Problem Set

1. List the most common names in the investment management business. What type of portfolio manager are they?

The idea is to identify the important aspects of the manager's investment strategy, some examples include:
Warren Buffet *is president of Berkshire Hathaway, a publicly traded company that invests in other companies, either wholly or in part, utilizing comprehensive valuation disciplines.*
Bill Gross *is manager of the largest publicly available bond fund at Pacific Investment Management Company (PIMCO) and takes bets on interest rates, currencies, credits and sectors.*
Jim Slater *became a successful column writer in the Sunday Telegraph, promoting balancing earnings growth prospects with valuation. His stock picking career followed one in investment banking.*

2. List one manager for each type of portfolio manager listed in Exhibit 1.2.

While the lists can be long, some examples include:
Pension Consultant: *Wilshire Associates (California), Cambridge Associates (Massachusetts)*
Mutual Fund Firm: *Perpetual (Australia), American Funds Investment Co. (California)*
Registered Investment Advisor: *Edward Jones (Missouri, Financial Advisor), Morgan Stanley Global Wealth Management Group (New York)*
Brokerage House: *Charles Schwab (California), UBS (Switzerland)*
Separate Account Manager: *Barclays Global Investors (California), Goldman Sachs Asset Management (New York)*
Alternatives Manager: *AEW (Massachusetts, Real Estate), Man Investments (England, Hedge Funds)*

3. Go online and list the top and worst performing mutual funds for the last 12 months. What approach do they follow for managing money?

As of 12/31/09:
Top (unleveraged): *JP Morgan Russia Fund actively invests primarily in Russian equity securities and is highly concentrated.*
Worst (leveraged): *ProFunds Ultra Short Latin America is a portfolio taking a daily 2x leveraged short position on Latin American securities.*

4. List 3 common rules of thumb for investing for retirement. How valid do you think is each one?

From TIAA CREF, here are four valid rules of thumb:

1. *"Take advantage of tax-deferred products"*
2. *"Create a diversified portfolio"*
3. *"Don't try to time the market"*
4. *"Pay attention to expenses"*

Other common rules include:

- *For investing retirement savings, setting the equity allocation equal to 100 – age. While this may lead to reasonable allocations for regular contributions, as we shall see in Chapter 3, this is often incorrectly motivated.*
- *Dollar cost averaging into an investment position. While seemingly reasonable advice, as shown in Chapter 15, this is often motivated by behavioral factors and may not be consistent with the theory.*
- *If an investment program offers 10 investment options, diversify and invest 10% in each. This isn't good advice. Asset allocation (weight in stocks and bonds) should first be set and individual options within asset classes selected second.*
- *Seek to replace 70% of your pre-retirement salary. This may or may not be appropriate dependent on one's individual situation. It is very important to recognize that even if 70% is appropriate at retirement, this is in current dollars and the investor should plan for inflation.*
- *Save 10 times your final salary in your defined contribution plan. Again, this depends on each individual—retirement age, life expectancy, level of defined benefit and social security, etc. Clearly, more is better.*

5. Consider the Jean case described in Section 1.1. Explore the following questions:

a. Based on the limited information, does she appear to be a sophisticated investor?

Jean appears somewhat sophisticated, given her asset allocation (high equity exposure), and relatively high level of savings compared to the average retiree.

b. How much risk (consider one definition) is she willing to assume, both financially and emotionally?

Assuming risk is measured as losing money, Jean appears to have the financial capacity, she has modest spending habits and above average savings, and emotional capacity, she is somewhat sophisticated; she has a part-time job which could take up some slack; all supporting her capacity to handle short-term draw-downs.

c. What is her investment horizon?

She is retired, probably at least 65 years old, so her lifespan could be estimated as 30 years. Given her modest spending pattern, she should have remaining assets to bequest at her death. Calculating a target bequest would increase the minimum acceptable return and potentially increase the target return.

- *If she's interested in a bequest, the investment horizon will exceed 30 years if it includes the horizon of the beneficiary*
- *If she's interested in gifting in the meantime, her current cash flow needs will increase*

Use of an annuity contract can provide minimum real cash flows, and potentially with an inflation protection feature. However, there are some problems with this approach: personally experienced inflation may be higher than general inflation and annuities represent credit risk. Longer horizons before retirement make saving and investing easier but make planning in post-retirement more complicated.

d. How should these things influence the recommended asset allocation and asset class selection?

The following issues impact the recommended investment program:

- *modest spending and high savings means she has risk capacity*
- *sophisticated so she is risk tolerant*
- *longer horizon so she needs to earn a higher return to support spending over the planning horizon*

As a result, her assets should be invested for more than current income needs, including risky securities offering higher expected returns.

e. Propose a mix of stocks, bonds and cash for Jean. What's a reasonable spending policy? From where will the cash flow come?

- *Spending policy: $15,500 ($26,500 in expenses less the $11,000 in other income). This represents a required return of 2.8% on the $540,000 in investable assets.*
- *Tax rates should be low at her income level and we can assume 0.*
- *Start with a simple 50/50 mix of stocks and bonds. Assuming expected real, after-tax returns of 5% on stocks and a 2% return on bonds (see chapters 3 and beyond) would provide a 3.5% total expected real return, 0.7% in excess of the required return. The required return would be earned in spite of a potential occurrence of a permanent 20% decline in expected returns. As an alternative, the spending level could be increased by $3,400, on an expected basis, without reducing the real value of the original principal. A lower equity allocation would yield lower total returns, but would generate less volatile asset values over the short term.*
- *Current cash flow from a 77/23% equity/bond allocation is $12,000. At 2009-end levels of a 1.85% equity dividend yield on an S&P500 index ETF, net of fees and 3.75% bond yield on a*

Barclays Agg ETF net of fees, a 50/50 stock/bond allocation provides cash flow of $15,120. The additional $380 could be raised through asset sales.

	Asset	Income
Equity	$ 270,000	$ 4,995
Fixed Income	$ 270,000	$ 10,125
Total	$ 540,000	$ 15,120