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How To Develop Successful and Ethical Investment Analysts: Marquette University’s Applied Investment Management Program

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# Abstract

## Purpose

The purpose of this paper is to suggest best practices for managing a successful student-managed investment program (SMIP) based on the experience of the Marquette University’s Applied Investment Management (AIM) program.

## Design/methodology/approach

The authors provide a detailed description of the program curriculum, instructional design, fund structure, program history, fund performance and student outcomes.

## Findings

Through its experiential learning innovations, focus on ethics and close relationships with a dedicated alumni group, the AIM program prepares students for a successful career in investment analysis. Students who graduate from the AIM program experience a significantly higher successful placement rate and higher compensation at their first post-graduation job than finance major students who graduate outside the program.

## Originality/value

This paper provides a detailed description of the distinguishing characteristics of the AIM program and, in doing so, it offers ideas that could be implemented by other SMIPs to improve student satisfaction, proficiency in investment analysis and employment prospects.

# Keywords

[Financial education](https://www.emerald.com/insight/search?q=Financial+education), [Student-managed investment funds (SMIF)](https://www.emerald.com/insight/search?q=Student-managed+investment+funds+%28SMIF%29), [Investment ethics](https://www.emerald.com/insight/search?q=Investment+ethics), [Student-managed investment programs (SMIP)](https://www.emerald.com/insight/search?q=Student-managed+investment+programs+%28SMIP%29)

# 1. Introduction

Even though the educational model of “learning by doing” in modern higher education can be traced back to Dewey (1938), experiential learning (or applied learning) has only recently become widespread (McCarthy, 2010). Business schools understand the importance of providing experiential learning opportunities to their students to best prepare them for the job market (Clark and White, 2010). However, many of the applied learning components offered by universities, such as shadow programs and internships, are not directly linked to the academic concepts and theory taught in the classroom. As a result, students occasionally struggle to clearly see the connection between what is learned in the classroom and what is observed in the business world (Knouse and Fontenot, 2011). Student-managed investment funds (SMIFs) avoid this pitfall as they allow students to directly apply finance, accounting and economics concepts by making real investment decisions with direct and observable results (i.e. Neely and Cooley, 2004; Lawrence, 2008; Dolan and Stevens, 2010; Ammerman *et al.*, 2011). SMIFs are highly effective at developing communication, leadership, presentation and interpersonal skills (Lamb *et al.*, 2015; Charlton *et al.*, 2015; Clinebell and Murphy, 2016).

In this paper we focus on the Applied Investment Management (AIM) program at Marquette University. Structured differently than most other SMIFs, the AIM program is a fullfledged student-managed investment program (SMIPs) with a curriculum that is distinct from the traditional finance major. Following a rigorous application process, which includes interviews with faculty and alumni, a handful of students are selected into the program every year. Program participants take tailored courses in investment analysis, participate to fund investment decisions, frequently pitch their stock selections in front of professionals and participate in selective investment analysis and investment banking internships made available through a dedicated AIM-specific professional network. Therefore, the experiential learning experience offered by the AIM program is holistic, fully blending theory with practice and preparing students for a successful career in finance.

The AIM program has been a pioneer among undergraduate student-managed programs and funds through innovations that have later been implemented by other universities. For instance, the AIM program was the first undergraduate program to become a CFA® partner, as well as the first to introduce an international equity fund and an ETF-centric fixed income fund (Dewally and Krause, 2009). In this paper we discuss these innovations along with other unique characteristics of the program such as its focus on investment ethics, weekly professional stock presentations to the investment community, full social media integration and an extensive use of executive co-teachers who complement the theoretical knowledge of the tenure-track faculty with professional applications in emerging financial technologies and data analytics.

The remainder of the paper is organized as follows. Section 2 presents an in-depth discussion of the AIM program, including its curriculum and instructional design. Section 3 focuses on the investment funds managed by the AIM students. Section 4 provides a brief chronology of the AIM program. Section 5 discusses the fund performance and student outcomes. Section 6 concludes.

# 2. The Applied Investment Management program and Marquette University

Since its inception in 2005, the mission of the AIM program has been guided by Marquette University’s Jesuit values. The AIM program seeks to provide undergraduate students with the opportunity to integrate financial principles, along with relevant internships and investment experiences, with the goal of developing proficient and ethical investment analysts.

The instructional format of the program is designed to actively support the students’ ability to acquire knowledge and to successfully apply it – while at the same time developing future financial leaders ethically for the lasting benefit of society at large. The program’s mission is accomplished through an experiential learning process which enables students to master applied data analysis, develop problem solving skills, conduct investment research and become effective communicators.

Students in the program attend AIM courses and perform their securities research in a dedicated high-tech research room. The AIM research room includes 28 workstations with dual monitors, similar to the configuration of an investment firm’s research space. The classes are taught in the room and the students have room access seven days a week for nearly 20 h per day. Students have access to a multitude of investment research platforms and databases including: Bloomberg, FactSet, Morningstar Direct, Thomson One, WRDS (Wharton Research Data Services), Compustat Capital IQ, Business Insights Essentials, Hoover’s and private company reports (via LexisNexis). The AIM research room is equipped with two large financial digital signage screens, numerous televisions, displays, digital whiteboards and video displays. Each Friday afternoon, students present stocks in the AIM room before their peers, faculty and alumni. The presentations are live-streamed via web camera and viewers can interact through instant messaging and Twitter feeds which are displayed real-time during the students’ presentations.

In 2006, the AIM program was the first undergraduate business program selected as a University Program Partner by the Chartered Financial Analysts (CFA)® Institute. The partnership designation was awarded based on offering a degree program that covers at least 70 percent of the CFA® Institute’s Core Body of Knowledge and embraces the Institute’s Code of Ethics and Standards of Professional Conduct. Recognition as a CFA® Institute’s University Affiliation Program signals to prospective students and employers that the program’s curriculum is closely tied to the practice of investment management and is supportive to students preparing for the CFA® exams.

## 2.1 AIM program curriculum

The AIM curriculum is rich with applied learning activities that provide students with practical and valuable experiences which enhance the theory and skills taught in the classroom. These activities consist of student-managed equity and fixed income portfolios, a state-of-the art professionally equipped research room, high-profile executive co-teachers and guest lecturers, mentors, site-visits, academic competitions and Summer internships. The curriculum makes extensive use of the CFA Institute’s Core Body of Knowledge®. Wherever possible, CFA texts and supporting materials are utilized as the primary sources of the program’s coursework to help prepare students to successfully undertake the rigorous CFA® Level 1 exam.

In addition to taking three required finance courses and a minimum of four accounting courses, students in the AIM program are required to complete four unique courses: Introduction to AIM; Financial Analysis and Valuation; Portfolio Management and Current Investment Topics; and Sustainable Finance and Investment Ethics.

In “Introduction to AIM,” the first required AIM course, students study securities law, regulatory issues and the basic elements of the investment research process. They learn how to access and utilize a variety of information sources to support investment research. The second course “Financial Analysis and Valuation” provides students with in-depth knowledge of the various approaches to fundamental investment research and valuation, including exposure to different investment strategies and styles. Students learn to apply key investment tools, quantitative research methods, economic relationships and financial statement analysis – while also beginning to manage the AIM equity and fixed income portfolios. A lecture series is included where investment practitioners discuss their investment philosophies, strategies and experiences. “Portfolio Management and Current Investment Topics” focuses on the evaluation of financial assets from the portfolio manager’s perspective. The course includes performance measurement, asset allocation, factor analysis and the elements of the portfolio management process. Students manage the AIM portfolios and prepare professional performance reports that are present to Marquette University’s administration and alumni. Current investment topics include advances in behavioral finance, data analytics and blockchain technology. The final course “Sustainable Finance and Investment Ethics” is focused on socially responsible investment topics. The objective is to make students aware of the role and importance of making sound ethical and socially responsible decisions. Students acquire a thorough understanding of the Chartered Financial Analyst® professional standards of conduct in the application of ethics to the moral dimensions of money management. The course covers environmental, social and governance factors and investor activism.

## 2.2 AIM program instructional design

Students benefit from the learning process which includes a combination of interactive classroom discussions and hands-on financial analysis. Class meetings usually start by discussing the relevant news of the day as it relates to the course content and the portfolio holdings to help students to see the connection between the material they are learning and its applications. The AIM program pedagogy is tailored for today’s young adults’ learning processes, which is vastly different than previous generations and one that requires a more immediate connection between the subject matter and how it relates to the real world.

In their lesson, the AIM faculty strives to include examples of how the course content is relevant and encourages students to offer their own observations. Class discussions require students to explore subject material at a deeper level and to question each other’s assumptions and conclusions. While open discussions can at times veer off course, as they progress through the curriculum students become successful at working back to the core concept of the general topic. In many of the AIM classes instructors act more as facilitators who guide discussions in a Socratic manner rather than traditional lecturers.

Experiential learning is at the core of the AIM program. Initially, our students are uncomfortable being asked questions by their peers during their investment presentations; however, they evolve and ultimately embrace the Aristotelian approach of “learning by doing.” The program makes also extensive use of professionals within the classroom to enhance the learning experience and to provide different opinions and approaches to complement the content delivered by the full-time faculty.

Over the past several years the program has begun to employ the “flipped classroom” instructional strategy of delivering some of the lectures online. In several courses, students watch online video lectures stored in our learning management system or within our own massive open online course, collaborate in online discussions and carry out independent research projects. Students are encouraged to offer questions and provide immediate feedback to their peers during AIM presentations via Twitter and other social media. Student presentations are also webcasted live to alumni, investment professionals and students’ families – with the opportunity for them to provide feedback via instant messaging. Course delivery methods in the AIM program are continuously updated to reflect technological innovations in higher education.

To keep the curriculum current and interactive, the AIM program makes extensive use of guest lecturers. Bringing into the classroom financial analysts and portfolio managers with proven expertise in specific topics adds a practical dimension to the course content and provides students with alternative points of view that complement the course curriculum. Throughout their time in the AIM program, students have also an opportunity to meet and interview corporate-level executives of publicly traded firms in a forum similar to an analyst meeting. During these interactions with corporate insiders, students are mindful of securities laws, including Regulation Fair Disclosure (Reg FD) which was introduced by the US Securities and Exchange Commission in 2000 in an effort to abolish selective disclosure practices and to level the playing field for investors. As Reg FD increases public companies’ financial communication responsibilities, students managing investment funds are affected by it.

Recently the program has also adopted an executive co-teacher instructional approach through which professionals with expertise in specific areas are hired to teach a two or three-week module inside an existing course. This new instructional design is particularly effective to nimbly adjust the curriculum to rapid changes in the final industry caused by emerging finance technologies. For example, two co-executive teachers collaborated on the Spring 2018 “Portfolio Management and Current Investment Topics” course: the CEO and founder of a start-up Fintech company that introduced students to blockchain in financial services firms, and the research director of an international investment management firm who provided students with a primer on big data analytics and the R programming language.

AIM students take also field trips to major financial centers, such as New York City and Chicago. These trips primarily serve as real-world teaching laboratories. Students visit investment banks, hedge funds and private equity firms to experience the work environment, hear from experts who discuss their current projects and tasks, and to network with alumni and supporters of the program for possible internships or full-time positions.

# 3. Funds characteristics and strategies

## 3.1 Equity funds

Each AIM student is assigned to be an analyst on either the small-cap equity or international equity fund and is also assigned to be an analyst for one of the 11 GICS sectors. Large sector might be assigned to up to three students. Students are expected to perform a thorough fundamental analysis and valuation of at least two new potential holdings within their sector each semester.

Presently the students employ traditional bottom–up fundamental equity analysis. Students are expected to offer at least three drivers to support their buy recommendation and they are expected to estimate share valuation based on at least three methodologies (i.e. discounted cash flow, discounted dividend models, relative valuation techniques, excess return models, private market valuations). Currently there is no explicit bias toward value or growth equities – and while factor analysis is employed in evaluating performance, there is not specific factor bias.

Following their thorough fundamental analysis, the students prepare a three-page report that is distributed to the AIM students, finance and accounting faculty, alumni and interested investment professionals. All the equity write-ups are also posted on the AIM website at www.marquette.edu/business/applied-investment-management/student-equity-writeups.php

The students are then required to orally present (i.e. pitch) their recommendation without the support of PowerPoint or other props. The average number of attendees in-person and online is 50. Students have 7 min to make their case which includes a brief overview of the company and management; industry and peer comparisons; discussion of valuation techniques employed; a summary of the key drivers and a review of the relevant risks. Following the oral presentation, the students face 8 min of question and answer from the members of the audience – as well as from online viewers (either via instant messaging or Twitter).

The students are given until Sunday morning to prepare short responses to follow up on questions raised during their presentations. After that the students make a formal buy and sell recommendation which is put to a secret ballot. Students are given 24 h to process the recommendation, re-read the write-ups and evaluate the buy and sell recommendations. Buy and sell decisions require an affirmative vote of at least a super majority (two-thirds) of the voting student managers. At the end of the Spring semester, the outgoing senior class of AIM students prepares a formal annual report and presents it to Marquette’s Chief Investment Officer, Administration, faculty, alumni and students.

It is important to notice that the program requires students to run the AIM funds in the same way as real investment companies operate. Students must abide to the bylaws set in the investment policy statement that requires students to run the funds as fiduciaries, rather than mere hobbyists. Our students closely adhere to our investment policy statement and operate within our benchmark to ensure that any excess return is the result of skill rather than gaming the benchmark[1].

Through the guidance of the program director, faculty and investment professionals, our students apply the knowledge provided by financial research in asset pricing, behavioral finance, agency costs, market efficiency and incorporate it into their analysis, portfolio management techniques and recommendations. We require extensive screening, financial modeling, professional write-ups and oral presentations and the ability to answer questions on-the-fly.

Presentations are performed without props. These requirements, which are part of the student’s grade, differentiate the AIM program and fund management from other SMIPs. SMIPs in most other universities only require one semester-long equity analysis and one presentation at the end of the semester.

## 3.2 Fixed income fund

Fixed income decisions are made by using a top–down approach. Because the fund consists of ETFs, students do not evaluate individual fixed income securities as to whether they are under or overvalued. Instead, students prepare a macro-level forecast of the US economy – including quarterly forecasts of short and long-term treasury rates, the yield curve, credit spreads and expectations about the Federal Reserve monetary policy. Following a series of secret votes, a consensus is reached regarding the economic forecast and students then develop various fixed income asset allocation scenarios. Following modeling various allocations, students discuss their options and finally hold a secret vote to determine the asset allocations among treasury, agency, corporate (investment grade and high yield), mortgage backed, international, inflation-adjusted and floating rate holdings. The vote determines the changes that need to be made to the portfolio to achieve the desired duration and allocation exposure.

This team-based consensus decisional model differentiates the AIM program from other SMIF in which a few student managers make executive decisions for the entire student team (e.g. Charlton *et al.*, 2015). Our model encourages team-work, develop persuasion skills and allow all the students in the program to grow and learn at the same rate. This model is effective at preparing all the AIM students in the same cohort to be fully competitive in the job marketplace.

# 4. A short history of the AIM program and funds

The AIM program was founded in early 2005 with Dr David Krause selected as the inaugural director. The AIM SMIF was funded in September 2005. It initially consisted of a small-cap equity portfolio with $500,000 under management. The source of this and all subsequent funding was from the Marquette University endowment. The program established a $500,000 fixed income fund in January 2006; which at the time was the first higher-ed institution to initiate a fixed income ETF fund.

In 2006, the AIM program was the first undergraduate business program selected as a University Program Partner by the CFA Institute. The AIM program moved into a newly renovated and larger research room in 2008. In September 2008, a $500,000 international equity fund was added to the SMIF funds; Marquette was one of the first universities to introduce an international SMIF. The only fund allocation change occurred in July 2015 when $278,000 were transferred from the fixed income fund to the small-cap equity fund.

As of June 30, 2018, the value of the small-cap equity fund amounts to $1,891,059; the fixed income fund has a $528,325 value; and the international equity fund has a $661,671 value.

# 5. Performance and student outcomes

## 5.1 Funds’ performance

Table I shows the performance of the AIM funds and their respective benchmarks. The AIM small-cap fund is considered to be the flagship of the AIM funds and has been among the best performing domestic small-cap funds over the past five years. In the 12-month period spanning from July 2017–June 2018, the AIM small-cap fund returned 26.20 percent, significantly surpassing the performance of the Russell 2000 Index and the Morningstar US Fund Small Blend Index (17.27 percent and 14.65 percent, respectively). The AIM small-cap fund outperformed its benchmarks also during the most recent five-year period. Based on the Morningstar fund performance data for the small blend equity category, which is composed of 250 small-cap domestic mutual funds, as of the end of June 2018 the one-year return of the AIM small-cap fund ranked in the top first percentile among all the Morningstar small blend equity funds and the five-year return ranked in the top eleventh percentile.

The strong relative and absolute return performance of this fund is due in large part to the above-mentioned elements of the AIM program and because our students through the training offered by the program have been successful at identifying and predicting disruptors within each sector. Our program’s focus on identifying technological, regulatory, social, political, demographic, economic, trends is one of the main reasons for our ability to generate significant *α*.

The performance of the AIM International Equity Fund has been less consistent than the domestic small-cap fund. As shown in Table I, the one-year returns of this fund are superior than its benchmarks but the fund performance lags behind its two benchmarks when considering the five-year horizon and the entire lifespan of the portfolio. The underperformance in the mid and long term is likely due to challenges deriving from major swings in currencies, commodities and various global and local financial crises during the last 10 years. The students employ that same fundamental techniques as for the other two funds; however, obtaining information from companies located outside the USA is challenging due to different political and regulatory regimes, language barriers and differences in financial reporting requirements, which require our students to make decisions with high information asymmetry.

As reported in Table I, the AIM Fixed Income Fund performed similarly to its benchmarks during all the three sample periods. Since its inception this portfolio has generated a small but positive *α*. This fund is a top–down, rather than bottom–up run portfolio. The process followed by the students managing the fixed income fund is based on the reliance on ETFs and focuses on predicting future mid-term changes in the macro-economic and monetary environment. The fund selection process is disciplined and requires student consensus.

## 5.2 Student outcomes

Based on the Marquette College of Business Administration exit survey and data collected by the Marquette Business Career Center, in the period between 2014 and 2017 the AIM program has achieved a 100 percent internship placement and a 97 percent successful employment placement record in the six months following graduation (employment, graduate school or military service). In comparison, during the same period 90 percent of Marquette non-AIM finance students placed successfully in the six months after graduation. The list of top 10 employers of AIM graduates is provided below. The list based on the number of AIM students hired since the inception of the program. The list is ordered in reverse, starting from the firm which has cumulatively hired the most AIM students. The below list of “Top 10 employers of AIM program graduates” shows that R.W. Baird has hired the largest number of students who graduated from the AIM program, followed by Northwestern Mutual and Wells Capital Management. Firms are presented in reverse order of number of hires:

* R.W. Baird
* Northwestern Mutual
* Wells Capital Management
* Citigroup
* JP Morgan
* BNP-Paribas
* Royal Bank of Canada
* Artisan Partners
* Société Générale
* Morgan Stanley

Table II presents statistics about first-job annual compensation for AIM program graduates vs Marquette University general finance graduates. The average (median) first-year compensation (salary plus bonus) of AIM students who graduated from the program between 2015 and 2017 is $69,568 ($65,000). During the sample period the average (median) total compensation of non-AIM finance graduates is $54,931 ($55,000). The *t*-test of the difference and the Wilcoxon two-sample test show that the difference in average and median compensation is statistically significant at the 1 percent level. The *t*-test and Wilcoxon test for salary (without bonus) and bonus are also statistically significant at the 1 percent level. Bonus is set to zero when unreported, therefore the average and median bonus amount might possibly underestimate the actual bonus received on average from the recent graduates. Overall our results show that the AIM program, through its innovations in applied learning, pedagogical design and rigor elicits on average a premium of almost $15,000. This result is consistent with what Lamb *et al.* (2015) find among SMIF students at a different institution.

# 6. Conclusions

Since its inception in 2005, the AIM program at Marquette University has trained more than 200 students for a successful career in investment analysis and investment banking. Its focus on investment ethics, recurrent stock presentations in front of investment professionals and the recent introduction of executive co-teaching distinguish the AIM program among the ever-growing field of student-managed funds and programs in higher education. The AIM program continues to adapt to meet the demands of a fast-changing investment industry. The program will soon offer an elective course in financial technologies and is beginning to explore neuro-science pedagogical innovations.

Table I Funds’ performance

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1 year** |  |  | **5 years** |  |  | **Since inception** |  |  |
| **Group/Investment** | **Return** | **SD** | **Sharpe ratio** | **Return** | **SD** | **Sharpe ratio** | **Return** | **SD** | **Sharpe ratio** |
| *AIM small-cap fund* | 26.20 | 10.73 | 2.10 | 13.29 | 14.92 | 0.88 | 8.47 | 27.58 | 0.50 |
| Benchmark 1: Russell 2000 Index | 17.57 | 9.83 | 1.55 | 12.46 | 13.91 | 0.88 | 8.82 | 29.47 | 0.50 |
| Benchmark 2: US fund small blend | 14.65 | 9.62 | 1.32 | 10.85 | 12.74 | 0.84 | 7.80 | 27.04 | 0.47 |
| *AIM Intl equity fund* | 8.13 | 6.56 | 0.99 | 3.68 | 10.70 | 0.35 | 3.11 | 27.08 | 0.28 |
| Benchmark 1: S&P ADR TR | 7.14 | 10.26 | 0.58 | 5.10 | 11.67 | 0.44 | 3.57 | 28.50 | 0.31 |
| Benchmark 2: international blended benchmark | 7.68 | 9.85 | 0.65 | 6.10 | 11.49 | 0.53 | 4.62 | 22.85 | 0.37 |
| *AIM fixed income fund* | −0.37 | 2.10 | −0.86 | 2.11 | 2.60 | 0.63 | 4.01 | 3.53 | 0.82 |
| Benchmark 1: iShares Core US aggregate bond ETF | −0.47 | 2.36 | −0.80 | 2.23 | 2.72 | 0.65 | 3.83 | 3.20 | 0.84 |
| Benchmark 2: BBgBarc US aggregate bond TR USD | −0.40 | 2.37 | −0.77 | 2.27 | 2.70 | 0.67 | 3.97 | 3.15 | 0.90 |

**Notes:** This table presents the annual returns, annual standard deviations and Sharpe ratios of the AIM small-cap fund, AIM international equity fund and AIM fixed income fund. The returns were measured on June 30, 2018. The inception of the AIM small-cap fund was September 2005; the inception of the AIM international equity fund was September 2008 and the inception of the AIM fixed income fund was January 2006

Table II First-year job compensation upon graduation

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **AIM students** |  | **Non-AIM students** |  | ***t*-test of the difference** | **Wilcoxon test** |
|  | **Mean** | **Median** | **Mean** | **Median** | ***p*-value** | ***p*-value** |
| Salary ($) | 65,278 | 60,000 | 53,355 | 53,000 | 0.000\*\*\* | 0.000\*\*\* |
| Bonus ($) | 4,290 | 2,500 | 1,577 | 0 | 0.000\*\*\* | 0.000\*\*\* |
| Total compensation ($) | 69,568 | 65,000 | 54,931 | 55,000 | 0.000\*\*\* | 0.000\*\*\* |

**Notes:** This table presents the mean, median, and *t*-test and Wilcoxon *p*-values of the compensation received by Marquette University finance graduates in their first year of employment. The data are based on a voluntary exit survey. The sample period goes from 2015 to 2017. For students that did not report bonus compensation, the bonus amount is set to zero. \*\*\*Significant at the 1 percent level

# Note

1. The AIM investment policy statement is available upon request.

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