GAME RULES

UP THE DOWN MARKET

Trading is allowed in five firms, for which you are provided a description of their business activities and other facts. In addition, you can trade index options, Credit Reassignment Policies (CRAP) and one commodity. The index options and CRAP are described below.

During the evening, "news" relating to these firms will be announced and you will be allowed to buy and sell shares in those stocks. You can also trade in two index options (a call and a put) with payoffs depending on the stock prices. After each round of the game, you will be given a statement of your holdings and total wealth.

When the game is over each stock will pay a "liquidating dividend" which will be based on the cumulative news about the stock and valued between $0 and $50 per share.

Following each "news event" your table can submit trade orders via your web browser.

"Market orders" will be executed at whatever price clears the market - your order will always be filled.

"Limit orders" can be submitted in which you specify a maximum buying price or a minimum selling price - if the market-clearing price is not within this range then your order is canceled.

** You cannot buy and sell the same stock in the same round.

** You can do both a market and limit order on the same stock, as long as both are in the same direction (buy or sell in both)

**The maximum trade for any stock, option, CRAP or the commodity is 50,000; you can do up to 50,000 as a market order and 50,000 as a limit order in the same round

** You must trade shares, options, CRAP and the commodity in round lots of 100.

** Limit order prices must be in whole dollars (no cents) and be between $1 and $99.

** You can borrow money from Usurious Bank Corp. (UBC) at an interest rate of 10% per round.

** You can "short sell" stocks (i.e., borrow shares from UBC and sell them in the market). This is equivalent to having negative share holdings of a stock.

UBC charges a "short selling fee" of 5% of the value of the shares shorted. Short positions incur a 10% per round loan cost.

You can hold cash, but UBC pays no interest on cash.

** Your loan plus the value of short positions cannot exceed 50% of the value of your assets (long stock positions plus cash). If you do not repay the loan or reduce your short positions in the next round, then UBC will liquidate enough of your long positions to reduce your "loan plus shorts" to 50% of your "cash plus longs."

In each round, when all trade orders have been submitted, UBC will "clear the market," finding the market price that equates demand and supply of shares - UBC does not set the prices of the traded stocks. All market orders and the successful limit orders are carried out at the market-clearing price.

Index option prices are quoted at the start of the round and are determined by Black-Scholes for an at-the-money, 1-round maturity option. The commodity and CRAP prices are also set at the start of each round and are reported by UBC.

** When the game ends is not known: the number of rounds is uncertain. When trading is halted, your final wealth is cash plus long shares times the liquidating dividend per share, less loan outstanding, less short shares times the liquidating dividend per share.

Additional Trading Vehicles

Besides trading in the stocks of five companies, you can trade Titanium (as a commodity), index options, and Credit Reassignment Policies (CRAP). While the prices at which you trade the stocks are determined by demand and supply in the game, the prices of the commodity, the index options and the CRAP are pre-set. The commodity and CRAP prices for each round have been pre-determined and will be announced at the start of each round. The prices of the index options are set according to the Black-Scholes Option Pricing Model, which determines the price of a call option and a put option as a function of the price of the underlying index. The prices are shown on the trade order form on your web browser.

The Commodity: The game will include one commodity. The price at which you can trade in any round is provided in the newspaper for each round. The price will vary from round to round, depending on the news.

Index Options: Index options will be offered at the start of each round, and the options will mature at the end of each round. Option payoffs are cash settled – that is, if your option "bet" succeeds, you get a cash payoff, if it fails, you will have to pay cash to UBC; these payments are done automatically at the end of each round by UBC.

The Index: The stock index, on which the call and put index options will be written, is four times an equally weighted index of all five firms traded on the UBC exchange. For example, if, at the end of Round 2, two stocks are selling for $35 a share, and three stocks are selling at $45, the index value at the end of Round 2 will be 4*[(35+35+45+45+45)/5] = 164. As the share prices change in each round, so will the index value.

The index options issued at the beginning of each round have an exercise (or strike) price equal to the level of the index at the close of the last round. For example, suppose the index at the close of Round 2 was 164, as above. Then you can trade options at the start of Round 3 with exercise prices of 164. UBC will tell you how much these options will cost (it is calculated using the "Black-Scholes" formula). These options mature at the close of Round 3. Whether you win or lose money on your index option bet depends upon whether you use a call or a put option and whether you go long or short the option (i.e., there are 4 possible trading positions: long a call, short a call, long a put and short a put). Suppose S3 is the stock index level at the end of Round 3. Here are the cash payoffs at the end of Round 3 for the 4 possible positions you could take:

• **Buy (go long) a call option:** your payoff = the greater of zero or S3-164.

• **Write (go short) a call option:** your payoff = the negative of the long call payoff.

• **Buy (go long) a put option:** your payoff = the greater of zero or 164-S3.

• **Write (go short) a put option:** your payoff = the negative of the long put payoff.

To include the effect of the option price, all these payoffs would have the price added to the "short" positions and subtracted from the "long" positions.

Credit Reassignment Policies (CRAP)

CRAP is an insurance policy that pays off if any firms declare "default" in a particular round. A CRAP buyer pays a premium per CRAP stated on the newspaper at the start of a round and, if any firm defaults in that round, the CRAP holder receives $25 per defaulted firm. So, if the CRAP premium in a round is $10 and if two firms default in that round, the CRAP holder would get $50 – 10 = $40 per CRAP. Each CRAP contract has to be replaced each round if you wish the insurance to continue. You can buy CRAPs (pay the premium to get default payments) or you can sell CRAPs (earn the premium but pay the default payments).