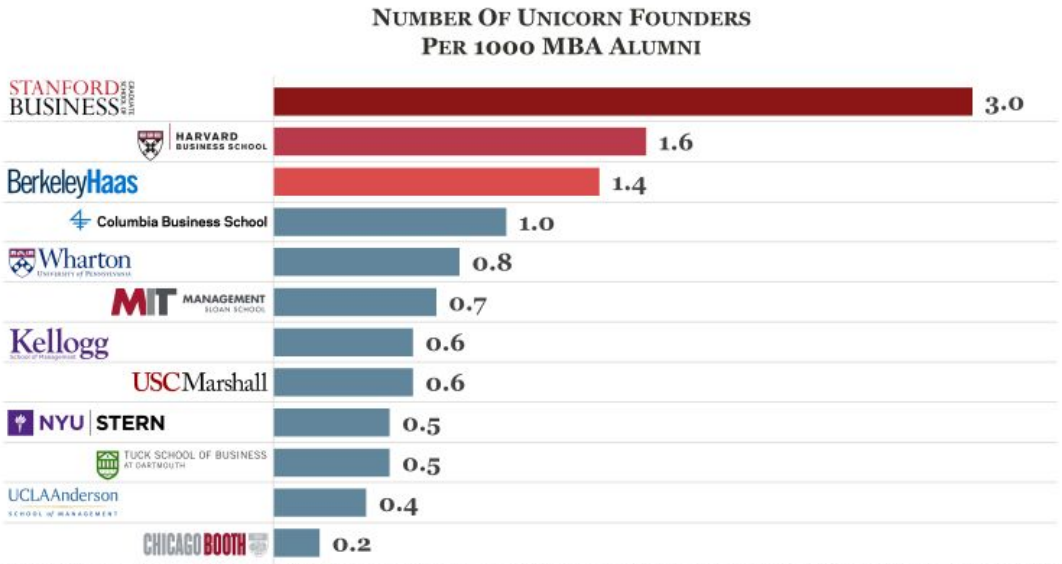
Cons:

- Minima learning and process impact due to low involvement of the life cycle
- Capital calls could still require constant management of the SIF portfolio at times when student Principals could otherwise be disengaged (during off-season)

5) Establish an internal venture index fund

The last option explored here is one that is increasingly common within MBA programs and similar institutions. SIF could raise a dedicated fund from fellow students, receiving a multitude (several hundred) commitments of between $5-$50K to create a venture pool dedicated to supporting peers. Stanford GSB students have independently executed this strategy in the Class

of 2020 and the Class of 2021, the latest of which operates as "The 21 Fund".[12] The obligations of the fund are to take a small (often ~5%) portion of Seed or Series A rounds into startup ventures founded by individuals in the same class, so long as the venture raises above a certain threshold and has a "named" investor on the round (i.e., a qualified round for funding from The 21 Fund cannot be a purely 'friends and family' round or purely angels). Similar funds have a single digit number of GPs within the class, several hundred LPs composed of peers, and an operational team of approximately a dozen individuals within the same class to manage the long-tail of operations and logistics such as capital calls.



Pros:

- Taking part in and supporting peers' ESG ventures
- Deployment of capital in peer funds has been fast (fully deployed often in less than a year)
- Given the qualifications each investment needs and the filtration on a strong Haas start-up community, returns could prove quite strong
- Index approach requires little diligence
- Fundraising could be a good networking and learning opportunity for managers

Cons:

- Logistical, legal, and operational costs still exist
    - Two separate fundraising pipelines could be hard to streamline/oversee

[12] https://www.gsb21fund.com/

(Partnership and the Fund)

- Partnership - operational overhead and managed by third party (similar to Aperio services to our current structure)
- Fund I, II, and so on - portfolio construction

- Fundraising can be a time consuming process
- Long term fund management is still required

RECOMMENDATION

The recommendation from the team is precludes the following:

Establish an internal venture index fund

SIF could be very well positioned to become the GPs for such an operation as well as potentially the operational group, or at least the organization in charge of creating one. The index nature of the fund means diligence is limited to making sure investments meet the qualification rules, and in the case of SIF would likely come with the added threshold of each potential target having a meaningful environmental, social, governance, or other requisite impact. Some hurdles still exist, such as setting up the fund in a way that individual student LPs can be designated as "qualified investors" for legal reasons, but with the success of peer funds and strong connections to the individuals who managed these processes give SIF an inside route toward mirroring this success.

It is possible that Berkeley Haas is particularly well suited to this approach given its strong student track record of over-indexing on the ratio of unicorn founders per 1,000 students. According to metrics calculated by Professor Ilya Strebuleav of Stanford, Berkeley Haas produces 1.4 unicorn founders per 1,000 students–third behind Stanford GSB and Harvard Business School, and well ahead of its peers.[13]

Appendix 6: 2022 ESG Data Report

[13] Professor Ilya Strebuleav, Venture Capital Initiative, Stanford Graduate School of Business (October, 2021)

Haas Sustainable Investment Fund
Portfolio ESG Report
2021-2022

Company	Emissions (metric tons CO2 equivalents)				Gender Diversity (% women)		Impact or Sustainability Report
	Scope 1	*Scope 2*	*Scope 3*	*Total*	*Board*	*Executive Leadership*	
American Water Works (AWK)	64,429	480,682	not reported	545,111	60%	50%	yes
Borg Warner (BWA)	57,596	284,924	not reported	342,520	22%	23%	yes
Equinix (EQIX)	50,700	2,307,600	not reported	2,358,300	33%	17%	yes (2020)
Comfort Systems (FIX)	not reported	not reported	not reported	26,529	20%	33%	yes (2020)
Hannon Armstrong (HASI)	0	0	178	178	33%	17%	yes
Progyny (PGNY)	not reported	not reported	not reported	not reported	30%	43%	yes
Ping Identity (PING)	not reported	not reported	not reported	not reported	20%	14%	no
Prologis (PLD)	3,214	627	3,760,000	3,763,841	27%	13%	yes (2020)
Thor Industries (THO)	48,029	49,161	not reported	97,190	30%	17%	yes
Tyler Technologies (TYL)	1,735	5,891	9,189	16,815	25%	27%	yes
Weyerhaeuser (WY)	1,000,000		6,000,000	7,000,000	44%	43%	yes
Stem Inc (STEM)	not reported	not reported	not reported	not reported	38%	13%	no
Hudson Technologies (HDSN)	not reported	not reported	not reported	not reported	0%	25%	no
Nubank (NU) (1)	45	119	4,724	4,888	33%	13%	yes
Afya LTD (AFYA)	1,136	394	133	1,663	18%	29%	yes (2020)
Portfolio	**1,226,884**	**3,129,398**	**9,774,224**	**14,157,035**			

Notes

1 In September 2020, Nubank offset all 9,880 tons of carbon emitted globally since being founded in 2013