Rebsamen investment fund integration in finance education

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Received 30 January 2019
Revised 30 January 2019
Accepted 19 April 2019

Abstract

Purpose – The purpose of this paper is to describe lessons learned from integrating student-managed investment funds (SMIFs) in finance education systems based on the case of the Raymond Rebsamen Investment Fund at the Sam M. Walton College of Business, University of Arkansas.

Design/methodology/approach – The paper has three main parts. First, it describes how the Rebsamen Fund operates as an integral part of undergraduate and graduate finance education at the Walton College. Second, it explains how the Fund spawned creation of sister funds, an institute, a 62-seat trading center, and coordinates with other agencies and stakeholders. Third, it lists strengths, weaknesses, opportunities and threats facing future SMIF integration into finance education.

Findings – The use of innovative experiential learning solutions like SMIFs bridging theory and practice can be enhanced by integrating them into effective systems of finance education.

Practical implications – Lessons learned include benefits of SMIF management by class, licensing and professional certification, trading centers, use of SMIF finances to support other components of education, proliferation of SMIFs, SMIF stimulation of academic units like centers/institutes, SMIF facilitation of collaboration, importance of tying SMIFs to student finance clubs, coordination of industry speaker visits between SMIF classes and clubs, and use of SMIFs in addressing cutting-edge challenges.

Originality/value – This paper discusses how SMIFs can be integrated in finance education.

Keywords Students, Energy, Investment funds, Business education, Education, Risk

Paper type Case study

1. Introduction

This paper discusses how student-managed investment funds (SMIFs) can be integrated into finance education by drawing on the case of the Raymond Rebsamen Investment Fund, Sam M. Walton College of Business, University of Arkansas. The Rebsamen Fund is the ninth oldest SMIF which, together with sister funds, forms the seventh largest SMIF complex in assets under management, at $12.13m. It is innovative and industry-driven, making it ideal for a case study on SMIF integration in education.

The paper is in three main parts. First, it describes how the Rebsamen Fund emerged as an integrated component in finance education. Second, it explains how and why the Fund spawned sister funds, a finance teaching and research institute, and the 62-seat Global Financial Markets Trading Center. Third, it lists strengths, weaknesses, opportunities and threats facing future SMIF integration in finance education.

Lessons can be learned from the experience of the Rebsamen Fund. Portfolio management classes are effective in teaching students how to manage investment portfolios and develop initiative, communication, leadership, and analytical skills. SMIF students can be encouraged to participate in licensing and professional certification programs. SMIFs often lead to trading centers as ideal locations for teaching investments. They can help fund other components of finance education, such as scholarships, off-campus company visits, SMIF competition participation and databases. SMIFs inspire additional SMIFs. SMIFs attract industry interest that leads to creation of additional units, such as Institutes or Centers. They facilitate collaboration between college, university, and outside stakeholders. SMIFs can be integrated with finance clubs to communicate career opportunities. Visits by industry speakers to

Managerial Finance
Vol. 46 No. 4, 2020
pp. 565-575
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0307-4358
DOI 10.1108/MF-01-2019-0053

the College are effective when coordinated between SMIF classes and the Finance Club. SMIFs facilitate education regarding cutting-edge challenges, like industry-specific needs, innovation and technology.

2. Literature review

The SMIF development literature tells us seven SMIFs existed before 1970 (Lawrence, 1990, 2008). The first SMIF was created at Lafayette College in Easton, PA, in 1950. Later SMIFs were created at Duke University (1952), University of North Carolina – Chapel Hill (1952), Gannon University (1952), College of Wooster (1955), Bluffton University (1956), Northwestern University (1964) and University of Wisconsin (1970) (Lawrence, 1990). Lawrence (2008) attributes post-1970 growth in number and size of SMIFs to a business school trend toward greater focus on applied education. This trend included the adoption of co-op programs, industry internships, guest speakers, and field trips. Advances in computer technology enabled paper-money investing, but SMIFs grew in number and size to give students a realistic experience. The Rebsamen Fund at the College of Business, University of Arkansas, was created in 1971 as the ninth SMIF.

Experiential learning helps students acquire knowledge via hands-on experience, simulation, guest speakers and team building. Macy (2010) suggests SMIFs provide tangible teaching tools and proof of learning. Payne and Tanner (2011) state experimental learning opportunities in finance greatly enhance job placement and student satisfaction. Gradisher *et al.* (2016) say SMIFs help students enhance resumes, promote schools and facilitate networking. Macy (2010), Luthy and Hafele (2013), Saunders (2015), Brau *et al.* (2015) and Charlton *et al.* (2015) suggest SMIFs enhance student understanding of personal finance, financial decision making and prepare them for career success.

Literature covering special topics related to SMIFs include Gradisher *et al.* (2016), who examine the Uniform Prudent Management Institutional Funds Act and the Investment Advisers act of 1940 to test whether SMIF structure affects liability of students, advisors, and colleges/universities. They recommend SMIFs be taught for student academic credit under supervision of experienced faculty. Bowers and Lavin (2012) develop a stock valuation tool for SMIFs. Clinebell (2013) discusses trends in social investing and suggests social investing be included in SMIFs. Benefits associated with experimental learning are widely viewed as positive in the marketplace. Donaldson *et al.* (2011) describe sorting methods used for security selection and portfolio construction at the University of Tampa. Gradisher *et al.* (2016) focus on fiduciary and legal considerations for SMIFs and suggest alternate ways of funding.

3. The Rebsamen Fund and integrated finance education

The Raymond Rebsamen Investment Trust and associated Investment Fund exist as a result of a Trust Agreement, signed March 15, 1971. This agreement is between the Rebsamen Foundation (an Arkansas tax-exempt non-profit) as Grantor and the Dean of the College of Business Administration. It was entered with consent of the Board of Trustees of the University of Arkansas. It appoints the Dean of the College of Business Trustee and empowers him/her to select two additional co-Trustees who are full-time College members. The Trust is perpetual.

Initial funding for the Rebsamen Trust Estate was $100,000 in cash. The Agreement provides for creation of a Trust Estate to "[…]provide highly qualified students of the School of Business Administration of the University of Arkansas with an opportunity to put into practice the principles they have learned, and are learning, in their studies." It states that the Trust Estate is "[…]to be used by students as an adjunct to their courses of instruction in business and finance so that they may obtain knowledge and experience in security portfolio management[…][and] contribute to students' educational development […]." Investments are decided by "[…]those participating in an investment seminar offered as part of the regular curriculum of the College[…].” The Agreement authorizes seminar students to “take the responsibility for investment decisions,” including buying, selling and converting positions, subject to approval by two Trustees.

Flexibility in the use of fund assets is a benefit of the Trust structure that facilitates integration of SMIFs into finance education programs. Under the Agreement, income and capital of the Trust Estate can be applied to management expenses, brokerage fees and other costs (e.g. taxes and sales charges) associated with securities transactions. It empowers Trustees to authorize spending on advisory services, student and faculty travel, and need-based scholarships. Trustees cannot spend Trust assets on salaries or compensation to students or faculty for services.

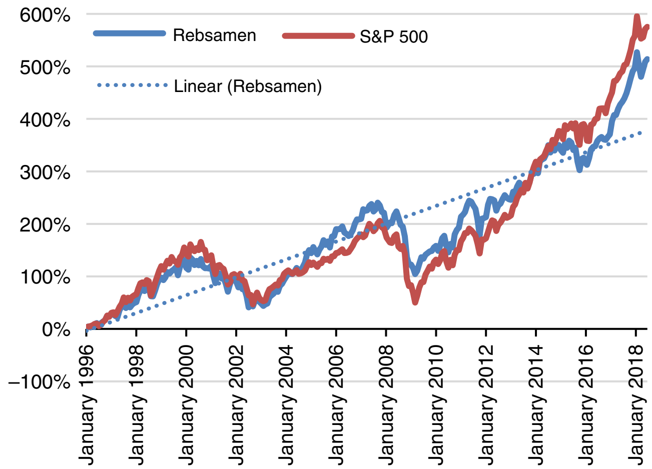
Restrictions on how SMIF resources can be invested are a disadvantage of the Trust that limits its effectiveness. The Trust Agreement states investments will be interest-bearing bank accounts, CDs, US obligations, common and preferred stocks, mutual funds, investment trusts, partnerships, notes, debentures, and corporate and government bonds. It states that the Fund does not have to be fully invested, and some funds can be in non-interest-bearing checking accounts to pay expenses or invest. It states that all investments must be listed on major stock exchanges or in the OTC market, and that the Fund does not have to adhere to the prudent man rule or have its investments be limited to those normally open to trust funds owing to the educational nature of the Fund. SMIF faculty and Rebsamen Trust Trustees interpret these restrictions as effective prohibitions against futures trading (especially commodities and foreign exchange), and possibly to private equity, venture capital and cryptocurrency.

Mitigating these restrictions, the Trust Agreement provides for amendment and places no restrictions on formation of other SMIFs. The Agreement was already amended in the early 2000s by the Board of Directors of the Rebsamen Foundation to permit students to invest in options and exchange traded funds (ETFs) under Trustee supervision. Subsequent SMIFs were organized as parts of the University of Arkansas Foundation at the cost of subjecting them to Foundation rules such as a prohibition against investing in leveraged ETFs. The current Trust prohibition against commodities and private securities is something that SMIF leadership would like to change.

The investment seminar mentioned in the Trust Agreement is known as “the Portfolio Management Class,” aka “Portfolio Class,” “Portfolio” or “Class.” Since its inception in 1971, this Class emphasized student initiative, fundamental research and risk management. The Class is a senior-level three-credit hour course in the fall and another three-credit hour course in the spring.

The Class typically starts with nomination and selection of a Portfolio Manager (team leader) and Deputy Portfolio Manager (second-in-command). A Fund Economist is selected (often an Economics major), along with Regional Economists (e.g. for Asia ex-China and Japan, North-America ex-USA, Europe, UK, China, Japan, Latin America, etc.). Students are assigned primary duties as Global Industry Classification Standard (GICS) Sector analysts. Specifically, each student picks or is assigned one of the GICS sectors: communications, information technology, health care, financials, consumer discretionary, consumer staples, energy, real estate, utilities, materials and telecommunications. Sector teams report on their sectors, perform individual company analysis, build company financial models, and report and propose trades. Students are also assigned secondary duties, such as Portfolio Manager/Deputy Manager, Economist, VP Compliance, VP Risk Management, VP Social Coordination, etc.

The investment objective of the Rebsamen Student Investment Fund is to generate higher total returns than those of the S&P 500 without taking on as much risk as the S&P 500, where risk is measured as the standard deviation of total inflation-adjusted and risk-free rate adjusted returns, in US$. Students sometimes beat their benchmarks. Cumulative total returns for the Rebsamen Trust vs the S&P 500 are shown in Figure 1.



Note: Percent cumulative total returns in US dollars for January 1996–June 2018 for the Rebsamen Trust and S&P 500 are shown, with the S&P 500 outperforming toward the end

Figure 1.
Cumulative total returns for the Rebsamen Trust and the S&P 500

Students tend to take on less risk than that of the S&P 500. Market weights based on the S&P 500 are used as the starting place for sector weights in the portfolio, but sector weights can be adjusted by students to ±3–4 percent of current sector weights in the S&P 500.

Students assess the US and Global economies and estimate business cycle phases. They apply top-down asset allocation models using monthly total real returns less 30-day T-Bill rates on indexes representing proxies for risky asset classes. For strategic asset allocation modeling, students use all available data; for tactical, they pick three years forward of where they think they are in the current business cycle from similar points in prior business cycles. They calculate rolling annual geometric real returns net of T-bills, using mean, standard deviation and correlation coefficient estimates, construct variance-covariance matrices, impose constraints (e.g. no short sales and maximum/minimum percentage weights for each asset class) and apply mean variance optimization using the Excel Solver Add-in. Students construct strategic and tactical efficient frontiers in Excel to depict their indices and proxies for risky asset classes. They apply common sense in overriding pure historic data. They generate asset allocation targets based on a blended mix of strategic and tactical solutions.

For bottom-up security selection, students start their analysis with Bloomberg Professional by creating a list of all publicly traded stocks in their Sectors for the S&P 500, 400 and 600. They create sector reports to identify most and least promising industry groups and industries for long and short positions. Using screens, they select companies of interest in their sectors for detailed modeling. They download ten years' raw annual financial statement data for each company of interest from S&P Capital IQ. Students use income statements to create revenues worksheets, combine income statements with common sized and indexed income statements, repeat for balance sheets, copy cash flow statements, and list key ratios and peer firm ratios. Researching annual reports, 10Ks, analyst reports, investor relations pages, and graphing revenues and revenue components (segment and geographic revenues, etc.), students forecast the next three fiscal years of revenues (usually using compound annual growth rate where appropriate). Students use averages from common size income statements and balance sheets, supplemented with links between the income statement, balance sheet and cash flow statement, to fill in the rest of their pro forma income statements, balance sheets and cash flow statements. Students are taught to not just rely on point estimates but most-likely, best-case and worst-case forecast scenarios.

To value individual securities, students employ precedent transactions (where applicable) and multiples including Enterprise Value to EBITDA (good), Price to EBITDA (bad) and price to earnings (ugly). They construct discounted cash flow (DCF) models (seriously ugly, owing to the many assumptions necessary to construct DCF and the sensitivity of DCF valuation results to assumptions about growth rates and time periods). Students also value companies on free cash flows. They look to insider trading reported in Bloomberg's GPTR function to assess atypical buying/selling by insiders (hinting at good/bad news known by insiders that may or may not be public). They examine "Economic Value Added" using the WACC function in Bloomberg.

Key parts of the class also include field trips to visit companies in Little Rock, Tulsa, Bartlesville, Wichita, Dallas-Fort Worth, Houston, Chicago, New York and even Newport Beach, CA. The Rebsamen Trust supports student travel. Industry speakers are an important part of the Class. The Fund also sponsors "trading schools" run by alumni experienced in algorithmic trading.

Class deliverables include periodic course reports with disclaimers, letters from the manager, US and world economic and financial market forecasts, investor policy statements, asset allocation models, performance evaluation, sector report, and individual security reports. Students present pitches to faculty and industry participants for feedback.

The Rebsamen Fund and related Portfolio Class are not stand-alone entities but key components of an integrated finance education system. Figure 2 depicts the student flow chart for undergraduate business students leading to possible SMIF participation.

Students enter the Walton College to pursue a Bachelor of Science in Business Administration (BSBA). Influenced by their interests, family, education, networking, guest speakers, internships and company visits, they decide whether to pursue the Finance Major. If they select finance, they pick supporting majors (usually in accounting, data analysis, marketing or economics), courses (including required pre- and co-requisites for the Portfolio Class), area of concentration (typically financial management and investments, sometimes energy finance), supporting minors (often accounting), clubs (the Finance Club, the "Beta Alpha Psi" accounting club and/or "Club Economique"), networking, career-relevant internships, community and/or student government. Students strive to achieve the highest possible GPAs. These factors all play a role in competitive selection of students for the senior-level Portfolio Class. Some students also seek professional certifications, including the Chartered Financial Analyst (CFA®), Chartered Market Technician (CMT) and/or Global Association of Risk Professionals (GARP)'s Energy Risk Professional (ERP®) (for those focused on careers in or supporting oil, gas, or electricity).

The Finance Major is a four-year BSBA program with five concentrations: banking, energy finance, financial management and investment, insurance, and real Estate. Most students seeking SMIF participation are Financial Management and Investments. The first finance course forming part of the Financial Management and Investments concentration is a 3,000-level course in Principles of Finance taken during the Sophomore year. Finance courses taken in Junior and/or Senior year include Financial Analysis, Financial Modeling, Financial Markets and Institutions, International Finance and Finance Electives. If students take Portfolio Management I and II, they are required to take Intermediate Accounting I no later than the fall of their junior year, and Investments no later than the spring of their junior year. Many courses have pre- and co-requisites. The Energy Finance concentration also requires completion of five accounting courses (the Accounting Minor) and courses in Geology, the Geology Lab and Petroleum Geology.

Companies routinely tell faculty that students need to take more accounting. Most finance and accounting positions at large energy companies, for example, require candidates

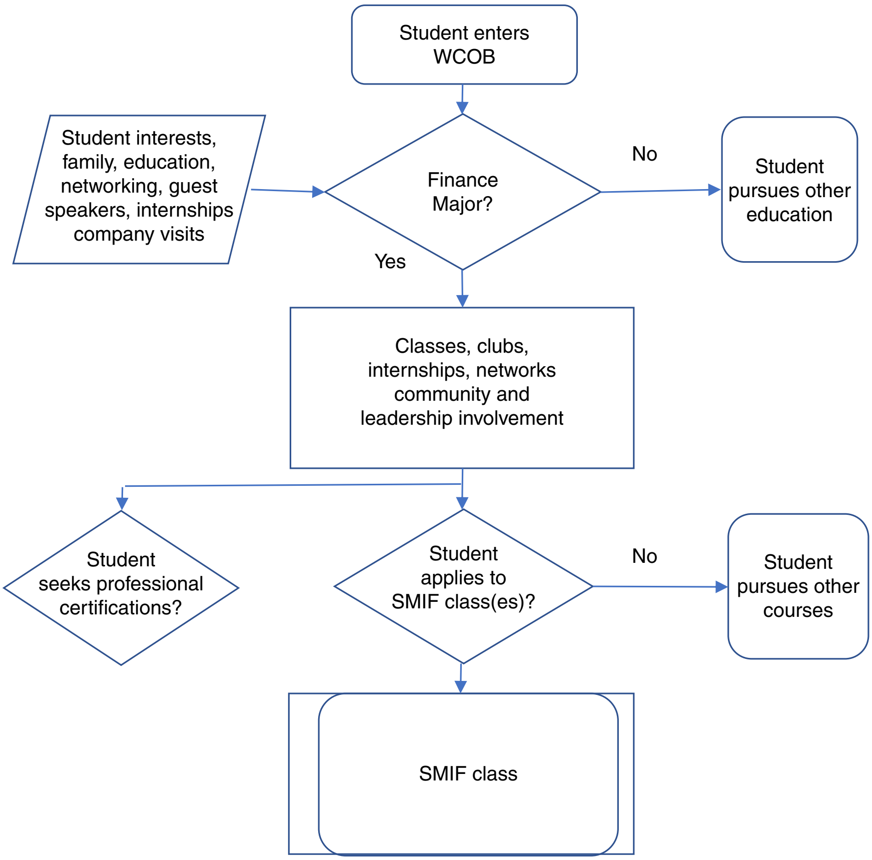


Figure 2. Sam M. Walton College of Business – Bachelor of Science in Business Administration (BSBA) student flow chart and SMIF integration with finance education

Notes: Student flow chart showing the process by which a new Sam M. Walton College of Business student seeking a Bachelor of Science in Business Administration (BSBA) decides whether to seek to participate in SMIF classes (i.e. Portfolio Management I and II for seniors and/or Fixed Income I and II for juniors/seniors). Decisions about supporting majors (usually accounting), areas of concentration, minors (again usually accounting), clubs (Finance, sometimes Beta Alpha Psi), involvement with internships/co-op programs, networking, community and leadership involvement, are all considered when competitively selecting students for SMIF participation. Professional certifications could help but are generally pursued by students after they are selected for SMIF classes

to complete four to five accounting classes by graduation. Students with double-majors in finance and accounting typically receive top offers. Double-majors also help students compete for selection for the Portfolio Class.

Industry requires internship experience, so the Portfolio Class does as well. Faculty and staff who instruct the Portfolio Class administer the Northwest Arkansas Coop Scholarship in Finance to further incentivize students to obtain career-relevant internship experience. Scholarships are $1,000 for each of fall and spring semesters, require internship work of 20–25 h per week, and can be used to obtain co-op credit if desired. Faculty teaches students how to network, clean up their resumes and put them in contact with local internship employers. Funding for this scholarship program is from the Rebsamen Fund.

In addition to helping fund internships and co-op through scholarships, the Rebsamen Fund provides other forms of support, including student visits to companies, software licenses and professional fees reimbursement.

4. SMIF growth and stakeholder coordination

The influence of the Rebsamen Fund and related Portfolio Class is reflected in the track record of student placements and success of graduates in industry. Students often intern and/or take full-time positions at leading companies like Walmart Stores Corp., Tyson Foods, Stephens Inc. Investment Bankers, Wells Fargo Securities, Wells Fargo Bank, Bank of America Merrill Lynch, ExxonMobil, Phillips 66, Koch Industries, Arvest Bank, Cerner, J.P. Morgan Chase, Goldman Sachs, Raymond James Financial, RBC Securities, Simmons First National Corporation, TIAA, Deloitte, Fisher Investments and USA Truck. Former Portfolio Class graduates have or currently serve in roles such as CEO or CIO of major regional banks, telecommunications companies or in senior roles at some of the largest corporations. Starting pay for graduates from the Portfolio Class often exceed $100,000 per year. Walton College students know this, contributing to what has been explosive growth in the Portfolio Class and finance. With more than 1,000 finance majors, finance is now the largest major at the University.

The success of the Rebsamen Fund inspired additional SMIFs. Sister funds include: the Shollmier Fund (a graduate version of the Rebsamen Fund, funded in two equal parts of $125,000); the "Arvest" Fixed Income Fund (where students advise Arvest Bank on the management of up to US$5m of bank capital); the "TNG Account" (funded by an outside entity with $250,000); the University of Arkansas Foundation Account (initially funded with up to $5,000,000, to be managed on behalf of the University of Arkansas Foundation); and the David Carter Adams Energy Sector Fund (funded by a gift of $50,000, then a second gift from a different donor of $25,000, and recently a third gift of $10,000 from the original donor). The "TNG Account" was recently collapsed on the passing of the original donor. A sixth fund, with an initial gift of $100,000, has already been approved. Fundraising for a seventh focused on student-managed private equity is about to start.

During a teleconference with the former PIMCO Co-CEO and Co-CIO and a subsequent Class visit to Newport Beach, CA, in 2011, it was suggested that one of the hottest growth areas in the USA would be energy. Similar suggestions from investment banks and large energy companies confirmed this. Finance Department faculty and GFI therefore created a new Energy Finance concentration and a one-semester Energy Finance and Risk Management Course starting 2016–2017.

By 2001, the class was taught in a seminar room that accommodated a maximum of 15 people with one Bloomberg Professional, two desktop computers and a land line. Trading floors were fast becoming standard in industry and university, so Rebsamen Trust associated faculty advocated for creation of a Trading Center. By 2005, the Global Financial Markets Trading Center was in place. It consists of one 62-student work station trading room, with seats facing front in a U-shaped pattern, overhead televisions in the center of the room, twin high-resolution projectors and scrolling tickers at the top of the front of the room, outside the room and near an entrance to the building. Two trading suites are behind the trading center. Groups of up to 25 students meet for smaller seminars, strategy meetings and research.

The Garrison Financial Institute was conceived in 2005, and fully operational by 2007. It was created as a "Finance Institute in the Finance Department to serve as the foundation and catalyst for development of a nationally competitive financial services industry in Arkansas." From inception, it was to serve as an integral part of the Finance Department, together with the Rebsamen Fund, Portfolio Class, subsequent SMIFs and Trading Center. GFI's vision is to advance financial education through research and practice. Its mission is: to enhance student learning and professional outcomes through experience; foster research that advances best practices; and contribute to the economic development of the state of Arkansas and the welfare of its citizens. GFI's strengths are its people, including an Advisory Board with 29 executives from Northwest Arkansas, Little Rock, New York, Chicago, Dallas, Tulsa, etc., access to Finance Department faculty and staff, support from the Finance Department, Corporate Relations and Career Center, students, and GFI faculty and staff. The Executive Director of GFI is a tenured Professor of Finance; the Managing Director is a tenured Associate Professor of Finance; and GFI was initially staffed with three full-time personnel (although this number was eventually reduced to one), all of whom held MBAs, two of whom had their CFAs and CMTs, and one of whom had a wealth of experience with State Street Bank.

GFI as an Institute within the Finance Department of the College of Business became an RIA. The TNG Account and University of Arkansas Foundation Account were created when GFI was an RIA. However, GFI's sudden rise to RIA prominence in the state attracted publicity (a good thing) but subsequent complaints from a local RIA who saw students as an unfair competitive threat (a bad thing) led to the decision to later cancel GFI's RIA status. The fact that part of GFI and its Trading Center were in a new building partially funded by municipal bonds did not help GFI's case. The TNG and Foundation accounts remained with GFI without being assessed fees but for the benefit of student experience.

GFI also recently initiated an internal unpaid financial analyst internship program to provide students initial career-relevant experience to help them land internships with local area businesses. This program employs up to a dozen students per semester, giving them experience in financial model building, portfolio management, financial software certification via resources in the trading center, and even introduces them to cryptocurrencies. Students who complete the internship are among the first to be hired for real world business internships.

The Rebsamen Fund and Portfolio class collaborates with college, university and outside stakeholders. College stakeholders include the Accounting and Supply Chain Departments (for twin majors/overlapping subject matter), Undergraduate Programs Office (for academic advising, course registration, and concentration and course approvals), the College Career Center, IT (for trading center support), College Accounting (for budget support), and Corporate Relations and the Career Center (sharing industry contacts and information).

University stakeholders include the Office of the Provost, Corporate Relations, Alumni Association, University Foundation, Libraries and Geology Department in Geosciences. The Provost's Office promulgates faculty guidelines ensuring students can attend off-campus company visits and guest speaker events sponsored by the College without penalty for missed classes. University Corporate Relations shares contacts and communicates information with College Corporate Relations and sometimes the Portfolio Class. The Alumni Association supports off-campus alumni events, particularly in Dallas-Fort Worth and New York, involving the Portfolio Class. Access to leading investment firms is facilitated by a connection between the Portfolio Class and the University of Arkansas Foundation that directly employs the services of leading investment firms in the management of its more than $1bn portfolio. University of Arkansas Libraries provides some of the resources used by the Portfolio Class, including Value Line and Standard and Poor's NetAdvantage. The Geology Department provides inter-collegiate support to the Energy Finance program by waiving many pre-requisites normally required for their 4,000-level Petroleum Geology course for business-related majors.

Outside stakeholders include regulatory authorities, companies and professional certification organizations. Regulatory stakeholders include the Arkansas Securities Department. The Arkansas Securities Department supported the Garrison Financial Institute's early efforts to become an RIA and actively participated in the "How Can I Afford Retirement" program offered through GFI in Little Rock and Northwest Arkansas, including a collaborative effort with Arkansas Educational Television. Many companies support the SMIF program, including some of the largest firms in consumer products, food manufacturing, supply chain, financial services, and oil and gas. Industry support also makes SMIF student travel possible. Professional certification programs supported by the SMIF program include the CFA®, CMT®, and the GARP's ERP®. Garrison Financial Institute became a partner with the CFA Institute, CMT Association and, through the Graduate School of Business GARP, with the ERP®. Partnership status provides scholarships for students. The Rebsamen Trust provides additional reimbursement for out-of-pocket expenses associated with student participation in these programs, conditional on students passing exams, while the students are in the College.

Other academic institutions provide indirect support by hosting symposia and SMIF competitions. Walton College Portfolio Class students won first place at New York University's Securities Competition in 2005 and third place in 2006. The largest SMIF competitions used to be at the annual RISE symposia in Dayton, Ohio (sponsored by the University of Dayton), but are now at the GAME symposia in New York (sponsored by Quinnipiac University). These symposia can have more than 1,500 students from 200 schools and 69 countries. Walton Portfolio Class students won the RISE IV SMIF competition for Undergraduate Hybrid Funds, RISE VIII for Graduate Hybrid Funds, in 2004 and 2008. They won GAME III and GAME IV for Graduate Hybrid then Graduate Value Funds in 2013–2014, and GAME VII and GAME VIII for Graduate Value and Graduate Growth Funds in 2017–2018. Students also competed in one of the National Investment Banking Competitions in Toronto, Canada. Costs of student travel and other participation costs for these symposia and competitions are covered by the Rebsamen Fund.

5. Future SMIF integration into effective finance education

Licensing and professional certification are important to the future integration of SMIFs in finance education systems. FINRA's new Securities Industry Exam (SIE) does not require FINRA member sponsors, so the Walton College will use its applied portfolio management classes to encourage and help prepare students to pass the SIE. The availability of reimbursement for fees from the Rebsamen Fund will also help encourage students to write the SIE while still in college. Investment banks have expressed interest in having prospective candidates for investment banking, private client group, and sales and trading take the SIE before graduation. However, new hires also need other licensing exams like the Series 7, and FINRA requires member sponsorship for most of these exams. An exception is the Series 3 National Commodities Futures Exam. Given growing interest in commodities (including energy) trading, an opportunity exists to support students for the Series 3. If students do not take these licensing exams, they will be at competitive disadvantage.

The CFA and CMT help prepare students for waivers for some FINRA Series exams. One of the strengths of the Walton College SMIF program is its partnership status with the CFA Institute, CMT Association and GARP for the ERP®. Partnership status comes with scholarships, networking opportunities, and study materials. Reimbursement from the Rebsamen Trust for out-of-pocket costs also helps. The College also offers a CFA Level 1 preparatory course, an Honors Colloquium that corresponds to CMT Level 1 curriculum, and the Energy Finance Course that aligns closely with the ERP®. One of the weaknesses facing these programs is the difficulty of enticing students to invest the time necessary for these programs. One opportunity for the Walton College is to incorporate more CFA and CMT curriculum into applied portfolio management classes. Another is to expand offerings to include the Certified Financial Planner and GARP's Financial Risk Manag. Students take certification exams to compete.

The future integration of SMIF programs into finance education will likely be accompanied by proliferation of SMIFs. One strength of the Walton College is that the original Rebsamen Fund has been supplemented by adding sister funds, including the Shollmier Fund specific to graduate student needs (i.e. emphasizing ETFs and mutual funds), the Arvest Fixed Income

Fund focused on bonds and the David Carter Adams Energy Sector Fund focused on the energy sector. One challenge is that expanded offerings require additional faculty resources and the need to prioritize. Opportunities include possible creation of venture capital funds, cryptocurrency funds, and private equity. Colleges that do not proliferate SMIFs put their students at potential disadvantage.

Trading and effective risk management represents another area that will probably be increasingly important to the future of SMIF integration into effective finance education. The Walton College's increasing involvement in teaching trading and risk management using CMT curriculum supported by TD Ameritrade's Thinkorswim platform and trading sessions taught by industry experienced alumni are a strength. College SMIF program weaknesses include limited faculty resources. Opportunities for growth in teaching technical analysis and trading are significant as few schools teach them, even though there is substantial demand for students from such programs, particularly among merchant banks and commodities trading firms in Asia, Europe, the Americas, not to mention foreign exchange markets like London, Tokyo and Philadelphia. The threat facing colleges that do not teach technical analysis is that their SMIFs will likely underperform in down markets, and that they effectively self-select students out of potentially lucrative portions of the financial services industry.

Machine learning (ML) is a rapidly growing area in advanced portfolio risk management. The opportunity for students to place and succeed in financial services, energy and other trading, and hedge funds is significant. The threat is that inaction will result in missed opportunity. Application of ML techniques to SMIF management will likely be essential to the success of future SMIF performance as well as integration of SMIFS into effective finance education systems.

6. Discussion and conclusion

This case study focuses on the Raymond Rebsamen Investment Fund at the Sam M. Walton College of Business, University of Arkansas, to discuss how SMIFs can be integrated into advanced finance education. The paper describes how the Rebsamen Fund operates as an integrated component of undergraduate and graduate finance education. It discusses how the Fund fits with primary and secondary majors, concentrations and minors, pre- and co-requisites, clubs, internships and co-op programs, student travel and industry speakers. It explains how and why the Fund helped inspire creation of additional funds, GFI and the 62-seat Global Financial Markets Trading Center. It shows how the Fund collaborates with other stakeholders of the college at the college, university, regulatory and industry levels. It lists opportunities and challenges facing future SMIF integration in finance education, including licensing and professional certification, SMIF proliferation (including perceived need for more sector, private equity, venture capital/cryptocurrency funds), trading and risk management, and artificial intelligence and ML.

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