
Experiential Learning for Undergraduates in Economics and Finance: A True Top-Down Investment Fund

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The paper describes an experiential learning program noted for the comprehensive integration of applied economics and finance. The core idea links the operations of a top-down student-managed investment fund to analysis performed by the school's "Fed Challenge" team. The Fed Challenge team, which participates in an annual competition administered by several Federal Reserve banks, provides ongoing macroeconomic analysis and forecasting to support the asset allocation decisions of the student managed investment fund. Beyond macro input, economics students with an interest in industrial organization and microeconomics blend with finance students to determine sector weights for the student fund investments. This expanded format for a student managed fund offers a comprehensive and realistic vehicle for experiential learning. The program can be implemented in business schools where economics and finance are housed together as well as in liberal arts colleges where core finance courses are often taught in the economics department.

INTRODUCTION

Research in education documents the advantages of experiential learning compared to more traditional classroom instruction.¹ As a prime example of experiential learning, many finance departments have Student Managed Investment Funds (SMIFs).² The literature in financial education amply describes a wide range of SMIF organizational structures for finance students (Block and French, 1991; Lawrence, 1994; Johnson et al., 1996; Cox and Goff, 1996; Kahl, 1997; Merritt, 2002; and Neely and Cooley, 2004). None of these papers deal specifically with a top-down investment fund or how finance students are to conduct the upper levels of the top-down analysis without more extensive backgrounds in economics and forecasting. This paper describes a "true" top-down SMIF structure combining experiential learning opportunities for economics and finance students. The fund structure blends economics students with a background and interest

in economic analysis with finance students whose skills are honed to security analysis and financial statement analysis.

Top-Down versus Bottom-Up

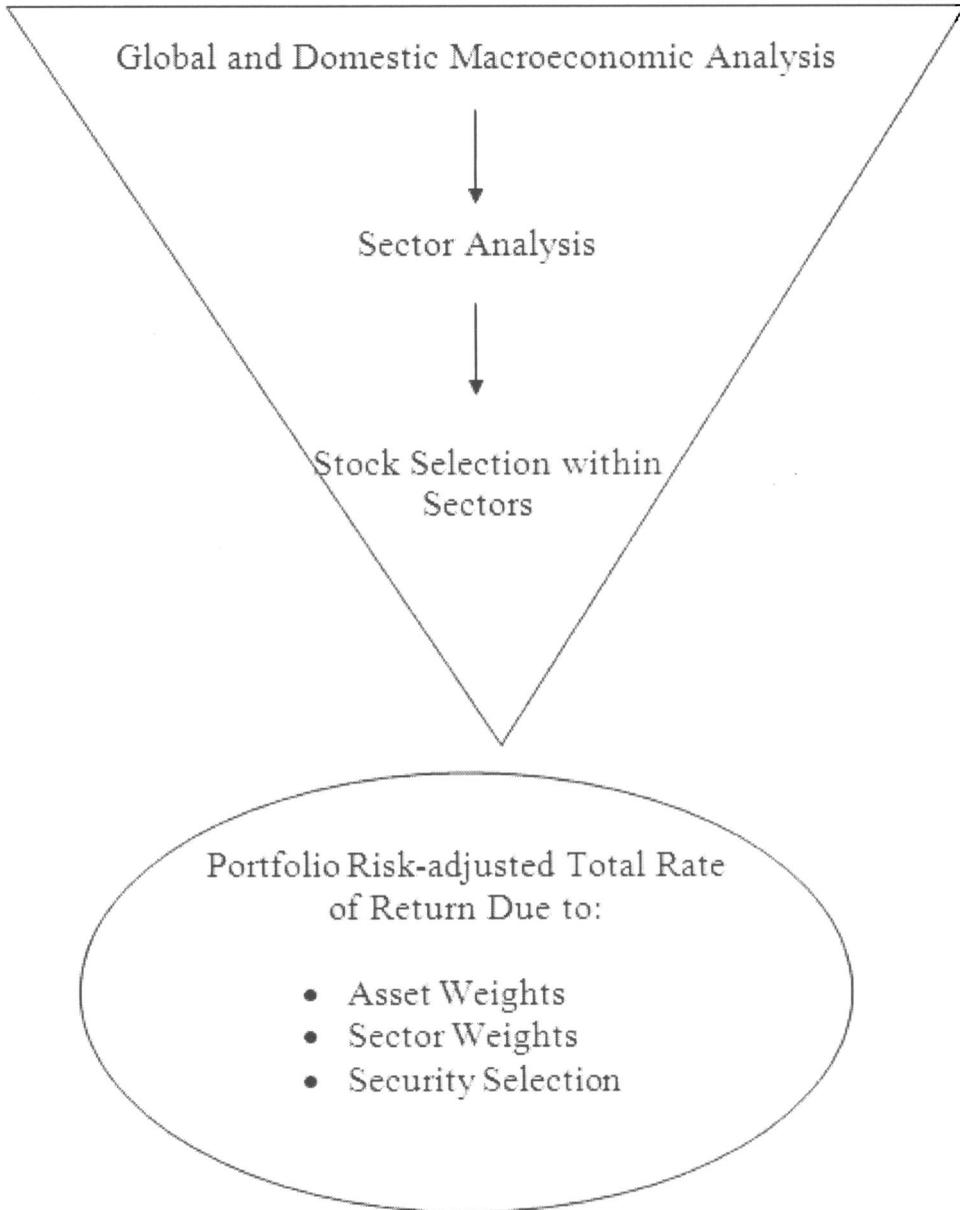
In theory and practice, investment analysis and portfolio construction typically proceed along the lines of either a “bottom-up” or “top-down” process. The bottom-up process begins with stock selection based on fundamental analysis of a security’s intrinsic value relative to the security’s market value. Bottom-up analysis places an emphasis on cash flow projections, financial statement analysis, valuation models, and ratio analysis.³ Security selection, based on valuation models, plays the dominant role in determining portfolio performance for the bottom-up process. Portfolio diversification and sector weights are secondary considerations in the bottom-up approach.⁴ The bottom-up approach makes use of finance and accounting skills learned in required and elective courses of finance programs while minimizing the higher levels of analysis linked to economics. A bottom-up fund often has either a value or growth orientation to guide the security selection.

The top-down approach, illustrated in Figure 1, begins with a broad overview of global conditions along with an analysis of macroeconomic relationships impinging on financial markets. The starting point requires a forward-looking analysis of a long list of variables including interest rates, inflation rates, consumer spending patterns, currency movements, balance of payment adjustments, GDP growth, credit spending, business investment, and inventory adjustment. From this broad market perspective, the analysis moves to a consideration of asset allocation. While there are many potential asset classes, student funds allowing asset allocation tend to use only stocks, bonds, and cash. Ary and Webster (1998) report that all student funds in their survey use common stocks, but just over half allow investments in bonds.

The second level of analysis for a top-down fund requires an analysis of industries and market sectors as they relate to the expected movement of the economy and markets. This step represents a logical extension of the upper-level “macro” analysis to form expectations about which industries and sectors are most likely to perform best in the forthcoming economic environment. All suggested industry or sector weighting positions are compared to given weights on different industries or sectors within a chosen benchmark. Sector weights chosen from the analysis reflect over-weighting (under-weighting) of those sectors offering the best (worst) relative performance in the expected economic environment. Neely and Cooley (2004) find that about half the funds in their survey of SMIFs select stocks without regard to industry or the economy. Furthermore, they report a general agreement among survey respondents that students should focus on stock selection and portfolio management, with little emphasis on asset allocation. This narrower focus makes sense for funds staffed with finance students, since the top two levels of analysis in a top-down fund require more sophisticated economic analysis.

The last step in the top-down analysis is the first step in the bottom-up analysis.

Figure 1. Top-Down SMIF Structure of Activities



Within each sector, security analysis reveals the specific securities offering the best value and best chance of leading the sector in performance. The asset allocation, sector weighting, and security selection decisions all play an important role in the performance of a top-down fund. An integration of economics, finance, and accounting provides the best collective skill set for this form of investing.

Student managed funds are almost exclusively housed in finance departments. The challenge of a true top-down fund housed in a finance department is to conduct the upper layers of analysis. Finance students generally do not have the depth or interest in economics required for going beyond secondary sources for industry or global economic analysis. By default, funds may avoid the asset allocation analysis by either concentrating on a fully invested fund with only one asset class or by keeping all asset weights relatively fixed. The sector weight analysis may also be avoided by keeping the fund sector weights fixed to the benchmark weights used to measure performance. In these ways, a fund can concentrate on activities matched to the skill sets of finance students and minimize the need to integrate finance with economics. Of course, such arrangements are not true top-down investment funds and they limit the scope of experiential learning and critical thinking about investment practice.

A true top-down structure for a SMIF calls for a wider range of analysis conducted by students with skills and competencies in macroeconomics, international economics, industrial organization, financial statement analysis, investments, and accounting. In our top-down structure, all student decisions are evaluated at every level of analysis by using an attribution model.⁴ Attribution models isolate the contribution to total returns from decisions made at each of the three layers of analysis in a top-down fund. A top-down fund linked with the use of an attribution model offers a rich set of learning opportunities beyond standard Sharpe, Jensen, and Treynor risk and return tradeoffs. The top-down approach provides a natural integration of broader economic analysis with more focused financial security analysis. To achieve this integration the fund requires building a bridge between economics and finance for both students and faculty.

INSTITUTIONAL CONTEXT FOR THE TOP-DOWN SMIF

Our overall SMIF program dates back to 1993 and uses a multiple set of funds under student management. Prior to our recent launch of a true top-down fund, students in finance managed a value fund and a growth fund following a bottom-up structure. The emphasis on security analysis offered an immediate reinforcement of courses in corporate finance, investments, security and portfolio analysis, and financial statement analysis. For each fund, a team of five senior finance students provided active management throughout the academic year, with a student general manager coordinating the overall activities of the combined value and growth funds. While most of our student managers take financial statement analysis or intermediate accounting to supplement bottom-up analysis, few finance students have the depth and breadth of economics to conduct higher levels of analysis required by a true top-down fund.

The program we describe takes place in a small liberal arts college within which roughly 25% of students attend the business school. There are no doctoral programs and the business school offers only a nighttime MBA program along with a Masters of Science in Accounting. The business school includes the economics department and the economics faculty report to the business school dean. The economics department offers both a BA through the college of Arts and Sciences and an economics major under the BSBA degree of the school of business. There is a tradition of joint ventures between economists and finance faculty, supporting cooperative advising and staffing for the new top-down fund organization.

The top-down fund evolved as economics students began participating in the *Fed Challenge* program. *Fed Challenge* is an experiential learning competition sponsored by several Federal Reserve Banks.⁵ The competition requires students to assess current macroeconomic conditions and explain how these conditions should shape Open Market Committee policy. The students prepare for the competition in a two-semester seminar (1½ credits per semester). The seminar develops skills in macroeconomics, forecasting, econometrics, and international analysis, precisely the perspectives needed for the upper layer of analysis of the top-down fund. The faculty director of the Fed Challenge program serves as a facilitator for the merger of economics students with finance students.

The top-down approach outlined here requires significant faculty involvement even though students make all investment recommendations and decisions. Teaching credit for scheduled seminars and classes provides one way to compensate faculty for their involvement. Nevertheless, a significant time commitment from faculty is required to coordinate with the advisory board, oversee and manage data bases, review performance materials, monitor transactions, make sure students follow investment policy guidelines, proof all student correspondence, and interact with the internal and external constituents of the university interested in the fund. In larger institutions with full-time graduate programs, much of the day-to-day support for the program could be handled by graduate students. In our environment the administration of the program is handled exclusively by full-time faculty.

The lack of an affiliation between an economics department and a finance department could limit or alter the implementation of the Top-Down SMIF. Recent research indicates that affiliations between economics departments and business schools/departments occur in roughly one-third of four-year institutions; and within the narrow category of comprehensive universities, the business affiliation rate is nearly 50 percent (Dean and Dolan, 2001). However, economics departments in liberal arts colleges without finance faculty can build a top-down fund emphasizing the two upper levels where economic analysis is critical. Security analysis can be circumvented by using sector index funds rather than specific securities. This approach means the performance of the SMIF will depend solely on decisions regarding asset allocation and sector weighting. Later in this paper we consider variations of the top-down fund for economics departments without finance affiliations.

TOP-DOWN PARADIGM FOR INVESTING

Experience with our student funds since 1993, and with other funds we have either helped initiate or have monitored since then, reveals a natural preoccupation with stock selection. Finance students tend to be more enthusiastic about their stock picks than concerns over sector weights or asset allocation. Part of this focus on security selection may reflect the fact that this is the level of analysis finance students find most comfortable, given their courses. Another contributing factor for this imbalance in portfolio construction may be due to the slow adoption of attribution analysis. Popular textbooks now deal with the attribution model approach to performance evaluation, but text examples are static comparisons that would be difficult to actually use (Bodie, Kane, and Marcus, 2008, pp. 601-605). A recent contribution by Girard, Pondillo, and Proctor (2005) makes it relatively straightforward to evaluate fund performance with respect to relative contributions by asset allocation, sector weighting, and security selection components. Even if students intend to be fully invested in one asset class, such as stocks, they often hold cash between trades or over periods in the summer when the fund is not as actively monitored. The attribution model points out the cost or gain in performance from these cash holdings, which should not be attributed to active investment decisions. An important part of top-down investing is a realization of the different factors that affect investment performance, whether or not they were intended.

Analysis at the Top: Roles for Economics Students

Figure 2 identifies two distinct working groups for economics students in a top-down approach: 1) the Global-Macro Analysis Group (GMAG); and 2) the Sector Analysis Group (SAG). These two groups include economics students with collective skills covering the areas of international and domestic macroeconomics, industrial organization, money and banking, econometrics, and data analysis. These economics students gain experience in developing background research leading to the construction of the top-down investment portfolio.

The GMAG concentrates on the national and international economic environment and overall market conditions. The GMAG report covers key macroeconomic data (e.g., employment, GDP growth, inflation, and interest rates) and general financial market analysis (e.g., yield curve, equity markets, commodities markets, fixed income markets, currency markets, and information content from the futures market). The SAG draws upon the broader analysis provided by the GMAG to identify specific sectors and industries that are most likely to outperform in the given environment. Economics students with an emphasis on microeconomics and industrial organization provide an analysis of changes in regulation, taxes, and competitive conditions. The key responsibility of the SAG is to recommend portfolio sector weights based on which sectors are most likely to perform best in the environment described by the GMAG

Figure 2. Student Working Groups Within the Top-Down SMIF Structure

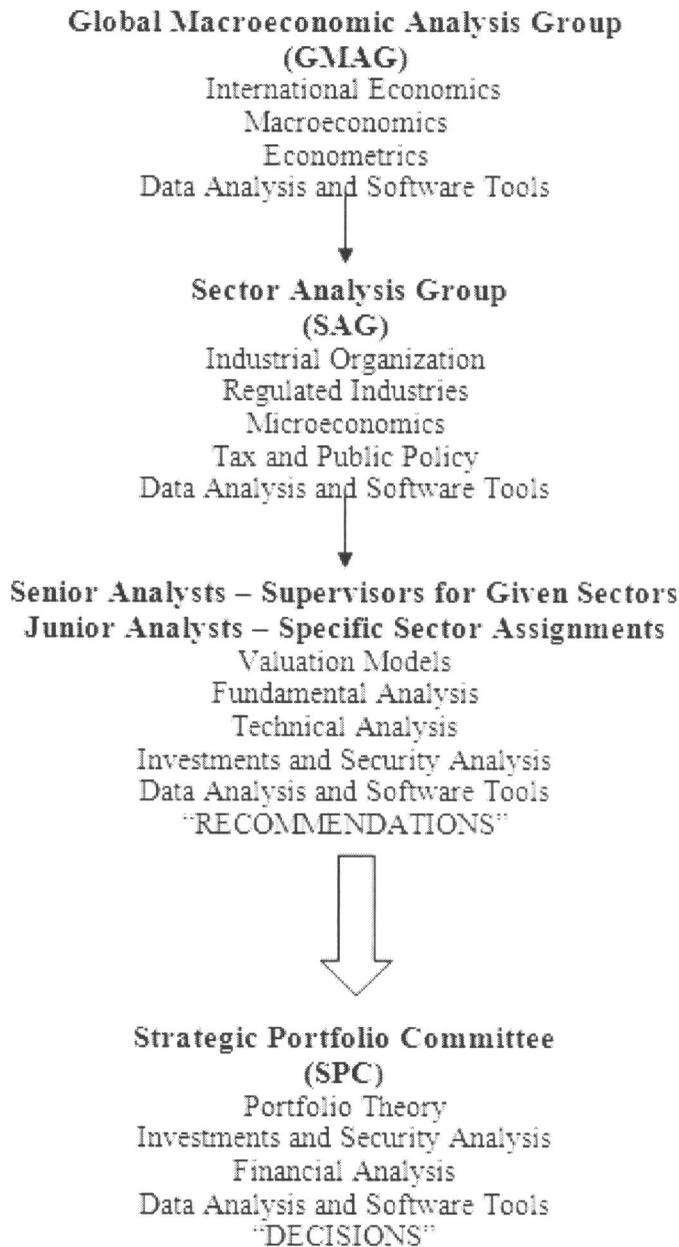
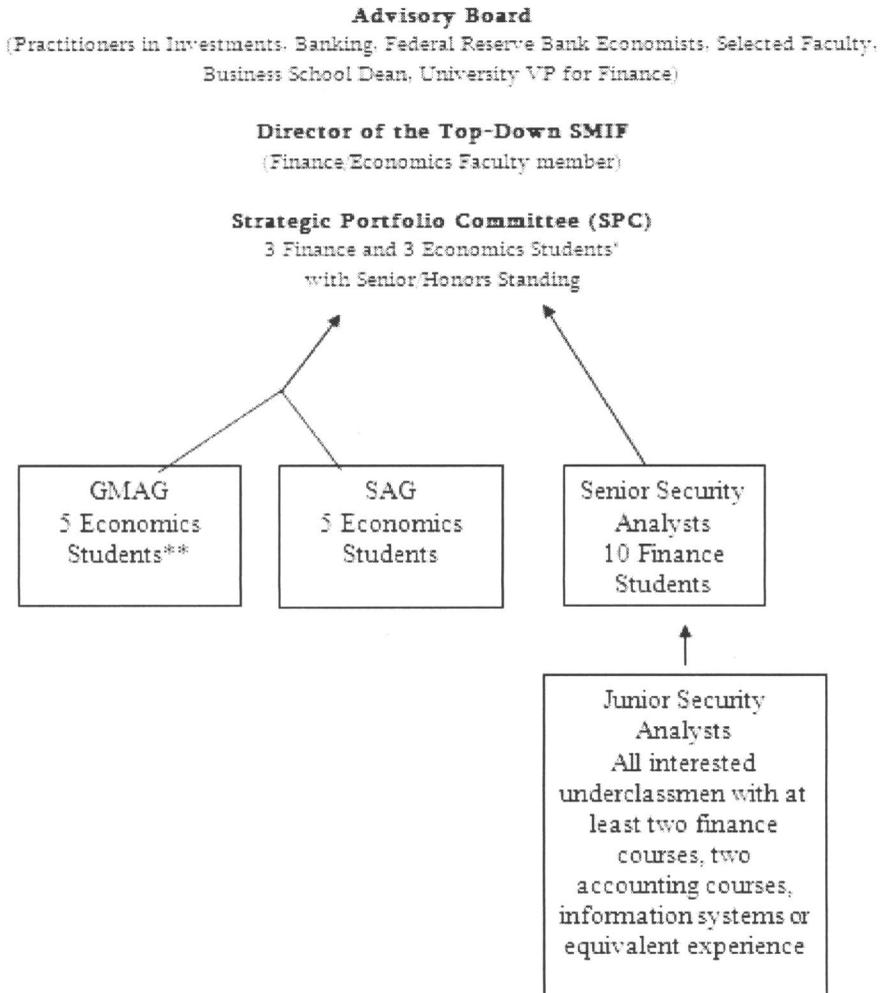


Figure 3. Top-Down Investment Structure



* The SPC composition includes three finance seniors and three economics seniors. The SPC students are responsible for portfolio attribution analysis, periodic reports to the Advisory Board, and the Fund's Annual Report.

** Most of the students in the GMAG are also involved in the Economics' Department's Fed Challenge Program.

analysis. Table 1 represents a breakdown of market sectors with a set of guidelines for sector rotation relative to a business cycle. The sector breakdown and rotation suggestions are quite basic, but they provide an illustration of the type of work the SAG conducts in the top-down framework. The key is for students to build a consistent scenario starting with broad macroeconomic movements that carry through to relatively better performance in some of the market sectors. These are the sectors that must be weighted more heavily than their representation in the benchmark index.

Both the GMAG and SAG work under the supervision of a faculty member from the Economics Department. The joint report from the two student groups requires consistency and continuity to provide an overall recommendation for asset allocation and sector weights, accompanied by strong justifications. The work of the GMAG and SAG becomes a consolidated report, called the Monthly Conditions and Outlook Report, delivered orally and in writing to the fund's senior analysts and to the fund's Portfolio Committee. More frequent "flash" reports are prepared at the discretion of the GMAG and SAG when important changes or modifications occur prior to scheduled monthly reports.

Analysis at the Bottom: Roles for Finance Students

Fundamental analysis linked to valuation models is the main tool for finance students making individual stock recommendations. Senior Security Analysts divide up the various sectors of the market so that every sector has research coverage. Junior Analysts, working under the supervision of Senior Security Analysts, conduct fundamental research on stocks assigned to them in a specific sector. Because junior analysts have typically completed less coursework in portfolio analysis and valuation models, they focus on financial statement analysis. A good example of the type of analysis that might be expected from Junior Analysts can be found in Drougas and Harrington (2007). Each Junior Analyst must prepare research reports on each security from a short list developed from the securities in the assigned sector. The Senior Analysts, after evaluating the research of the Junior Analysts, apply valuation models to the stocks on the list. Based on the results of valuation models and the recommendations in the Junior Analysts report, the Senior Analysts give specific stock selections to the Strategic Portfolio Committee (SPC) for each sector.

The SPC includes three finance and three economics students with senior honors standing. The goal of each Senior Analyst is to offer a list of the best stocks for each sector, knowing that the SPC decides the weights of each sector and the ultimate composition of the fund's portfolio. The SPC conducts portfolio optimization and evaluation on an ongoing basis. An important benefit of the top-down structure comes from the fact that stock recommendations require joint reviews from both Senior and Junior Analysts. The SPC, rather than the analysts, ultimately makes the decision to either reduce or eliminate a stock from the portfolio. This feature of the top-down structure reduces the tendency of an analyst to hold a stock too long if she personally

Table 1. Example of Market Sectors and General Performance Characteristics

Sector	Characteristics	Best Relative Performance	Worst Relative Performance
CYCLICALS			
<i>Credit Cyclicals</i>	Interest rate sensitive. Best performance with low rates. Many are building related.	Early / Middle Expansion (Exception: Forest products)	Early / Middle Contraction
<i>Consumer Cyclicals</i>	Consumer durables and non-durables. Profits vary with the business cycle.	Early / Middle Expansion	Early / Middle Contraction (Exception: hotel, motel)
<i>Capital Goods Cyclicals</i>	Most groups depend on capacity utilization.	Middle/Late Expansion	Late Contraction
<i>Energy Cyclicals</i>	Tied to economic cycle.	Early Expansion	Early Contraction
<i>Basic Industries</i>	Profits depend on industrial capacity utilization. Prices may benefit from supply shortages near peaks.	Economic Peaks Early / Middle Contraction	Early / Middle Expansion (Depends on source of demand.)
<i>Financials</i>	Banks, insurance, and gold mining.	Troughs / Late Contraction Late Expansion	Early Expansion
DEFENSIVE			
<i>Consumer Staples (defensive)</i>	Non-volatile consumer goods.	Late Contraction	Early Expansion
<i>Energy (defensive)</i>	Major domestic and international oil companies. Volatility often linked to OPEC.	Late Contraction	Early Expansion
<i>Utilities</i>	Highly liquid and operating stability.	Late Contraction	Early Expansion
GROWTH			
<i>Consumer Growth</i>	Combines growth and defensive traits. Some groups tend to offer high yields.	Late Contraction for soft drinks and drugs. Early Expansion for others.	Late Contraction
<i>Capital Goods / Technology</i>	Linked to capital investment and spending cycles. Lags behind the economic cycle.	Early / Middle Expansion	Late Contraction
<i>Capital Goods (Growth)</i>	Lags behind the economic cycle.	Early / Middle Expansion	Varies
<i>Energy (growth)</i>	Linked to economic cycle and OPEC.	Early Expansion - varies	Varies

recommended the stock.⁶

Data required for the top-down analysis are readily available from government sources that do not require a subscription. Other subscription sources, such as the *Dismal Scientist* or *Bloomberg*, provide very extensive data and informative reports. Since we already have a family of bottom-up funds in our SMIF, the additional data required to support the top-down fund were minimal. Table 2 provides a partial listing of the most important data sources for our fund. Most of these sources were already in place for student use, but the top-down fund provided a vehicle for a focused use of the data by students on a regular basis.

ADVISORY BOARD AND FACULTY INVOLVEMENT

The top-down fund has an advisory board with a slightly different composition than the board for our bottom-up funds. Since the top-down fund requires analysis at different levels, the advisory board must include practicing economists with varied backgrounds. A local Federal Reserve Bank makes it possible to include economists with global, macroeconomic, and industry level experience. Finance practitioners with experience in portfolio construction are also necessary, especially for attribution analysis of the fund. Finally, finance practitioners with experience in fundamental analysis and security valuation provide insight for stock selection. The Advisory Board also includes selected faculty from economics and finance along with the business school Dean and the university's Vice President of Finance.

The Advisory Board provides guidance, access to data sources, access to shared software, and constructive criticism of all student reports and presentations. The board also creates an additional link to the local community and often helps with student internships and mentoring of students in the fund. The Advisory Board interacts with student managers in two formal meetings a year, but students often visit a given advisor's workplace to experience how analysis works first-hand.

Faculty Advisors

Faculty must be willing to make a relatively large time commitment to the operations of the fund for a successful top-down program. Our fund emphasizes student management and student decisions. Nevertheless, selected faculty members monitor the process and provide direction and instruction in technical aspects of the analysis. Faculty members are resources to the students with direct involvement in student advising, instruction, and evaluation. One advisor in our top-down fund comes from the economics department and works most heavily with the GMAG and SAG students. Another faculty member comes from the finance department and spends more time with the Senior Analysts, Junior Analysts, and the SPC.

Advising students with an interest in the top-down SMIF begins early when students are in the introductory economics courses during the freshman or sophomore year. The

**Table 2. Partial List of Data Sources Available
to Support a Top-Down Investment Fund**

Web-based Economic Data

- **Bureau of Economic Analysis** (<http://www.bea.doc.gov/bea/dn1.htm>).
National Income and Product Account Data (quarterly, annual).
- **Bureau of Labor Statistics** (<http://www.bls.gov/>)
Assorted monthly price indices, detail employment and labor market data
- **Census Bureau Economic Programs** (<http://www.census.gov/econ/www/>)
Monthly economic indicators (e.g., retail sales, shipments, inventories, housing starts) by region and sector.
- **Board of Governors of the Federal Reserve** (<http://www.federalreserve.gov/>)
Daily, weekly, and monthly data (wide range of interest rates, monetary aggregates, monthly industrial production index, *Beige Book* economic condition reports, consumer finance and household debt.)
- **Federal Reserve Bank of St. Louis** (<http://research.stlouisfed.org/fred2/>)

A one-site collection of selected data from all of the sources noted above. Not complete, but quite comprehensive and convenient.

Subscription Data (A partial listing for illustration purposes only)

- **Bloomberg Terminal**
A comprehensive real time and historical data source with analytic tools. This is an industry standard for data analysis.
- **Broadview**
Economic data are provided by the Conference Board on a monthly and quarterly basis. Data are provided for the overall economy, regions, and states.
- **Country Watch**
This is a good source of country-specific economic information. Users can find political, economic, cultural, and business environment information. Data are updated periodically.
- **DataStream Advance**
Daily updates for financial and economic data. It is a good source for information on markets and economic conditions.
- **Economist Intelligence Unit**
Worldwide data are available on business, trade, finance, economics, and political trends.
- **Hoover's**
An in-depth source of company financial and background information. This is a good source for company profiles.
- **Reuters Business Insight**
This is a good source of information on market sectors, such as consumer goods; energy; financial services; healthcare, technology, etc.
- **UCLA Anderson Forecast Member Zone**
This is a good source of economic forecasts for the U.S. Information from leading economists occurs in a conference format.

suggested course sequence for students with a focus on the top-layer accelerates the timing for courses needed to support the fund. For students interested in the lower levels of analysis, finance and accounting courses are scheduled as early as possible. A top-down investment fund provides an attractive anchor for new degrees based on combinations of courses across finance and economics, such as financial economics. Such degrees may provide a better fit for liberal arts colleges where full blown business schools are less likely and commitments to a long list of core business courses are either not possible or not desired. Most, if not all, of the courses required for a top-down fund are common offerings, even in small to mid-sized four-year institutions. The primary prerequisite for the top-down fund is the coordination and sequencing of courses across economics and finance to provide depth and progression toward a defined set of competencies required in a top-down approach.

Unique Benefits for the Top-Down Fund

The true top-down investment fund offers opportunities for experiential learning and student distinctions found in other more traditional funds, but there are other advantages. More students are involved and a more comprehensive integration of skills across economics and finance occurs. Advising helps students in the program establish a clear path of courses to best prepare them for the SMIF experience and a career in economic analysis, forecasting, investing, and security analysis. An attractive feature of the top-down SMIF is that it requires a cumulative set of skills learned in a sequence of courses, making it difficult for students to view each course as a separate event with a “memory-dump” at the end. Both finance and economics students blend discipline talents to combine academic work with practical applications. The SMIF program provides a distinction that helps students compete in the job market and deepen their understanding of typical demands they will face in practice. For economics students, a key advantage of the top-down SMIF is experience in applying economic analysis, reasoning, research, and writing skills that can create a placement advantage in either graduate schools or business firms.

The top-down approach to investing requires a depth and breadth of competencies in economics and finance. At first, students tend to work in areas of comparative advantage in either economics or finance. As the operations of the fund go through several cycles, students tend to gain knowledge about operations outside their more narrowly defined specialty. When all the various working groups meet together, the synthesis of all the component layers of analysis provides learning opportunities across all areas of the fund. The opportunity for a wider range of learning makes the top-down approach an attractive pedagogic vehicle for a SMIF.

One of the early benefits of structuring the top-down fund has been an active dialogue among faculty teaching courses in economics and finance. The end product, defined by the skill sets required in the top-down fund, made it possible to have focused discussions of course requirements, sequencing, and advising responsibilities. The added

focus on both the logical progression of student learning and necessary depth of understanding made it easier to develop course goals and objectives. In early discussions, the need for more emphasis on data management, empirical analysis, econometrics, financial model building, software use, and data retrieval became obvious.

A FUND FOR ECONOMICS STUDENTS ONLY – THE ETF PORTFOLIO

The top-down structure offers an opportunity to engage economics students in experiential learning even if there is no finance department. Economics students are not as likely to be prepared for stock selection as finance students, but important investment decisions using economic analysis remain at the global, macroeconomic, and sector levels of a top-down approach. One way to implement such a fund structure uses exchange traded funds (ETFs). An ETF is an indexed fund that trades throughout the day on an organized exchange, just like buying or selling stock. Implementation of asset allocation changes, based on an analysis of broader global and macroeconomic developments, requires buying and selling ETFs indexed to different asset classes. Students implement sector rotation strategies within the broader market index through buying and selling ETFs representing different market sectors to achieve the desired weights linked to industry analysis of student managers.

Students may overlay additional constraints on the portfolio of ETFs, such as stock capitalization (size) or investment style (value versus growth). ETFs screens also allow creation of a final portfolio with an inflation tilt based on economic analysis of the economy. For example, if inflation expectations suggest a major threat from inflation, the use of natural resource ETFs, commodity ETFs, or Treasury Inflation –Protected Securities ETFs will position the portfolio to lower inflation sensitivity. A wide range of macroeconomics factors drive portfolio performance when ETFs are used, allowing economics students to make full use of macroeconomic and industry analysis.

Websites provide most of the data and screening requirements for an ETF strategy without the more expensive investments in Bloomberg or other real-time data often used to support a SMIF. For example, ETF data and performance tracking capabilities appear in websites supported by Morningstar, MSN Money, CNN Money, SmartMoney, and Yahoo!Finance. Yahoo!Finance also provides annual reports for any ETF in the universe of ETFs. Other websites, such as the Motley Fool, provide supporting information and educational references. The New York Stock Exchange, American Stock Exchange, and NASDAQ all maintain websites on ETFs to include both data and instructional information of ETF trading.

A suggested outline of the websites that help support the ETF analysis appear in Table 3. Transaction costs of trading ETFs are low due to the low turnover inherent within an ETF portfolio and the infrequent trading of ETF funds consistent with implementation of a top-down strategy. For example, mutual funds charges tend to range from 1.0% to 3.0% while ETF charges are in the 0.1% to 1.0% range. Trading an ETF is like trading a stock, making it possible to use limit orders and stop loss orders. Since the

Table 3. Partial Listing of Websites Supporting an ETF Fund

Website Sponsor	Website Address
CNN Money	http://money.cnn.com/pf/funds/etf/index/html
Dismal Scientist	http://www.economy.com/dismal/
Morningstar	http://www.morningstar.com/Cover/ETF.html?pgid=hetabetf
Motley Fool	http://www.fool.com/etf/etf.htm
MSN Money	http://moneycentral.MSN.com/investor/partiub/funds/-etfperformancetracker.aspx
SmartMoney	http://www.smartmoney.com/etf/?nav=dropTab&hpadref=1
Yahoo!Finance	http://finance.yahoo.com/etf

1990 inception of ETFs in Toronto, the menu of available ETFs has grown dramatically to the point where there are now over 400 different funds with ample numbers of ETFs within any chosen category. The final student portfolio consists of a collection of ETFs representing a strategy with respect to asset allocation, sector weights, and overlays for inflation or currency threats.

CONCLUSIONS

Student managed investment funds have proven their worth as important experiential learning programs for finance students. This paper describes a SMIF program that is a comprehensive approach offering expanded opportunities for both economics and finance students. Economics students provide more in-depth analysis of the global and macroeconomic environment along with an extended analysis of the sectors of the market most likely to perform well in the expected market environment. Finance students engage in traditional security analysis, but portfolio construction and sector weighting now becomes an important element of fund performance.

The top-down model is an attractive pedagogical approach that demands an appreciation of the full range of factors affecting portfolio performance. The necessary integration of economics and finance helps build bridges between two departments and offers a sharing of skills and competencies for both students and faculty. Outcomes defined by successful implementation of the top-down investment fund help set standards and define necessary student competencies. Formal written and oral presentations of economic forecasts and analysis provide concrete measures of success in student learning. Based on these ultimate goals, the top-down approach gives a logical inventory of skills, competencies, and learning objectives.

ENDNOTES

¹ Dewey (1938) was the first to promote a “learn by doing” education model. Since that time a number of authors documented and promoted the effectiveness of experiential learning (e.g., see Simpson, 1997; Loomis and Cox, 2000; Walstad, 2001; and Becker and Watts, 2001).

² According to Gullapalli (2006), over 200 SMIF programs exist today compared to approximately 30 SMIFs in the early 1990s.

³ For stock valuation, students in finance learn variants of the dividend discount model, comparable valuation ratios (such as the price to earnings ratio), and the discounted free cash flow to equity model. See Drougas and Harrington (2007) for a reference to the full set of valuation approaches frequently used in the finance classroom.

⁴ Index benchmarks normally have weights based on industry classifications; but broader classifications, such as cyclical stocks, also provide useful groupings. The degree of focus on more narrow industry classifications depends on the overall philosophy of the fund.

⁵ Details of the program appear on two extensive websites maintained by the Federal Reserve Banks in Boston and Richmond (www.bos.frb.org/education/fedchallenge/research.htm; and (www.rich.frb.org/educationalinfo/academic_competitions/college_fed_challenge/index.cfm.)

⁶ Studies by Shefrin and Statman (1985) and Odean (1998) find that investors hold on to losing stocks too long and sell winning stocks too early. Shefrin and Statman refer to this phenomenon as the “disposition effect,” explained by a psychological tendency to fear regret and seek pride. One way to counter the disposition effect is to make sure that the student managers making the buy decision are not the same student managers making the sell decision.

REFERENCES

- Ary, E. J. and R. L. Webster. “Survey of University Student Investment Funds,” (1998), unpublished manuscript.
- Becker, W. E., and M. Watts. “Teaching Methods in U.S. Undergraduate Economics Courses,” *Journal of Economic Education*, 32 (Summer, 2001), 269-79.
- Block, S., and D. W. French. “The Student Managed Investment Fund: A Special Opportunity in Learning,” *Financial Practice and Education*, 1 (Spring, 1991), 35-40.
- Bodie, Z., A. Kane, and A. Marcus. *Essentials of Investments*, 7th edition, (2008), McGraw Hill/Irwin.
- Cox, D. R., and D. C. Goff. “Starting and Operating a Student Investment Fund,” *Financial Practice and Education*, 6 (1996), 78-85.
- Dean, D. H., and R. C. Dolan. “Liberal Arts or Business: Does the Location of the Economics Department Alter the Major?” *Journal of Economic Education*, 32 (Winter, 2001), 18-35.

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- Dewey, J. *Experience and Education*, (1938), New York: Collier Books.
- Drougas, A., and S. Harrington. "Financial Statement Analysis, Valuing Investing and Benjamin Graham: An Introductory Assignment for Undergraduate Business Majors," *Journal of the Academy of Business Education*, 8 (2007), 76-91.
- Girard, E., A. Pondillo, and R. Proctor. "Conducting Performance Attribution Analysis in the Classroom Using Real Market Data," *Journal of Financial Education*, 31 (2005), 57-76.
- Gullapalli, D. "They Give the Old College Try: Funds Let Students Invest Millions," *Wall Street Journal*, (July 14, 2006), page C1.
- Johnson, D. W., J. F. Alexander, and G. H. Allen. "Student Managed Investment Funds: A Comparison of Alternative Decision-making Environments," *Financial Practice and Education*, 6 (Spring/Summer, 1996), 97-101.
- Kahl, D. "The Challenges and Opportunities of Student-managed Investment Funds at Metropolitan Universities," *Financial Services Review*, 6 (3) (1997), 197-200.
- Lawrence, E. C. "Financial Innovation: The Case of Student Investment Funds at United States Universities," *Financial Practice and Education*, 4 (1) (1994), 47-53.
- Loomis, D. G., and J. E. Cox, Jr. "A Course in Economic Forecasting: Rationale and Content," *Journal of Economic Education*, 31 (Fall, 2000), 349-57.
- Merritt, J. "Fund Managers Before they Graduate," *Business Week*, (March 25, 2002), 106E2.
- Neely, W. P. and P. L. Cooley. "A Survey of Student Managed Funds," *Advances in Financial Education*, 2 (2004), 1-9.
- Odean, T. "Are Investors Reluctant to Realize Their Losses?," *Journal of Finance*, 53 (1998), 1775-1798.
- Scheffrin, H. and M. Statman. "The Disposition to Sell Winners Too Early and Ride Loser Too Long: Theory and Evidence," *Journal of Finance*, 40 (1985), 777-790.
- Simpson, G. "Relevance in Financial Education: A Comprehensive Approach Worthy of Don Quixote," *Journal of Financial Education*, 23 (Spring, 1997), 34-40.
- Walstad, W. B. "Improving Assessment in University Economics," *Journal of Economic Education*, (Summer, 2001), 281-293.