RETIREMENT PLANNING: NEW FACULTY ORIENTATION

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CASE DESCRIPTION

Most Colleges/Universities require all full-time employs to be a member of a Retirement System, whether the choice is "defined benefit" or "defined contribution". When the distinction is made clear, probably 85 to 90 percent of employees select the "defined contribution" approach over the more strict requirements of the "defined benefit" approach. The term used at Wendell University is "Optional Retirement Program" (ORP) that requires each employee to contribute 6.65 percent of the salary while Wendell University contributes 6.0 percent. This 12.65 percent of the employee's salary is sent to the employee's choice of a "Carrier" for investment.

At the request of the Dean of the College of Business of Wendell University, Jack Pettyjohn, an investment advisor of Lovell & Co., makes a presentation every year as part of the new faculty orientation. Jack has a license to sell securities along with a license to provide investment advice. He has a preference for investment advice rather than selling securities. Consequently he receives calls frequently to make presentations to Corporations sponsoring 401(k) plans to their employees. Wendell University's retirement plan is a 403(b), which is similar to the corporate 401(k) plan. Jack enjoys making presentations to University Faculty more than to the attendees of the corporate 401(k) plans.

Jack considers Wendell's Provost a friend, having had finance classes with the Provost when he was a faculty member in the College of Business. The Provost is also a contact man when other departments or Colleges at Wendell request similar presentations. At each presentation Jack believes that he was being challenged. He did not want to be considered to be a salesman with so many teachers looking forward to his presentation. He knew the audience was expecting tangible and useful data on retirement plans.

The case is appropriate for all academic units that have retirement plans sponsored by the State or private schools. In addition however, the case would be appropriate for all businesses or organizations that sponsor retirement programs for their employees. Time to prepare for the presentation would be no more than three hours and for another hour for discussion.

JEL: G-110

KEYWORDS: Retirement Plan; Mutual Fund: Expenses; and Performance.

CASE INFORMATION

The Investment Company Institute (ICI) publishes an Investment Company Fact Book annually that contains much current information pertaining to Mutual Funds. A mutual fund is an Investment Company that starts by selling shares to investors to gather assets which are used to invest in various types of securities, depending on the objectives of the fund. Morningstar follows and has data on 25,256 mutual funds that covers objectives about as broad as one's imagination.

Portfolio theory indicates that an investor should have about twenty or more different securities to satisfy the need for diversification, but most small investors have from four to ten different securities. An illustration to show that an investor can receive professional management and diversification by the purchase of one share of an index fund such as Vanguard 500 Index., which was priced at $98.93 in a

recent Wall Street Journal. Vanguard 500 Index replicates the S&P 500 by holding all 500 stocks in the index and holds them in the same proportion in each sector/industry as held in the S&P 500 Index. By holding at least one share or more of Vanguard's 500 Index, one is assured of a return the same as the market, as represented by the S&P 500 Index.

Table 1: Range of Investment Companies

The ICI shows investment companies by type as follows:		
Mutual Funds	$9,601 billion	8,889
Closed-End Funds	188 billion	646
ETF's	531 billion	743 (and growing)
UIT's	29 billion	5,984

Figure 1 lists the various types of Investment Companies, the total dollar amount for each type and the number tracked by the Investment Company Institute (ITI). The "market" determines the size and the number of each type of fund. Obviously, open-end mutual funds are the most desired, and investors show it with their money (like trillions of dollars).

The UIT is a Unit Investment Trust which has a varied size portfolio put together by a Trustee. For the most part the securities are tax exempt. Shares of the portfolio trust are sold to investors at net asset value (NAV) plus a minimal commission. The assumption is that the shares are "redeemable", but in all cases, the trust closes when the bonds mature.

ETF's are Exchange Traded Funds that are portfolios of securities designed to track a sector or an index. For most portfolios they are not managed, but could be. The ETF package is assembled by brokers and sold to investors much like they were individual stocks and the market prices the package as though they were stocks. Since the ETF is traded like a stock, the brokerage commission is similar to individual securities.

The Closed-end Fund is put together much like the UIT and ETF in that the capital structure is fixed and does not change. The portfolio could be stocks, bonds or municipal securities. The portfolio of securities is actively managed and is traded much like the ETF. The Funds are traded like stocks by brokers handling the security to include a brokerage commission like other stocks in the secondary market. Municipal bonds make up more than half of the closed-end funds. One big difference with closed-end funds is that the shares will likely trade at a discount. Market activity determines the price like any stock.
Open-end Mutual Funds are the primary part of the discussion, and can include equity (stock) funds, bond funds, hybrid (quite popular) or money market funds. There are many complexes of funds, frequently called families of funds, such as Fidelity, Vanguard, T. Rowe Price and American Funds, to name a few. The largest is Fidelity, followed by Vanguard. Some families of funds are true no-load funds such as Vanguard, Fidelity and T. Rowe Price. American and Evergreen are all load funds. A few may be classified as no-load, but they handle some funds in the load category, still preferring to be called no-load.

Mutual Funds that are "open-end" can be load, low-load, deferred load, and no-load funds. The distinction is quite important. Load funds are sold to those who go to a broker, banker, insurance company, financial planner or others who charge a commission (load) to the investor. As an example, Evergreen Omega A charges a front load of 5.75%, and a 0.25% 12b-1 fee; Omega B charges a deferred fee of 5% and a 1% 12b-1 fee; Omega C charges a 1% deferred load and a 1% 12b-1 fee; and Omega R charges a 0.5% 12b-1 fee.

Care must be used in evaluating a "Deferred Load", sometimes called a "back-end" load. One must read the fine print to determine the time length of the deferred load. Some charge a deferred load only if the fund is redeemed within one or perhaps two years after purchase, and none thereafter. For many, this deferred load serves to discourage short term holding by those *trading* in funds rather than *investing* in funds. The ICI Fact Book has additional information that defines "other load" with the statement:

"Primarily includes retirement share classes known as R shares". By telephone, the impact was explained as zero minimum purchase, no charge going in and no charge coming out. The Morningstar sheet shows the only charge (other than the Expense Ratio) as a 0.50% 12b-1 fee, which of course is added to the Expense Ratio.

The name "open-end" mutual fund is very meaningful in that the "open-end" carries the meaning "that it stands ready to redeem (buy back) its shares from investors." Marketability is guaranteed as long as the fund is continuing to function. Mutual Funds are unique in another way in that the number of shares outstanding is not limited. This unlimited number of shares for a mutual fund permits all shareholders the option of "dollar cost averaging". Dollar cost averaging is accomplished by arranging to purchase a set dollar amount of shares on a continuing basis. If the price of the fund increases, a set amount of dollars purchases fewer shares, and when the price declines, the shareholder purchases a larger number of shares. Therefore, the average cost of shares will be less due to the purchasing of more shares at a lower price when the price declines.

The minimum initial investment varies greatly from American Fund at $250 (with additional purchases at $50), to Vanguard Health Care, PRIMECAP, and Capital Opportunity at $25,000 each. Most other Vanguard funds are $3000 for initial purchase.

The "net asset value" (NAV) is the value of a share of a mutual fund which is market controlled and determined by the value of the fund at the close of the market each day, which is usually 4 PM Eastern time. The purchase and sale (redemption) of a share is determined by the close price whether the request to buy or sell is made at 9:30 AM Eastern time as the market opens, or just before the close in the afternoon. The purchasing price will be NAV for no-load funds, and for front-load funds the price will be NAV plus the load charge, called the "public offering price".

If a mutual fund has a NAV of $20 a share and a front-end sales charge of 8%, the public offering price (POP) is $20 plus $1.74 for the load. This is determined by dividing the NAV by (1 minus the sales charge) ($20/.92). One can find the sales load if the NAV is divided by the public offering price. In this example, $20/$21.74 = 0.91996 or 92%. This means that the NAV is 92% of the offering price, or that the investor paid an 8% front-end load. Investors could more accurately determine the true load charge by dividing the load charge ($1.74) by the NAV ($20) to get 8.7% for the front-end sales charge (rather than 8% advertised by the fund).

The NAV is calculated at the close each day. Any increase in the price of the fund is called an unrealized gain, because the mutual fund did not sell at the higher price to realize the gain. Likewise, decreases in the price of the mutual fund are unrealized losses.

The vertical listing tells the capitalizing choices, while the horizontal indicates the nature of the type of activity, whether the choice is growth, value or blend. The "style box", shown above, divides mutual funds into nine categories, based on size and methodology. Fund choices are divided into large, medium and small depending on whether they invest in large-capitalized, medium-capitalized or small-capitalized stocks. In addition, the funds are divided by whether they invest in stocks that are categorized as Value, Blend or Growth oriented securities. As an investor, one could select a mutual fund in each category of large growth, large value, medium-blend and small-growth, or any other combination of the nine categories.

Table 2: What Is Your Investment Style?

	Value	Blend	Growth
Large		C	
Mid			A B
Small			

In Table 2 the nine categories provide desirable information. As an example, assume that an investor believes that the health care sector is very good and useful. The investor checks Fidelity and finds "Fidelity Select Medical Equipment & Systems" categorized as "Mid Cap Growth" so the investor puts an A in the corresponding style box. The investor studies T. Rowe Price and chooses "T. Rowe Price Health Sciences Mid Cap Growth", so a B is placed in the appropriate style box. A search of Vanguard yields the selection of "Vanguard Health Care" listed as Large Blend, so we enter a C in Large Cap stock with a style of Value/Blend/Growth in the Large Cap Blend style. In most situations, the risk would be expected to be high, but by combining these three health sector stocks, the risk is reduced. Upon further scrutiny, we learn that the correlation of the stocks is quite low between these funds. Therefore, a portfolio of these three funds received an average of about 24,000 growth compared to S&P's 15,000, according to Morningstar.

How Risky Is The Fund?

Morningstar provides for risk in a number of ways. The normal presentation for risk is: above average, average, below-average, and very infrequently low (e.g. Vanguard Health Care). In addition, "volatility measurements" are Standard Deviations, with 3, 5, and 10 year measurements given. Further, the Sharpe Ratio (a measurement of risk-adjusted performance) is provided for 3, 5, and 10 years. Additional risk indicators are given in "Bear Market Decile Rank" and "Modern Portfolio Theory" statistics are given such as "beta".

How Has the Fund Performed?

Most Morningstar Returns are shown as Low, Below Average, Average, and Above Average, but a few funds are given a return of High (e.g. Vanguard Capital Opportunity and Vanguard PRIMECAP). A second presentation of "Trailing Total Return" gives Year to Date, 12 months, 3, 5, 10 and 15 year returns and a percent rank in each time period. The return from Inception is provided for those interested in longer term returns. The third presentation is given in graphic form for easy reading. It is a 10 year graph for those funds in existence that long, or a much shorter time period is shown by the graph indicating the growth of $10,000, with S&P 500 and others in the same category. The S&P 500 is shown as 10k, with others in the same category as about 18k and for Vanguard Health Care as about 25k.

How Much Does It Cost?

When one begins to compare mutual funds, one should notice that funds that follow the same or similar investment objectives tend to invest in similar securities. This leads us to a very important part of mutual fund investing – RETURNS. Mutual fund returns are determined by two factors in general: the returns of the securities in which the mutual funds invest and the various expenses and load charges of the mutual funds. Since there are more than 25,000 mutual funds and less than 9,000 stocks, many funds will hold the same and/or similar stocks. Consequently, the major differences will be the load charged and the expenses of the operation. Another factor frequently overlooked is the tax-consequence of the fund, which is part of the expense for investors. As a side note, unrealized gain means that the value is higher, but the "realized gain" is a capital gain on which the investor must pay a tax. After the tax is paid the value of the investment is less than before the capital gain was realized.

Earlier, an illustration was given to show that a multiple class of funds covers the range from no-load, to front-end load, to back-end load, and on occasion there is "no-load" but with a 12b-1 fee. Most load fees are a onetime charge, but with the 12b-1 fee it is continuous, with an annual charge every year. In addition, more than 90 percent of all front-end load funds also charge a 12b-1 fee. In most cases the

"back-end" load is a "contingent deferred load" (CDSL), which means that the deferred load may be cancelled if the fund is held a certain length of time. As an example, a fund could have a 5 year CDSL and if the investor held the fund for the full 5 years, the load is cancelled. In some cases if the fund is held for 1 year the CDSL is reduced to 4 years for a 5 year CDSL.

The 12b-1 fee is classified as a "distribution" fee. Portfolio managers lobbied to get the fee to help them sell their funds. The maximum 12b-1 fee is 1% annually. This fee has been used in many different ways not intended by the Security Exchange Commission (SEC), such as using it as collateral for a bank loan. The investor must be very careful when looking for a "no-load" fund. The Investment Company Institute (ICI) has supported use of the term "no-load" for mutual funds with a 12b-1 fee of no more than 0.25% per year. This support has resulted in the creation of a new term--"true no-load". There is no compelling reason to buy a load fund unless you are receiving investment advice from an advisor who sells load funds and you are not aware that there are mutual funds with no-load, no 12b-1 fee and lower expense ratios.

Earlier, an illustration was given for Evergreen Omega funds, with class A shares having a front-end load, B shares having the investor pay for services with a 12b-1 fee and a deferred sales load, and C shares are designated as level-load (no front-end load) but typically pay a full 1% 12b-1 fee and a CDSL. In addition to the A, B, and C class shares, some families of funds have additional designations, such as American Funds, some of which have an F1 and F2 category. The F means free of sales charges, but there can be an "advisory fee" paid by the investor. We have been told that typically the expense ratio is higher for F shares when compared to class A shares (the fee is an expense related charge). These charges are in addition to the regular operating expenses.

The inability to control ones tax liability is a major disadvantage of many mutual funds. When the fund sells at a profit, the investor incurs a taxable gain. Many retirement plans are tax-deferred. This means that one is required to pay taxes when money is withdrawn from a tax-deferred account, which means that the tax is deferred, perhaps many decades. In most retirement accounts, withdrawal is not permitted until after age 59½. Early withdrawals are subject to large penalties. For the most part, retirement accounts are tax-efficient; therefore, it is desirable to place tax-inefficient funds in retirement accounts given an opportunity to do so. Given a choice, funds with higher turnover ratios would fit in retirement accounts better than funds with smaller turnover ratios, but neither may be available when the choice is made for the retirement account. With some retirement plan carriers, such as TIAA-CREF, the individual plan holder is permitted to make switches from one type of investment to another. Some faculty members have been known to switch out of an equity plan to a fixed income plan when a recession is expected, then at a later date, switch back to equities. In most situations, "buy and hold" provides a better return for the investor.

Turnover is the ratio of the portfolio that is replaced annually. A high turnover means that the investor is realizing gains and losses constantly, which limits the investor's ability to manage tax obligations. Turnover causes three types of cost: the explicit cost of tax liability, the loss from the spread, and transactions cost. For a mutual fund, purchases and sales (transaction costs) will normally run into millions of dollars annually. To illustrate the spread impact, assume the bid-ask spread is 0.5% and the turnover rate is 60%, the reduction in the fund's total return is 0.3%, in addition to the tax impact and the transaction cost.

An additional tax is charged directly to the investor for distributions made by the mutual fund, whether the distribution is from income (dividend) or capital gains. A large number of investors have the dividend and capital gain reinvested in additional shares, but the tax is still paid.

Because taxes are such an important part of investing, some investors tend to focus on the tax consequences of funds. Brokerage houses have been known to sell growth funds as tax-advantaged funds as a way to get more customers. Growth funds tend to hold stocks through the entire upward ride and delay selling until the price begins to decline. During the uphill swing, gains are not realized. When the declines begin, sales are made to lock in the gains. This is a sales strategy accepted by brokerage houses. Under the situation given, gains are taken or they will become losses.

In summary, investors can face tax consequences from holding mutual funds, 1) when an investor sells fund shares for more than they cost, 2) when a fund distributes interest and/or dividends received from investments, and 3) when the fund sells securities for more than cost and distributes the capital gains.

MORNINGSTAR

Morningstar is the main independent analysis and provider of service of mutual funds. Morningstar provides much information on the web site Morningstar.com, as well as the service on a commercial basis. We will compare four Morningstar funds using the "Snapshot" report. The first is Vanguard's 500 Index Fund. It is a proxy for (and replicates) the S&P 500 very closely. It can be used for comparison purposes when other funds are analyzed. The other three mutual funds are all good performers within their family of funds. Fidelity Blue Chip Growth is one of the better funds of Fidelity, the largest mutual fund family. The third is T. Rowe Price Mid-Cap Growth Fund. The fourth is Vanguard Capital Opportunity, a large cap growth fund.

The first page of the report provides basic information: a snapshot of the firm. On the mid-page left side is a section containing a graph and data for the most recent four year performance of Fidelity Blue Chip Growth. The graph and data table shows fund return, the comparison with the S&P 500, and category which is Large Growth. For the year 2009 the total return is 44.96%, which is 9.28% better than its category and 18.5 % better than the 500 index. The last line of the table shows the asset size of $11,107 million. For T. Rowe Price Mid-Cap Growth the total return is 45.46%, 6.35% above its category which is Mid-Cap Growth, and 18.99% better than the 500 index, with Net Assets at $14,664 million. Performance of Capital Opportunity is 48.91% total return, which beats its category by 13.23%, and the 500 Index by 22.45% points, with Net Assets at $4,184 million. Note that all four mutual funds are compared to the S&P 500 Index. Vanguards 500 Index was 0.02 points below the S&P 500. It follows the S&P 500 very closely.

Most investors would not desire to have all funds follow the S&P 500. For diversification purposes it would be wise to have some funds follow other indexes, such as Russell 2000. At the top right corner of the Snapshot sheet, Net Assets size is given. Note that Vanguard's 500 Index (at $46,774 million) is considerably larger than the other three funds we are comparing, such as Fidelity Blue Chip (at $10,545 million), T. Rowe Price Mid-Cap (at $15,636 million), and Capital Opportunity (at $3,792 million). The Vanguard 500 Index Fund is very widely held and considered a main fund in the Mutual Fund field.

Morningstar is recognized very widely for its star ratings. Vanguard 500 Index Fund has 3 stars, primarily because it replicates the S&P 500 as the market indicator. Just by coincidence the Fidelity Blue Chip, T. Rowe Price Mid-Cap, and Vanguard Capital Opportunity funds all have 4 stars. The stars provide a ranking of the funds. It considers both the performance and the risk of the fund as it ranks versus all other funds. The top 10% are given 5 stars, the next 22.5% are given 4 stars, the middle 35% earn 3 stars, the following 22.5% are given 2 stars and the lowest 10% earn 1 star. Of the three funds with 4 stars each, one must break the tie with other evidence. For instance, Vanguard's Capital Opportunity Fund has been assigned 5 stars in the "Rating and Risk" section for the 10 year activity. The Rating and Risk section is located on the right side of the Snapshot sheet, adjacent to the performance graph. This section shows Morningstar Ratings Overall, at 3 years, 5 years and 10 years. The second line shows the number of funds

Rated for each four time periods (Overall, 3 years, 5 years and 10 years.) The third line designates Morningstar Risk, which for Capital Opportunity is above average for each of the four time periods. The fourth line of the Rating and Risk section provides a level of rating for Morningstar Return, which, for Capital Opportunity, is for Overall High, 3 years Above Average, 5 year High, and 10 year High. Below the 3, 5, and 10 year indicators, the Standard Deviation and Mean Returns are shown for each time period. The star ratings give consideration to loads and expenses. The star rating is an overall rating that gives no consideration to the fund's category.

In addition, on the first page (Snapshot) there is a brief indication of fees that includes Front-end Load, Deferred Load, 12b-1 fee and the Expense Ratio. It should be noted that of the four funds being reviewed, the lowest expense ratio is Vanguard's 500 Index at 0.18. This should surprise no one because all S&P proxies have low expense ratios since their managements are following the activity of the S&P 500, which is minimal. However, the expense ratios of the other funds are Fidelity Blue Chip (0.76%), T. Rowe Price Mid-Cap (0.83%) and Vanguard Capital Opportunity (0.50%). The generalized average given that the average expense ratio for all funds is about 1.5%. Page 4 of the Morningstar report shows a graph of the expenses of each fund in comparison with the expense ratio of the "category" for that fund. Vanguard Funds relative expense compared to their category are generally much smaller than that of the category. Vanguard's Capital Opportunity Fund had expenses of 0.5 (year 2009) in comparison to 1.27 for the category average. This relationship is common for Vanguard Funds.

We could have included a load fund for comparison purposes, such as Evergreen or American. The average expense ratio for eight of Evergreen's funds appears as 1.31%, along with a front-end load of 5.75% and a 0.25% 12b-1 fee. To illustrate that load funds should not be an investor's choice, we have made comparisons of about 8 funds of Evergreen, American and Vanguard funds. This comparison is shown below:

Table 3: Averages for Three Families of Funds

Item	Evergreen	American	Vanguard
Load	5.75%	4.45%	0
12b-1	0.25	0.245	0
Exp. Ratio	1.31	0.90	0.335
Star Rate	2.875	3.09	4
Turnover	73.6	34	21.5

Table 3 shows that with a given dollar amount invested in each of the three families of mutual funds, Evergreen and American result in a net less investment due to the entry load of 5.75% and a 4.45% relative entry cost. The cost of doing business is considerably higher with Evergreen and American, with the expense ratio being multiple times higher than with Vanguard. These two expenses result in a much lower return for the investor. The good news is that those expenses can be avoided by the selecting of no-load mutual funds.

Next to the Fee data on the Snapshot sheet on the left side is a brief section on Management. One of the more important items is the "tenure" of the manager. For Vanguard Capital Opportunity Fund the management has been in place for 11.6 years. The success of the fund has been recognized during the tenure of the management team. Likewise for the T .Rowe Price Mid-Cap Growth Fund, the manager has been in place for 18 years, during which time success has been recognized.

The style box confirms the category Morningstar states as being the type of investment securities used in the portfolio. By coincidence, all three funds selected for analysis are in the growth category, two using large category securities and the other using mid-cap securities. In each category management believes they can identify and purchase securities which are underpriced and which they believe the market will identify and elevate for good profit by the funds. Growth firms in particular are those that have expectations of earnings growth and/or expansion that exceed the market in certain categories. Two examples should clarify the possibilities. Teva Pharmaceuticals is the largest "generic" producer in the world and the market is recognizing the potential. The other illustration is the specialty medical devices,

prostheses, and reconstruction implants, the need for which is growing and recognized by Stryker and Zimmer Holdings. Other than the increasing need for replacements caused by wars, the techniques developed for knee and hip replacements are providing medical help for an increasing number of elderly and those in unfortunate accidents.

The next section of the report is more detailed information on the returns of a mutual fund. An historical perspective can be gained by examining the chart and the three funds at the same time. The first pass covers the years 2008, 2009 and 2010. The year 2008 was a bad year so expectation should be limited. In 2008 all three funds were in the negative category, but the poorest of the three was the T. Rowe Price Mid-Cap. The year 2009 was a much better year for the market and all three came back strongly but Capital Opportunity was about 3.5 percentage points above the other two. Up to this point 2010 is another bad year at the halfway mark, and Price Mid-Cap was the only one of three with a positive return, with the market down quite a bit. In the Trailing Total Return section, all three were showing good returns for the last 12 Months, all with returns greater than 50%, and the return since Inception (all more than 10 years) ranged from 10.4% for Fidelity Blue Chip to 13.4% for the Price Mid-Cap at 13.4%. Returns shown beyond YTD and 12 months are 3, 5, and 10 years annualized. The only negative return for the 3, 5 and 10 years annualized was Fidelity Blue Chip at -2.1% for the 10 years annualized. This 4 + year comparison with category and S&P 500, along with annualized data out 10 years, should give an investor a basis for selection. At this point in time the overall best of the three would be T. Rowe Price Mid-Cap, and in a bull market Vanguard Capital Opportunity looks the best.

Further down in the return section is the tax analysis. Previously, this important information had a cost attached to it. The chart shows the before-tax return and after-tax return. Then it shows the fund's percentage rank in its category. Vanguard is in the top 14% for tax efficiency over the last decade in the large value category.

The tax rates used are the current and highest income and capital gains tax rates. It would be nice if these rates did not increase. State and local taxes are ignored. The tax-cost ratio is another measure. It is calculated as the after-tax return divided by the before-tax return. The closer the ratio is to 100% the better the fund. If it is below 60%, the fund incurs excessive taxes. The above tax figures assume the investor will hold the fund rather than sell. If an investor is planning on selling the fund, the potential capital gains exposure is important. It tells us the percentage of the stocks in the portfolio incurring capital gains if sold.

A high capital gains exposure is not bad. If a fund follows a "buy and hold" strategy, it will have large amounts of unrealized capital gains. A small number may mean that the fund is buying and selling quickly (churning), increasing the investors current tax liability.

The next section provides a further breakdown of the risk of the fund. It gives the standard deviation and mean of the fund for 3 years, 5 years and 10 years, along with the bear market decile rank. Recall that the standard deviation is a risk measure. The bear market decile rank examines how well the fund would perform during a recession. Funds must have been in existence for at least five years to be included in the ranking. Funds with a ranking near 1 should perform well in a recession. Mutual funds with a 5 year bear market rank close to 10 are not likely to perform well in a recession. The T. Rowe Price Mid-Cap Growth and Fidelity Blue Chip Funds both have a rating of 4, and Vanguard Capital Opportunity Fund has a rating of 6. For diversification purposes, an investor should want to hold funds that have both high ranks (do well in expansions) and low ranks (do well in recessions).

Morningstar also calculates the "beta" of each fund using the S&P 500 and the best fit index. All three funds reviewed here have betas ranging from 1.07 to 1.11, and R-square ranging from 88.64 to 94.53. It is desirable to see that Morningstar calculates Alpha (a performance measure) range from 7.06 to 8.6, with

the T. Rowe Price Mid-Cap Growth Fund holding the higher rating. All three funds provide good ratings on betas, R-square, and Alpha, although the betas above 1 indicate an aggressive position.

The section just below "Ratings and Risk" provides the top investment holdings in the portfolio. Fidelity Blue Chip, as an example, shows the name of the stock, Sector Year to Date returns, and the percentage the stock is of the portfolio. The top stock is Apple, Inc., Hardware sector, with a Year to Date return of 27.65%, and is 5.87% of the portfolio. The equity Investment Style has a Market Cap of $31,814 million. Vanguard 500 Index has no choice on category because it tracks the S&P 500.

The Equity Style Breakdown covers mainly large cap stocks, but can vary from Growth, Value, or Blend. Value measures include the Price/Earnings ratio at 15.45, Price to Book at 2.51, Price to sales 1.25, Price to cash flow 6.03 and dividend yield at 1.58%. The market cap breakdown is Giant (47.57%), Large (32.34%), Medium (17.02%), Small (2.7%) and Micro (0.37%). The T. Rowe Price Mid-Cap Fund has mostly medium cap at 78.73%, with Large at 16.88% and Small Cap at 4.4%. This is a bit more of what the investor should expect.

Morningstar presents further information in the Asset Allocation section. The Vanguard 500 Index has 0.11% cash (indicating little need), and US stocks at 99.89%. Most other funds would have a broader allocation, such as T. Rowe Price Mid-Cap with 5.09% cash (indicating small need), 90.14% US stocks and 4.77% non-US stocks. Vanguard's Capital Opportunity has the allocation of 3.59% cash, 84.05% US Stocks and 12.36% non-US stocks.

The top 20 holdings are presented for consideration. Capital Opportunity has six Health Care securities in the top 20, whereas Fidelity Blue Chip has two, as does T. Rowe Price Mid-Cap, but with no duplication. It is not surprising that the names of the Mid-Cap stocks might not be as recognized as for the other Large Cap Growth funds, but very little duplication of stocks occurs in the three funds. At first glance there are no duplications, which is probably unexpected. There are duplications between Vanguard 500 Index and the other three funds in this top 20 for each fund. The total number of stocks held varies greatly, even in the three for comparison. The 500 Index (at 504) tops the others, which are Fidelity Blue Chip (211), Capital Opportunity (112), and T. Rowe Price Mid-Cap (at 139). The turnover varies considerably with Vanguard 500 Index and Vanguard Capital Opportunity at 12, T. Rowe Price Mid-Cap at 31, and Fidelity Blue Chip at 134. The greater the turnover, the greater the tax burden on the investor.

The yield of Mutual Funds is the dividend/price, and is normally not very high. The yield for Vanguard 500 Index is 2%. For Capital Opportunity, the 12 month yield is 0.34%, 0.46% for Fidelity Blue Chip and 0.00% for T. Rowe Price Mid-Cap.

SECTOR FUNDS

Before leaving Morningstar it should be noted that we have not recognized the fact that most families of funds have "sector" funds. All three of the families we have highlighted have sector funds. With no exception, all three had high quality sector funds with ratings of 4 stars or higher. The sector fund will have the great majority of its stocks held in the field of the sector concerned. Rather than having 100% of stocks in the same sector, some will have "consumer service" or "consumer goods" in small amounts.

In comparing the three good funds we have highlighted with the six sector funds from the same families of funds, looking at the average risk for 5 year returns, the two groups were close. However, the range of standard deviations was much lower (by as much as four percentage points), and higher by about the same amount. The return since inception for the two groups was about the same. The graphic growth of 10k that Morningstar presents was much higher for sector funds than those of the sample we used. The 10

year standard deviations were considerably lower for the sector funds, and the average of the returns for the sector funds were better by at least a multiple of three. The expense ratios were about the same.

The overall assessment of the sector funds used was considerably better, even considering the higher volatility of the sector funds. Consequently the sector funds should be considered by investors if they are patient and are looking for better long term investments.

One should recognize that higher cost and higher expenses are not desirable. Before the market went sour and all financial instruments were functioning properly, mutual funds were performing in a very acceptable manner. We hope that the words "load," "commission," "12b-1 fee," and "Class A, B, and C" are all load driven mutual funds that investors should avoid. The comparison in Table 4 below between No-Load, No 12b-1 fee, and Load and 12b-1 fee mutual funds should help your understanding:

Table 4: U.S. Domestic Stock Funds

	No-Load & No 12b-1 Fee	**Load and 12b-1 Fee**
Number of funds	3721	7806
Expense Ratio	1.22%	2.14%
Sharpe Ratio	1.48	1.19
Fund Average size	$749.18 million	$213.5 million
Total Assets	$2,787,699 million	$1,667,205 million
Morningstar rate	3.25 (stars)	2.59
Performance		
12 Months	7.33%	2.96%
5 Years	3.27%	2.68%
10 Years	9.22%	6.52%
Front-Load	0	1.29%
Deferred Load	0	2.05%
12b-1 Fee	0	0.76%
Total 12b-1 cost	0	$12,670.76 million

Table 4 illustrates that the Load/12b-1 funds cost 4.9% ($166.82 million) MORE to manage 67.2% FEWER assets. The No-Load/No 12b-1 assets are $2,787.699 million and the Load/12b-1 assets are much smaller at $1,667,295 million. The 12b-1 fee of $12.671 billion is a "DEAD WEIGHT" cost to shareholders for a single year. What did the shareholders of load funds get for their $12.671 billion? INFERIOR RETURNS. Mutual Funds without loads and 12b-1 fees have fewer expenses, higher Sharpe ratios, much larger asset bases, and produce a higher return.

QUESTIONS FOR CONSIDERATION

1. Why should I buy a no-load mutual fund?
2. Why should I use mutual funds in my retirement plan?
3. Is it possible I can invest in a bond mutual fund? What is the difference?
4. Should I buy my mutual funds from an experienced broker?
5. Distinguish between a large cap value fund and a mid-cap growth fund.
6. I have been told that I can buy a Class B mutual fund that does not have a front-end charge. What is the difference between a no-load fund and a Class B no front load fund?
7. What is dollar cost averaging?
8. What is an "open end" mutual fund and how does it differ from a closed end mutual fund?
9. What does Morningstar have to offer to an investor wanting to buy mutual funds?

10. Someone said that a high expense ratio fund would have better management. Explain the issue.

11. What is a sector fund? Is there any problem with a sector fund?

12. In light of this information, what advice do you have for the new faculty member?

RETIREMENT PLANNING: NEW FACULTY ORIENTATION

TEACHING NOTES

William P. Dukes, Texas Tech University

CASE DESCRIPTION

Most Colleges/Universities require all full-time employs to be a member of a Retirement System, whether the choice is "defined benefit" or "defined contribution". When the distinction is made clear, probably 85 to 90 percent of employees select the "defined contribution" approach over the more strict requirements of the "defined benefit" approach. The term used at Wendell University is "Optional Retirement Program" (ORP) that requires each employee to contribute 6.65 percent of the salary while Wendell University contributes 6.0 percent. This 12.65 percent of the employee's salary is sent to the employee's choice of a "Carrier" for investment.

At the request of the Dean of the College of Business of Wendell University, Jack Pettyjohn, an investment advisor of Lovell & Co., makes a presentation every year as part of the new faculty orientation. Jack has a license to sell securities along with a license to provide investment advice. He has a preference for investment advice rather than selling securities. Consequently he receives calls frequently to make presentations to Corporations sponsoring 401(k) plans to their employees. Wendell University's retirement plan is a 403(b), which is similar to the corporate 401(k) plan. Jack enjoys making presentations to University Faculty more than to the attendees of the corporate 401(k) plans.

Jack considers Wendell's Provost a friend, having had finance classes with the Provost when he was a faculty member in the College of Business. The Provost is also a contact man when other departments or Colleges at Wendell request similar presentations. At each presentation Jack believes that he was being challenged. He did not want to be considered to be a salesman with so many teachers looking forward to his presentation. He knew the audience was expecting tangible and useful data on retirement plans.

The case is appropriate for all academic units that have retirement plans sponsored by the State or private schools. In addition however, the case would be appropriate for all businesses or organizations that sponsor retirement programs for their employees. Time to prepare for the presentation would be no more than three hours and for another hour for discussion.

SOLUTIONS

Questions 1: Why should I buy a no-load mutual fund?

Solution1: Reference page 11 in the case. The Table of U.S. Domestic Stock Funds: No load benefits;

Expense ratio better: 1.22%	**VS**	**2.14%**
Sharpe Ratio better;	1.48	1.19
Morningstar rating;	3.25 Stars	2.59
Performance better		
12 Months	7.35%	2.96%
5 Year	3.27%	2.68%
10 Year	9.22%	6.52%
Load	0	1.29%
Deferred Load	0	2.05%
12b-1 fee	0	.76% (1% Maximum)
Cost of 12b-1	0	$12.67 billion (Dead weight)

Question 2: Why should I use mutual funds for my retirement plan?

Solutions 2: Many choices: equity, bond or hybrid, shares can be redeemed – excellent marketability (see Page 1 and Page 3). Receive professional management (see Page 1), Good diversification (see Page 1), Funds redeemable on request (see Page 3) and Wide range of choices: 25,256 funds (see Page 1),

Question 3: Is it possible that I can invest in a bond mutual fund? What is the difference?

Solution 3: Of the 25,256 funds, many are bond funds. Most "families" of funds is of the bond type. Morningstar covers a large number of bond funds. In addition, many closed-end funds are bond funds, municipal funds in particular. TIAA-CREF also has bond funds. The TIAA are all bond funds. Basically UIT (Unit Investment Trust) are bond funds. Page 2.

Question 4: Should I buy my mutual funds from an experienced broker?

Solution 4: Brokerage Houses sell only load funds to investors who do not know better. All funds sold by brokers have unnecessary charges such as front-end load (commissions), and more than 90% of all front-end loads also have 12b-1 fee charges, higher expense ratios or some combination of the charges that are not needed. Most load funds have lower returns because of these charges. Experienced investors buy no-load funds.

Question 5: Distinguish between a large cap value fund and a mid-cap growth fund.

Solution 5: Reference page 4. "What is your Investment Style" explains that "large cap" means that most of the stocks in the fund are large capitalization types of securities. "Large" means more than $8 billion market cap (Market cap = price of stock multiplied by the number of shares outstanding). The term "value" means that the stocks are considered undervalued, higher dividend payers, lower price earnings ratios, and the expectation is that the stocks will have little if any growth in prices. The "mid-cap" means stocks in the portfolio are mostly of a size between $1 billion and $8 billion market caps. "Growth" means that expectations are that the prices and usually earnings per share will grow.

Question 6: I have been told that I can buy a Class B mutual fund that does not have a front-end charge. What is the difference between a no-load fund and a Class B no-front load fund?

Solution 6: The difference is large. A true no-load has no charge other than the operating expense ratio. The class B normally does not have a front-end load, but to replace that there is generally a deferred load, and in most cases the 12b-1 fee is the maximum of 1%. A 1% 12b-1 fee is far worse than a front-end load. Refer to page 3.

Question 7: What is "dollar cost average"?

Solution 7: Refer to page 3. Dollar cost averaging is a planned process in which an investor arranges to purchase a set dollar amount of funds by arranging to send the certain amount of money to a mutual fund at a predetermined time period, such as $x every month on the first day of the month. When the price of the fund goes up, fewer shares are purchased and when the price of the fund declines more shares are purchased with set amount of money. In so doing the average cost of all shares is less by purchasing more shares at the lower price.

Question 8: What is an "open-end" mutual fund and how does it differ from a closed-end fund?

Solution 8: Refer to page 3. The "open-end" has the meaning that the mutual fund agrees to redeem (buy back) the shares so desired by the investor in any amount. Therefore, marketability is assured. As long as the fund is functioning. It also means that the number of shares outstanding is not limited.

Question 9: What does Morningstar have to offer to an investor wanting to buy mutual funds?

Solution 9: Refer to pages 6 to 11. Morningstar provides everything one needs to make a decision about purchasing funds. The Snapshot alone covers all of the details most investors need, but in addition gives an 800 telephone number to call the fund main office for anything one can think of not found in the report. In the Snapshot there is a graph and 4 years of performance data and shows comparisons with the S&P 500 or other indexes and its category data for comparison. It shows asset size. One of the best decision makers is the star rating, whether it is 5 stars down to 1 star or no star for new funds which have not been rated for lack of performance data.

Performance and risk are considered in the star ranking for 3, 5, and 10 years, along with the number of funds in the rating. The standard deviation (risk) is shown along with the mean return. The Snapshot shows fees (load and 12b-1) when appropriate, and the expense ratio. It shows management and tenure of the manager. The style box shows whether the fund is value, blend or growth, and whether the fund is large, mid-cap, small, or any combination of the two groupings.

Morningstar calculates and reports data such a beta, R-Square, and alpha along with turnover and yield. Performance data are given for Year to Date (YTD), 1 month 12 months, annualized 3, 5, and 10 years and since Inception. The asset allocation is shown for each fund. A full report prepared by Morningstar gives close to everything an investor needs.

Question 10: Someone said that a high expense ratio fund would have better management. Explain the issue.

Solution10: Refer to pages 4, 5 and 11. The higher the expense ratio, the lower the return. Any load, 12b-1 fee and operating expense will reduce the return because each is a burden for the return. Anyone with that pitch does not understand what hurts the return...

Question 11: What is a sector fund? Is there any problem with a sector fund?

Solution 11: A sector fund has most if not all of the stocks from a particular sector. The primary problem is diversification. One of the best sectors is "health care". Quite often the sector funds out-perform properly diversified funds, but there is more risk because if something bad happens in the sector, the performance will be hurt more than those well-diversified funds. An example of some of the better performing sector funds are: Vanguard Health Care, T. Rowe Price Health Science, Fidelity Select Medical Equipment and Systems, and Vanguard Energy. With the price of oil at $70 or higher, performance will reflect the higher price. The volatility of the sector will be reflected in the performance of the funds. However the sector goes, so goes the sector funds.

Question 12: In light of this information, what advice do you have for the new faculty member?

Solution 12: In view of the fact that everyone has noticed that the presentation is void of "fixed income" investments of any kind, justification of this absence can be shown using Ibbotson's data that is published in the spring each year. Inflation adjusted Return produces an 86 year "purchasing power" for large cap equities of $244.13 from an investment of $1.00 in early January 1926. (One dollar turned into a

purchasing power of $244.13.) The only way this $244.13 can be meaningful is to make the same calculation of $1.00 invested in early January 1926 in Government Bonds which provided an 86 year purchasing power of $9.26. The purchasing power of the Government Bonds is 3.79% of that produced by equities, such as the S&P 500 Index.

Very clearly, my advice is to invest all retirement plan capital in the best equities available. When the investments are mutual funds the choice should be no-load and no 12-1 fee funds to make the best performing portfolio the investor can put together.

BIOGRAPHY

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