

Lecture 3 – Testing CAPM

Testing the idea that, “**STOCKS WITH HIGHER BETA EARN HIGHER EXCESS RETURNS**”

CAPM tells us that *beta* is what explains the security returns

BETA – tells us how sensitive is the security’s expected excess return to the market’s excess return

In order to test the CAPM model, we need to decide on:

- 1) the relevant time period, and
- 2) which securities – excess return on a security
 - beta of a security (in order to estimate the beta of a certain stock, we regress the stock’s excess return on market’s excess return and the slope of that regression corresponds to the beta of a stock)

We then plot stock’s excess returns against the stock’s betas to get the SML (Security Market Line).

Preview from Notesale.co.uk
Page 6 of 28

Lecture 5 – MUTUAL FUND PERFORMANCE MEASUREMENT

3 ways to MEASURE THE RETURNS (or FUND PERFORMANCE):

- 1) **TIME-WEIGHTED RETURNS** – equal weight is given to the return in each year
 - ARITHMETIC AVERAGE = is the mean of the % returns
 - GEOMETRIC AVERAGE (when returns are reinvested) =
$$\sqrt{(1+r_1) \times (1+r_2) \times \dots (1+r_N)} - 1$$
- 2) **MONEY-WEIGHTED RETURNS (MWR)** – captures the extent to which money is exposed to good/bad returns. We give weight to money rather than to time (it takes into account the amount of money we have in place). **It measures the investor timing**, and not the manager timing. If we take out money before positive good returns the MWR should respond by decreasing. But if we take out money before negative poor returns the MWR should respond by increasing

Beginning investment + PV (inflows) = PV (outflows)

E.g.
$$100 = \frac{90}{1+MWR} + \frac{14}{(1+MWR)^2}$$

$$MWR = 3.53\%$$

- 3) **PEER GROUP ADJUSTMENT** – we need to **adjust the returns for risk** before they can be compared. Peer Group Adjustment adjusts fund returns for risk by comparing the rates of returns of different investment funds with similar characteristics. For example, the average returns of a high-yield bond fund should be compared with other high-yield bond funds. After doing so, the average return of each fund is ranked in order and each portfolio manager receives a percentile ranking depending on relative performance. However, the problem with peer-group adjustment is that it assumes all funds within the group take similar risks. In addition, it is not always easy to determine which is the relevant peer group. On top of this, there can be a *gaming of names* of mutual funds – funds may change their names to be in sectors that make them look the best or in sectors that are currently getting a lot of flow.

SOFT-DOLLARS: overpaying for the underlying security by not necessarily picking the cheapest broker but picking the broker who's going to give the fund manager the best kickbacks in terms of research, IT, equipment and other services. But this process lowers the return on the fund since the fund manager overpays for the securities it buys.

MFs are keen on using soft-dollars because it reduces the expense ratios and increases the demand (the fund inflow) since investors compare fees when they are shopping for funds, so hiding the cost of research and other services makes funds look cheaper. With soft-dollars the fund manager does not have to pay for research and analysis but gets it from the broker.

SOFT-DOLLARS is the term used to describe the research and other services provided by the broker to fund managers in exchange to place trade through them (brokers).

The fund manager is allowed to spend soft-dollars not only on broker's research but also other third-party research, financial data and other services that can aid the fund manager's ability to make a sound investment decision.

HOWEVER, the problem with soft-dollars is TRANSPARENCY. The investors, who pay the broker's commissions, are not generally informed about specific soft-dollar purchases. While, fund managers have an incentive to overpay for securities, increasing investor's costs. Because soft-dollars are largely hidden from investors and lightly regulated, they're easily abused (used to purchase goods/services that are unrelated to investment decisions – things like carpeting, office rents, entertainment and so on).

Preview from Notesale.co.uk
Page 16 of 28

Lecture 10 - EXCHANGE TRADED FUNDS (ETFs)

EXCHANGE-TRADED FUNDS (ETFs) – index tracking open-end funds traded on exchanges like closed-end funds (or can also be bought/sold from the fund management company). As the number of shares in the ETF is not fixed (it expands/contracts with demand), the shares are typically traded at NAV.

SPDR ETF – is a fund that tracks S&P 500 and holds all of the S&P 500 Index stocks in proportion to S&P 500 weights.

Why does SPDR ETF return not match the return on the S&P 500 exactly?

- 1) S&P 500 makes periodic changes in the weightings of the S&P 500 index. It may involve adding one company and taking out another; or adjusting the weight of some companies. These changes are announced at the end of the business day after trading has ended. When this happens the State Street must adjust the portfolio of the SPDR ETF at least monthly (or more frequently if the change is significant). And because of this **delay in the implementation of weight changes** in SPDR ETF, the returns do not match exactly.
- 2) When stocks owned by the ETF pay a dividend, investors are entitled to them. And before the SPDR holders receive a corresponding amount of dividend, the SPDR ETF takes any expenses associated with the operation of the fund out of the dividend yield. Because of such fees and expenses, the dividend yield of SPDRs is less than the dividend yield of S&P 500 index.

ADVANTAGES of ETFs over MUTUAL FUNDS

- 1) **TRADING STRATEGY FLEXIBILITY** – due to the fact that ETF shares can be traded like regular shares because they are traded on an exchange.

- **Go short.**

Why can you short sell an ETF but not an index fund?

To answer this question, we should first define exactly what an index fund is. An index fund is a mutual fund, or a basket of stocks sold by a mutual fund company, that attempts to mimic or trace the movements of a given index.

You can buy index funds for numerous different indices, including the S&P 500, Russell 2000 and so on. With an index fund, you are buying an ownership into a portion of a portfolio composed of stocks that are weighted in such proportions as to track a desired index.

A trader engages in shorting when he borrows a security, usually from a broker, and then sells it to another party. The short seller hopes the security's price will go down so that he can pay a lower price when buying back the security to return it to the lending party. Because you purchase and redeem MF shares from the MF company and not on the open market, you cannot short an index fund. However, the need for an index-tracking stock-like security known as an ETF was born. And ETF's value is tied to a group of