MARKET PROSPECTUS & TRADER'S MANUAL

For the 40th Canadian Federal Election 2008

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22:00h Pacific Time, Monday, 13 October 2008 (night before Election)

Summary

The UBC-ESM is organized to permit the trading of contracts with payoffs based on the outcome of the 40th Canadian Federal Election on Tuesday, October 14, 2008. Registered participants invest funds and trade contracts on a computerized market. All invested funds and cash deposits will be repaid to registered participants after the close of the market, however individual traders may make or lose money depending on how well they predict the election outcomes. Participants invest their own funds, buy and sell listed contracts, and bear the risk of losing money as well as earning profits. The market can be reached exclusively on the World Wide Web at `esm.ubc.ca`. Traders can connect to the market through the links on this web page.

The UBC-ESM is operated as a not-for-profit venture. As described in this manual, the method of issuing contracts and making final payoffs on these contracts ensures that the UBC-ESM does not realize financial profits or suffer losses. No commissions or transactions fees will be charged.

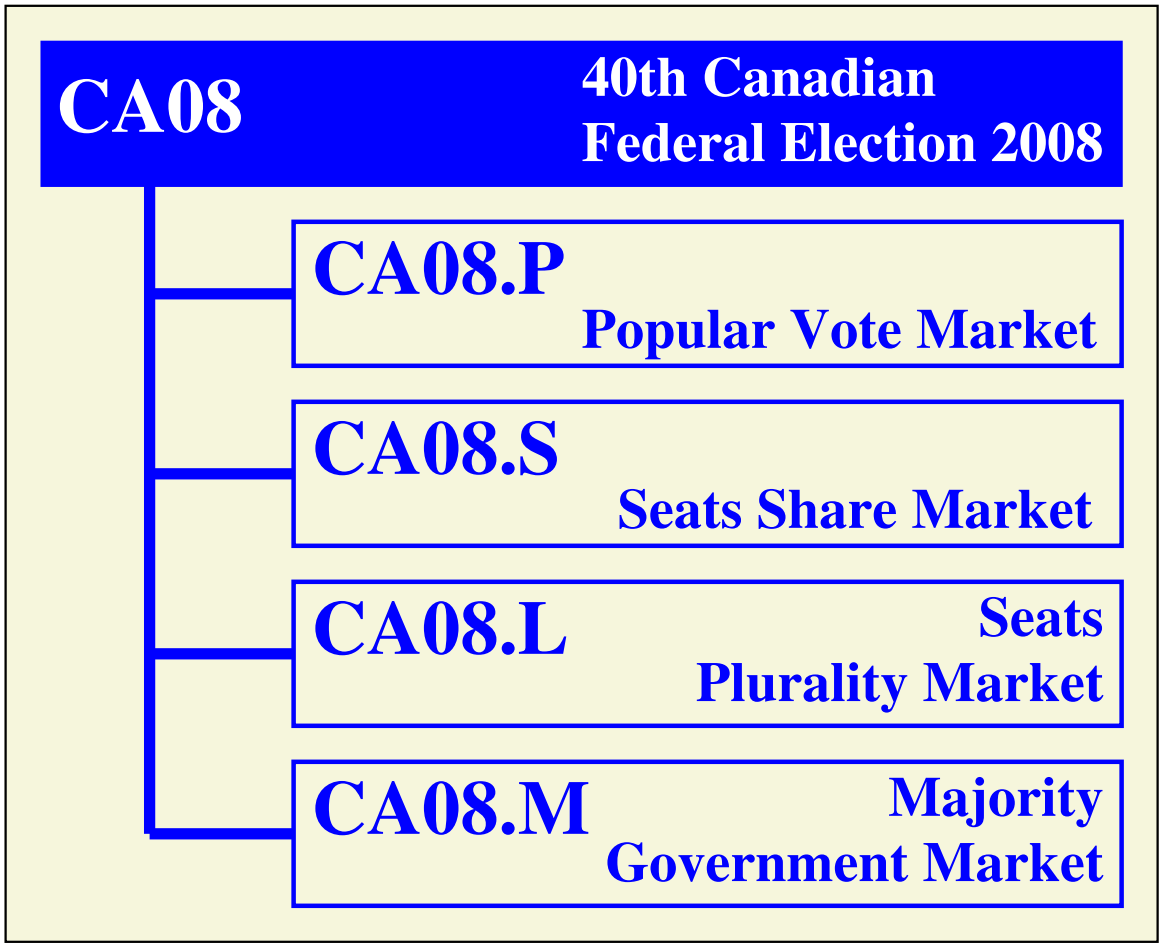
The exclusive purposes for conducting this market are teaching and research. Through the UBC-ESM, participants learn first-hand about the operation of a financial market and, because they have an added incentive to do so, they often become better informed about not only the current election but also the election process itself. As a research project, the UBC-ESM generates valuable data that will provide insights into market and trader behaviour. Participation in the UBC-ESM is open to all Canadian residents who are at least 19 years of age.

Contents

1 Overview

The UBC Election Stock Market (UBC-ESM or simply ESM) is an exchange in which traders buy and sell financial contracts representing political parties in real elections. The exchange opens at 10:00h on Monday, September 8, 2008 and closes at 22:00h on Monday, October 13, 2008, the night before the election. Between these dates the market will be open every day between 04:00h and 22:00h Pacific Time. The UBC-ESM is really a collection of component markets related to different elections. Currently it includes four markets related to the 40th Canadian Federal Election 2008 (identifier: CA08). The full set of markets being operated at this time is illustrated in the chart below.

Structure of the UBC-ESM Markets



The four markets operated for each election take their names from what determines the values of their contracts. For this election there is a "Seats Share Market," a "Seats Pluarlity Market," a "Popular Vote Market," and a "Majority Government Market." Typically, the market attracting the most attention is the Seats Market in which contracts representing each major political party contesting the relevant election are listed. Contracts are offered for each party that holds seats in the House of Commons at the time the market is opened.

All stock symbols in the UBC-ESM are made up of three parts, separated by periods. For example, CA08.S.LIB denotes a contract for the Liberal Party (LIB) in the Seats Market (S) of the Federal Election. The first part denotes the election (CA08), the second part denotes the type of market (seats share market, seats plurality market, majority government market, or popular vote market), and the third part identifies the contract (political party or election outcome).

The ultimate payoff from owning a contract for a party in the Seats Share Market (CA08.S) will be a liquidation value determined as $1.00 times that party's new share of the seats in the House of Commons. Contracts are initially placed in circulation through the purchase of blocks of contracts (called "Unit Portfolios") from the UBC-ESM. A unit portfolio consists of all contracts in this market, one in each of the parties including one contract for "Others" (smaller parties and independents). The cost of that portfolio is $1.00. Unit Portfolios are described more completely below.

The second market is the Popular Vote Market (CA08.P) in which a different set of contracts are traded for each of the major political parties. The UBC-ESM offer contracts for all parties which currently hold seats in the House of Commons, as well as parties which had more than 5% of the popular vote in the past election. The ultimate payoff from owning a contract for a party in this market will be a liquidation value determined as $1.00 times that party's share of the popular vote in the election. Again, contracts are initially placed in circulation through the purchase of blocks of contracts (Unit Portfolios) from the UBC-ESM. A unit portfolio in the Popular Vote Market consists of one contract for each of the parties including one contract for all "Others" (smaller parties and independents), and the cost of that portfolio is $1.00.

The third market for each election is the Majority Government Market in which contracts are traded that correspond to the achievement of a majority of seats in the House of Commons. There are three contracts. One for a seats majority of the incumbent party, one for a seats majority of the principal challenger party, and one for any other outcome. Other outcomes may include a "hung parliament" in which no party achieves a majority, that is, a minority government. Majority is defined by a party obtaining more than 50% of the seats. If there is an even number of seats (N), this means (N/2)+1 seats; if there is an odd number of seats (N), this means (N+1)/2 seats. Upon liquidation in this market, each contract in a party pays $1 or $0 depending upon whether that party won a majority as defined above. This means that only one of the contracts pays $1, and the other two will pay $0. If neither incumbent nor challenger party win an outright majority, the "other outcome" contract will pay $1. As above, contracts are initially placed in circulation through the purchase of unit portfolios from the UBC-ESM. In this case, a unit portfolio consists of three contracts and costs $1.

The fourth and last market is the Seats Plurality Market (CA08.L). As two previous federal parliaments ended up without a majority government, significant attention is also placed on which party wins a plurality of seats in the House of Commons. There are two contracts offered in the plurality market: one for the Conservative Party winning more seats than the Liberal Party (CA08.L.CPC), and one for the Liberal Party winning more seats than the Conservative Party (CA08.L.LIB). Each contract pays $1 or $0 depending upon whether that party won a plurality of seats as defined above. In case both parties win the exact same number of seats in the House of Commons, both contracts pay $0.50. As with the other markets, contracts are initially placed in circulation through the purchase of unit portfolios. In this case, a unit portfolio consists of two contracts and costs $1.

Participants invest in the market by making cash deposits on-line or with the Market Admin-

istrator. A trading account is opened in the trader's name and the amount invested is posted to the trader's cash account. The minimum deposit required to open an account is $25.00, and the maximum amount that may be invested is $1,000.00 per account. Upon entry to the market (and any time up to the closing of the market just prior to the election), a trader can purchase new unit portfolios from the UBC-ESM and then trade the individual contracts with other traders.

All receipts from market participants will be held on deposit by the University of British Columbia until the market closes on the eve of election day and liquidation values have been determined. At that time, liquidation values earned in all markets plus the balance in a trader's cash account will be paid to the trader. Any interest earned while the funds are held in deposit by the University will be used to help cover the costs of operating the market.

Trading in the markets for an election takes place continuously from opening day until those markets close at 22:00h (Pacific Time) on the evening before that election. The markets will be unavailable during the midnight hours (from 22:00h to 04:00h) in order to carry out maintenance and backups. Current market prices in all markets can be observed by anyone with access to the Internet. The market history is determined during the maintenance period around midnight, and tables and diagrams are published under the "Yesterday's Prices & Charts" item on the UBC-ESM home page for that market. Only registered participants can make orders and conduct transactions. This market has most of the features of a futures market. However, it does not allow short sales or margin purchases. Specifically, no trade can be undertaken unless the seller has possession of the contract to be sold and the buyer has a sufficient cash account deposit to cover the purchase.

All contracts are traded in tenth of cents. For example, a particular contract may trade at 54.3 cents. All trades will be carried out accurately at this level. Upon liquidation of the markets, payments will be made by rounding the account's cash balance to the closest full cent.

The remainder of this manual is divided into two sections. The first section details trading rules and restrictions – it shall be presumed that any participant in the market has read and understood the market specifications contained therein. The second section ("trading mechanics") serves as a reference manual for access to the computerized market. In this section, the procedures for logging into the market and executing transactions are described.

2 Research Surveys

The UBC Election Stock Markets are part of the UBC Election Stock Market Project which is a research and teaching project based in the Phelps Centre for the Study of Government and Business in the Sauder School of Business at the University of British Columbia. From time to time, UBC-ESM traders may be invited to participate in surveys as part of research being undertaken by Project-affiliated faculty. These surveys are not for commercial purposes and responses provided remain strictly confidential. Traders are not required to respond to surveys as a condition of trading and may skip through survey screens at any time. The researchers appreciate your understanding and cooperation.

3 Trading Rules

This section describes the Seats Share Market which is the principal market in the 2008 UBC Election Stock Market. The other markets, the Popular Vote Market, the Seats Plurality Market, and the Majority Government Market, employ the same trading rules except for certain key features such as the definition of contracts, the determination of liquidation values and the composition of unit portfolios. The differences are detailed in the sections on contracts and payoffs.

3.1 Enrolment, Accounts, and Investments

Aspiring traders may enrol in the market at any time prior to the final close prior to the election by registering on-line or contacting the Market Administrator. New traders will be given an account in the UBC-ESM and assigned an account name and password. The minimum investment accepted is $25.00. Additional amounts may be invested at any time up to a maximum of $1,000.00. All funds invested in the market will be credited to the trader's cash account and placed in a bank account at the University of British Columbia where they will be held until after the election. At that time payoffs to investors will be determined and all funds invested will be redistributed among registered traders as explained under Payoffs below. Funds in a trader's cash account can be applied to transactions in any of the exchanges and markets for which the trader has privileges.

3.2 Contracts

In the Seats Market, contracts can be thought of as shares in political parties. Each contract entitles the holder to a liquidation value determined by the share of seats won by that party in the election. Each share or contract in a party entitles the holder to receive $1.00 times the percentage of the seats share won by that party. For example, if the Liberal Party was to win exactly 51% of the seats in the next election, a contract for the Liberals in the Seats Market will pay the holder 51 cents. For expositional convenience, "Others" will also be referred to as a political party. The "Other" contract will carry a liquidation value determined by the share of seats won by candidates not affiliated with any of the four other listed parties.

In the Popular Vote Market, contract liquidation values depend on the percentages of the popular votes garnered by the political parties. In this market each share in a party entitles the holder to receive $1.00 times the percentage of the popular vote collected by that party.

The final values of seat and popular vote shares will be based on the results from the return of the writs after the elections. Because we want to close down the market and make payoffs in a timely fashion, it will not matter for the purposes of payoffs if later elections in ridings in which voting had to be postponed or court decisions on the admissibility of ballots in some ridings alter the seats or popular vote percentages.

The presence or absence of a majority position is a significant feature of the outcome in any election. For this reason, UBC-ESM is operating a third market (called the "Majority Government Market") to gauge traders' perceptions about the likelihood of either of two parties (the incumbent and the leading challenger) winning a majority. In this market each contract entitles the holder to a liquidation value of either $1 or $0. A contract will have a liquidation value of

$1 if the party specified in that contract wins a majority (greater than but not equal to 50% of the seats) in parliament. A single CA08.M.OTR contract will pay $1 if neither of the two listed parties wins a majority. This could happen if a third party wins a majority, or if no party wins a majority (a "hung parliament").

As two previous federal parliaments ended up without a majority government, significant attention is also placed on which party wins a plurality of seats in the House of Commons. There are two contracts offered in the Seats Plurality Market for the two largest parties currently represented in the House of Commons: one contract for the Conservative Party winning more seats than the Liberal Party (CA08.L.CPC), and one contract for the Liberal Party winning more seats than the Conservative Party (CA08.L.LIB). "Winning more seats" is defined as the named party winning at least one more seat than the other party. Each contract pays $1 or $0 depending upon whether that party won a plurality of seats as defined above. In case both parties win the exact same number of seats in the House of Commons, both contracts pay $0.50.

Each contract is characterized by a unique symbol that consists of a market symbol and a stock symbol. The table below identifies the markets and contracts. For example, CA08.S.LIB is a contract corresponding to the share of seats the Liberal Party wins in the 2008 federal election. See the table below for a list of all available contracts.

Table 1: Contracts and Stock Symbols

2008 Canadian Federal Election Stock Market		
Type of Market	Stock Symbol	Contract
Seats Share Market	CA08.S.LIB	the Liberal Party of Canada
	CA08.S.CPC	the Conservative Party of Canada
	CA08.S.NDP	the New Democratic Party of Canada
	CA08.S.BLQ	the Bloc Quebecois
	CA08.S.OTR	All Other Parties and Independents
Plurality Market	CA08.L.LIB	the Liberal Party wins a seats plurality
	CA08.L.CPC	the Conservative Party wins a seats plurality
Popular Vote Market	CA08.P.LIB	the Liberal Party of Canada
	CA08.P.CPC	the Conservative Party of Canada
	CA08.P.NDP	the New Democratic Party of Canada
	CA08.P.BLQ	the Bloc Quebecois
	CA08.P.GRP	the Green Party
	CA08.P.OTR	All Other Parties and Independents
Majority Government Market	CA08.M.LIB	the Liberal Party wins a majority
	CA08.M.CPC	the Conservative Party wins a majority
	CA08.M.OTR	any other outcome

3.3 Unit Portfolio Purchases And Liquidations

Upon entering the market (and any time thereafter until the market closes), a trader can convert funds in his or her cash account into unit portfolios. Each unit portfolio consists of a set of contracts, one of each type in the market. Thus, each unit portfolio in the Seats Market consists of five contracts; one contract for each of the four major parties currently represented in the House of Commons, and one for all other parties and independents. The cost of each unit portfolio is $1.00. Likewise, unit portfolios consisting of one contract in each party may be redeemed at any time for $1.00, with the proceeds to be deposited in the trader's cash account. To purchase unit portfolios, select the "Buy/Bid" option in the Action Menu and the "$1 Bundle" option in the Contract Menu; to sell unit portfolios, select the "Sell/Ask" option in the Action Menu and the "$1 Bundle" option in the Contract Menu. Purchases will be charged to your cash account and sales will be credited to your cash account.

The purchase of unit portfolios results in the issuance of new contracts in the parties involved. Liquidation of unit portfolios has the effect of removing the contracts involved from circulation. Since each unit portfolio in the Seats Market consists of one contract in each party in the market, there will always be an equal number of contracts in each party in circulation at any time.

Details on how to make these portfolio purchases and liquidations are given in the sections Purchase at market price and Sell at market price below.

Notice that the system ensures that the UBC-ESM does not realize financial profits or suffer losses from operating the market. The sum of the shares of seats in the House of Commons across all parties is necessarily one; thus, the sum of the liquidation values to be paid on all of the contracts in each $1.00 unit portfolio issued in the Seats Market will be $1.00. Units of contracts are entered into circulation only through the issuance of unit portfolios, and while subsequent trading may redistribute those contracts among market participants there will always be the same number of contracts outstanding in each candidate listed in a given market. The total of dividend payments made by the UBC-ESM will exactly equal $1.00 times the total number of unit portfolios purchased by all traders. The same is clearly true of the other two markets – all the money invested by traders will be paid back out in the form of liquidation payments.

3.4 Payoffs

The market will close at 22:00h (Pacific Time) on the evening before the election. As soon thereafter as official election returns are announced, liquidation values will be declared and all funds invested in the market will be redistributed among market participants. Distributions in each market are determined as follows. In the Seats Market, for each contract in a party which a trader owns as of the close of the market, the trader will receive $1.00 times that party's share of the seats won in the House of Commons. In the Popular Vote Market, for each contract in a party which a trader owns as of the close of the market, the trader will receive $1.00 times that party's share of the national popular vote. In the Majority Government Market, for each contract reflecting the election outcome that a trader owns as of the close of the market, the trader will receive $1.00; all other contracts that do not reflect the election outcome will receive nothing. There are only two contracts traded in the Plurality Market, one for each of the two

large parties. Reflecting the election outcome, if one party wins a plurality (i.e., gains at least one more seat than the other party), the coorresponding contract will pay $1.00, and the other contract will receive nothing. Exceptionally, should both parties win the exact same number of seats in the House of Commons, both contracts in the Plurality Market will pay $0.50. Distributions to each trader will include the total of liquidation values on all contracts owned plus any amount which remains in his or her cash account.

Upon liquidation of a market, traders will have their trader accounts credited with the liquidation value of all shares in this market. You can either receive a cash payout (by cheque) or use this cash balance to continue trading in the remaining open market, if any. After an election has been held, it takes typically 2-3 weeks before final results become available.[1] We will liquidate your stock positions as soon as the writs have been returned.[2]

Traders wishing to close their accounts prior to the election must first convert all their assets into cash by selling off all their contract holdings and then send a request for the remission of the funds in their cash accounts to the UBC-ESM Directors. This request should come via e-mail to esm2008@esm.ubc.ca.

Table 2: Example

The 2004 Federal Election led to the following distribution of popular votes: Liberals - 36.7%; Conservatives - 29.6%; NDP - 15.7%; Bloc Quebecois: 12.4%; All Other Parties: 5.6%. Accordingly, liquidation values were determined as follows:

Symbol	Contract	Share	Payout
CA04.P.LIB	Liberal Party	36.7%	$0.367
CA04.P.CPC	Conservative Party	29.6%	$0.296
CA04.P.NDP	New Democratic Party	15.7%	$0.157
CA04.P.BLQ	Bloc Quebecois	12.4%	$0.124
CA04.P.OTR	Other Parties and Independents	5.6%	$0.056

If in 2004 trader Jack Jones held $10.25 in his cash account and held 30 CA04.P.LIB contracts, 10 CA0401.P.CPC contracts, 20 CA04.P.BLQ contracts, and no CA04.P.NDP or CA04.P.OTR contracts when the market closed, the final disbursement to him would have been $32.17: $10.25 + (30 x $0.367) + (10 x $0.296) + (20 x $0.124) = $26.70.

As explained under Unit Portfolio Purchases above, there always will be an equal number of contracts in each party, and the issue price for each unit portfolio consisting of one contract in each party is $1.00. The sum of liquidation values on a unit portfolio in any market will also be exactly $1.00. Thus, the total of all liquidation values paid on contracts in circulation after the election will exactly match the total issue price of those contracts. This payoff method guarantees that the UBC-ESM will not suffer financial losses or realize financial gains from market investments.

[1] A delay may occur if an official recount is conducted, which may happen mandatorily if the outcome in a particular constituency is very close. In case of a recount, the market liquidation will not take place until the official recount(s) have been completed and a final official result has been announced. In some instances this may delay the market liquidation by an addition 2-4 weeks.

[2] At times the UBC-ESM has been operating markets for concurrent elections at the federal and provincial level. When traders have requested rights to the markets of only one of the elections their accounts will be closed and their payoffs processed after that election unless they notify the UBC-ESM Directors that they would like to continue trading in other markets.

For all calculations and transactions, the accuracy is to 1/10 of a cent (or equivalently 1/1000 of a dollar). For example, a shareholder who owns 27 shares (in the popular vote market) of a party which won 19.3 percent of the popular vote will receive $5.211. The final payout, after all summations have been done with the aforementioned accuracy, is rounded to the nearest cent. In case where simple rounding of the seats share or popular vote share would lead the equivalent share prices to add up to 99.9 or 100.1 cents, we will use the Hamilton/Hare/Niemeyer largest-remainder procedure to calculate the proper rounding that will ensure that prices sum to exactly 100.0 cents.

3.5 Market Access

The UBC-ESM operates on a dedicated computer at UBC's Sauder School of Business. Access to the market is exclusively through the World Wide Web. After logging in, traders will be able to use their accounts to effect trades in the three UBC-ESM markets. Entry into the market reveals information about current market prices and trading history for each of the contracts in a particular market. Trading of contracts in the market does require prior enrolment and assignment of an account. After entering a market, participants may log into their individual accounts to gain access to private information, including their current cash balance, contract holdings, outstanding orders, order history, and contract purchases and sales. From here, traders can exit from the market or initiate market activity.

3.6 Market Actions

The actions that can be undertaken by logged-in traders are placing a bid (an order to buy), placing an ask (an order to sell), withdrawing an outstanding bid or ask, making a purchase at the current market price, and executing a sale at the market price.

3.6.1 Placing a "Bid"

A bid is an order to buy in the form exemplified by "I bid 53.2¢ per contract for 4 contracts of LIB, and this bid is good until the end of today's trading session". That is, a bid specifies a party, a price, a number of contracts, and a time limit. Bid prices must fall in the range from 0.1¢ (one-tenth of a cent) to 100.0¢, and time limits must be one of the items in the "expiry" menu. A time limt of "immediate" signifies a buy or sell order. A limit of "today" means that the order expires at the end of today's trading session. Similarly, "tomorrow" means the end of tomorrow's trading session, and so forth. The number of contracts in a bid is limited to the range 1-999. Trading in fractions of contracts is not possible. Note that the market system will take receipt of bids even if the total value of the bid (price times number of contracts) exceeds the trader's cash account balance. But, as explained below under Feasibility Checks , it will not allow trades to result from bids which would make the trader's cash account show a negative balance.

Note that bids should be thought of as "standing" or "limit" orders. They will not result in immediate trades unless some other trader has previously submitted an order to sell contracts in the same party at the same or a lower price. If not, the bid is placed in a queue to await acceptance by another trader.

3.6.2 Placing an "Ask"

An ask is an order to sell; an example is "I offer to sell 4 NDP contracts for 12.0¢ per contract and this order is good until the end of tomorrow's trading session." As with bids, an ask specifies a party, a price, a number of contracts, and a time limit. Ask prices must lie in the range 0.1¢ (one-tenth of a cent) to 100.0¢ and time limits must be an item chosen from the "expiry" menu. A time limt of "immediate" signifies an buy or sell order. A limit of "today" means that the order expires at the end of today's trading session. Similarly, "tomorrow" means the end of tomorrow's trading session, and so forth. The number of contracts in an ask must be an integer number between 1 and 999. The time limit must be expressed in full days between 0 and 99. Note that the market system will take receipt of asks even if the number of contracts offered exceeds the trader's portfolio holdings. But, as explained under Feasibility Checks below, it will not allow trades unless the seller owns the contracts he or she offers for sale.

Asks should be thought of as "standing" or "limit" orders. They will not result in immediate trades unless some other trader has previously submitted an order to buy contracts in the same party at the same or a higher price. If not, the ask is placed in a queue to await acceptance by another trader.

3.6.3 Withdrawing a bid or an ask (Withdrawing current order)

At any time a trader may request a list of his or her own outstanding bids and asks from the system. Any of these orders may be withdrawn. To withdraw an order, a trader goes to the OUTSTANDING ORDERS page where all open orders will be displayed in order of when they where entered. A simple click on the cancel button displayed to the right of each order will delete the order from the relevant queue. Note that outstanding orders cannot be revised by the trader, but those orders can be withdrawn and new orders submitted. Orders cannot be withdrawn after they have been accepted by another trader; any failure of an attempt to withdraw an order is likely due to acceptance of it by another trader before the order to withdraw reached the system.

3.6.4 Purchase at market price

A purchase order is an order to buy one or more contracts at an outstanding ask price; an example is "I offer to buy 4 LIB contracts at the current market price." Provided your cash account balance is large enough to cover the transaction, a purchase order will result in the immediate acquisition of one or more contracts. The price you pay is determined by the lowest price of any asks previously submitted by other traders. The number of contracts bought is constrained by the number in your order, the number available from other traders at the current low ask price, and, of course, by the balance in your cash account. This means of acquiring contracts is somewhat quicker, but less flexible and more transitory than the submission of a bid. You need not specify either a price or a time limit with a purchase order. But if the number of contracts you order to buy exceeds the number available at the current low ask price, the residual purchase order is simply cancelled; it does not remain in a queue for later acceptance by another trader.

3.6.5 Sell at market price

A sell order is an order to sell one or more contracts at an outstanding bid price; an example is "I offer to sell 4 CPC contracts at the current market price." Provided your portfolio includes the contracts you offer to sell, a sell order will result in the immediate sale of one or more contracts. The price you receive is determined by the highest price of any bids previously submitted by other traders. The number of contracts you sell is constrained by the number in your order, the number requested by other traders at the current high bid price, and, of course, by the number in your portfolio. This means of selling contracts is somewhat quicker, but less flexible and more transitory than the submission of an ask. You need not specify either a price or a time limit with a sell order. But if the number of contracts you offer to sell exceeds the number other traders are willing to buy at the current high bid price, the residual sell order is simply cancelled; it does not remain in a queue for later acceptance by another trader.

As noted under Unit Portfolio Purchases And Liquidations there is also a "special" contracts you can sell in the market: a unit portfolio consisting of one contract of each party in a market. If you enter "1$" as the name of the contract you wish to sell, the price of this unit portfolio will be set to one dollar and you can sell as many portfolios you wish at this price.

3.6.6 Taking a Covered Short Position

The UBC-ESM currently does not allow explicit short or long positions, as we cannot maintain margin accounts with our current set-up. This means you are not allowed to have a negative cash balance, or hold a negative number of shares. However, you are able to take a covered short position in a particular party by buying a unit portfolio and selling the share of the contract you would like to short.

For example, suppose the current price of the LIB contract is $0.62 and you believe that it is worth only $0.57 come Election Day. If the market is working efficiently, the combined value of the other four contracts will be worth $0.38 at the current point in time, but will be worth $0.43 on Election Day if your prediction is correct. Consequently, by selling the LIB contract for $0.62 and keeping the shares of the other four contracts, your portfolio will be worth $0.62+$0.43=$1.05 on Election Day, yielding a profit of $0.05.

Note the difference between this covered short position and an uncovered short position. An uncovered short position would require that you enter a contract with another trader today to sell this other trader a LIB contract for $0.62 at a later point, even if you do not possess such a contract at this point in time. Suppose you had a cash balance of exactly $0.57. If your prediction about the future price of $0.57 was correct, this amount would allow you to buy a LIB share on the due date for this amount, and sell it to the other trader for $0.62 with a profit of $0.05. However, if you are wrong and the price of the share remains at $0.62, you must buy a share for this price but are $0.05 short in cash to do so. This is the reason for your position being "uncovered", exposing you to potential illiquidity. Compare this with the covered position explained in the previous paragraph. Here you already possess all shares, and are not subject to any illiquidity risk.

3.7 Bid and Ask Queues

When bids and asks are submitted by traders they are placed by the system in "Bid Queues" and "Ask Queues", respectively. Each queue is ordered according to price and time of issuance; if two or more orders at the same price appear in a queue they are entered by time with older orders appearing ahead of newer orders (see illustration in the table below: look for the two top entries in the ASK queue). The prices displayed to traders when they log into the market are the highest bid price in the Bid Queue and the lowest ask price in the Ask Queue. If no price is displayed it is because the corresponding queue is empty. Orders remain in the queues until they are withdrawn by the trader who issued them, they expire, they are accepted by another trader and result in a trade, or they are removed by the system due to infeasibility. Expirations are determined according to the terms of the order. The other outcomes are explained below.

The table below (with fictional numbers) illustrates a bid and ask queue for a particular contract, for example, the S.LIB contract. The queues are ordered in descending order of their price so that the entries in the ask queue are usually above the entries in the bid queue. Where entries are on the same level, trades will occur. The "front" of the bid queue is therefore at its top, and the "front" of the ask queue is at its bottom.

Table 3: Bid and Ask Queues for Contract CA08.S.LIB

BID QUEUE			ASK QUEUE		
Entered	Qty.	Price	Entered	Qty.	Price
			04/21 15:50	10	60.0¢
			04/20 09:20	5	60.0¢
			04/21 12:23	12	58.3¢
			04/21 12:23	7	57.0¢
-- now --	5	57.0¢	04/21 17:11	3	57.0¢
04/19 11:48	15	55.0¢			
04/18 12:23	15	54.0¢			
04/19 15:55	10	54.0¢			
04/10 22:15	50	50.7¢			

Note: The detailed queue information is not available to traders. Traders only see the top bid and top ask. In the above table, the depth of the queue appears for illustration purposes only.

In the table above, the bid entered "now" (e.g., a purchase request) is for 5 shares at a price of 57.0¢. Since it is at the front of the bid queue, and the ask price at the front of the ask queue is smaller than or equal to the bid price, a trade is feasible. However, the ask order is only for 3 shares. This means the ask order entered 04/21 17:11 is filled and removed from the ask queue. The "now" bid is reduced by 3 shares to 2. Now the queues are checked again for a feasible trade. Now the ask order entered at 04/21 12:23 has moved to the front and is feasible, as its price is again 57.0¢. Now the remaining two shares of the bid can be purchased, and the bid is removed from the queue. Finally, the ask order entered 04/21 12:23 is reduced to 5.

3.8 Execution of Trades

Trades are executed whenever a purchase or sell order is submitted, the bid price of a new order to buy meets or exceeds the lowest ask price in the Ask Queue, or the ask price of a new order to sell is less than or equal to the highest bid price in the Bid Queue. A complete description of the process resulting in a trade is as follows: whenever a new bid or ask moves to the front of a queue and passes the feasibility check, the system immediately checks for a possible trade. Specifically, if the highest bid price on a contract equals or exceeds the lowest ask price, then the system executes a trade between the bidder and asker. If the bid price and asking price are not identical, then the price used is the one from the older of the two orders. If the number contracts ordered in the bid and ask are not the same, then the number of contracts traded is the smaller of the two. The system handles all bookkeeping for such a trade – the cash account of the bidder is reduced by the value of the trade (price times number of contracts), the cash account of the seller is increased by the value of the trade, and the contracts are moved from the portfolio of the seller to the portfolio of the buyer. Finally, the orders are checked for removal from the queues. If the number of contracts traded exhausts the number ordered in either the bid or the ask, that order is removed from its queue. Otherwise, the order is reduced by the number of contracts traded, and the modified order remains in the front of its queue.

The process resulting from the arrival of a purchase or sell order is similar except in the determination of the transaction price and in the fate of an unfilled order. When a purchase order is executed, the price used is the price of the lowest ask in the ask queue, and when a sell order is executed, the price used is the price of the highest bid in the bid queue. In both cases, if the order exceeds the number of contracts available at that price, the remainder of the order is cancelled without being placed in the respective queue.

Note that the system will not allow self trades. When the current high bid price meets or exceeds the current low ask, the system checks to see if the same trader submitted both orders. If so, the order involving the smaller quantity is cancelled, the order with the larger quantity is modified by reducing the quantity ordered a like amount, and an entry noting these changes is entered in the trader's history file.

It will sometimes appear that a trade that "should have" occurred did not. For example, you observe on the screen that LIB currently has an ask price of 53.0¢. You place an order to buy 3 contracts of LIB at 55.0¢. The system then informs you that your bid has been entered into the market but does not tell you that a trade occurred. This can happen for any of three reasons. The first is that your order was infeasible and was thus cancelled. The second is that someone beat you to it. Like most markets, there will be several participants and allocation is first-come, first-served. Computers are fast, but they cannot always change the screen information frequently enough to keep up with market. The third reason is that both the bid and ask were submitted by you and the orders were cancelled or modified because of the prohibition against self trades explained in the preceding paragraph.

3.9 Feasibility Checks

3.9.1 Overview

As noted above, infeasible orders (bids, asks, purchase orders and sell orders) may be submitted but can never result in trades. Each order is checked for feasibility at two occasions. First, an

offer is checked when it reaches the top of the corresponding bid or ask queue. If an order is infeasible, it will be removed from the queue. If an order is feasible only in part, the order will be reduced to the feasible amount. This first check ensures that the bids ands asks displayed on the trading screen are very likely to succeed. Orders are checked a second time when an actual trade is attempted. If a trade can be carried out in full, the order is executed and then removed from the bid or ask queue. If the order is infeasible, it is removed from the bid or ask queue as well, and a notice is placed in your account. Feasibility is not checked when you place an order that is higher than the current best ask or lower than the current best bid because no order can result in a trade before it reaches the front of its respective queue.

A feasibility check for a bid or purchase order amounts to a check of the prospective buyer's cash account as to whether or not there is enough money to pay for at least one contract. If buying even one contract would result in a negative balance, the bid will be stricken from the queue. A feasibility check for an ask or sell order involves checking the contract holdings of the prospective seller. If the trader owns none of the ordered contracts so that execution of the order would result in negative contract holdings, the order will be stricken from the queue. While a trade is being executed, feasibility checks are applied one contract at a time rather than to the full order. When an order fails the feasibility check and is stricken from its queue, an entry noting that action is placed in the trader's history file for later reference.

Example:

> The current high bid on the market for the LIB contract is 53.5¢, the low ask is 55.0¢, and trader Sam Jones has $10.80 in his cash account. Jones submits a bid to buy 30 LIB contracts at 54.0¢. Since this bid exceeds the previous high bid and Jones has sufficient cash to buy at least one contract, his bid passes the feasibility test and becomes the market high bid. Later that day, trader Jane Smith submits an ask, offering to sell 40 LIB contracts at 53.8¢. The system recognizes that this new ask is lower than the market high bid of 54.0¢ and thus executes a trade of twenty contracts between Smith and Jones at 54.0¢. But after those 20 contracts have traded, Jones' cash account falls to $0.00 so the feasibility test on his remaining bid fails. Jones is allowed to buy the twenty contracts, but his remaining bid for ten more contracts is stricken from the queue and a note to that effect is placed in his trading history file. Smith's ask becomes the market low ask at 53.8¢ and the next highest bid of 53.5¢ is moved back to the front of the bid queue.

3.9.2 Detailed Description

The UBC-ESM system will not let you sell contracts you do not own or buy contracts when you do not have the necessary funds in your cash account to cover the purchase. A check for feasibility is made when bids and asks are accepted and trades are about to be made. For this reason it is possible for an infeasible bid or ask to sit in the queue for some time until another trader tries to accept the offer. In such a case, any part of a transaction that can be completed will be. For example, suppose a trader places a bid for 20 contracts at a certain price but when her offer is about to be accepted by a seller (who wants to sell at least 20 contracts) she has only enough in her cash account to buy 10 contracts. In this case, 10 contracts will be traded at the quoted price and the rest of the bid canceled. If no part of the transaction is feasible (e.g.

the seller has no contracts to sell), the trader trying to complete the transaction will receive an "Infeasible Trade" message and the infeasible bid or ask will be removed from the queue.

Feasibility checks are performed whenever an order is submitted (any bid, ask, buy, or sell, except unit portfolio purchases or sales, which are treated separately). A feasibility check is carried out in the following order, where each item listed below must be satisfied for the feasibility check to clear a trade:

1. The current bid price is greater or equal to the current ask price.

2. The bidder (buyer) and asker (seller) are different traders (disallow trades with self). Note that when two asterisks (**) appear in front of the bid or ask quantity, the quantity may be in part or in full your own offer. This warns you that an attempt to accept the offer may be disallowed by the trading system.

3. The asker (seller) owns at least one share of the contract to be traded. The valid asking quantity is then determined as the minimum of what the asker owns and the number of shares the asker has requested to sell.

4. The bidder (buyer) has at least sufficient cash to buy one share of the contract to be traded. The valid bidding quantity is then determined as the minimum number of shares that the bider can afford to buy and the bidder requested to purchase.

The quantity traded is then determined as the minimum of the valid asking quantity and the valid bidding quantity. Note that the feasible quantity may be less than what is displayed on the trading screen. By definition, for a trade to occur this has to be at least one share. Points 3 and 4 above make sure that this is the case. If a transaction is ruled infeasible, the corresponding offer will be removed from the offer queue. The price at which the trade occurs is determined as follows:

1. When an (instantaneous) sell order is matched with a bid, the price is that of the sell order.

2. When an (instantaneous) buy order is matched with an ask, the price is that of the buy order.

3. Where a bid and ask order result in a feasible trade (such as when a bid is at a higher or equal price to the current ask, or when an ask is at a lower or equal price to the current bid), the price is that of the older order. This ensures that when you enter a bid at a higher price than the current ask, the trades that occur will be at the lowest feasible price for the buyer. Conversely, when you enter an ask at a price lower than the current bid, the trades that occur will be at the highest feasible price for the seller.

3.10 Anonymity

All trading and all bids to buy and offers to sell are anonymous. The system will of course know the identity - more precisely the computer account - of each trader, the source of all bids and asks, the number and specifications of all bids and asks in the queues, and the portfolios of each trader. But, each trader will have only that information which applies to his or her own account. Public information about the market is restricted to current high bid, low ask and last trade prices, and summaries of prices and trading volumes over previous time periods.

3.11 Security

Because this market involves real cash transactions, security of the computer system is a paramount concern. Academic systems are, by design, less than ideal for maintaining strict security. Although many precautions have been taken in the design of the market system (such as operating the market through a secure web server), no system can be 100% secured against attacks from a skilled, dedicated hacker. We assure our traders that suitable measures have been implemented to detect cyber attacks directed against the UBC-ESM. In the unlikely event that security is compromised or a technical error disrupts a system file, the market will be restored to its position as of the most recent time it is known to be in proper state and is fully audited (typically the last trading day). During the nightly downtime of the market between 22:00 and 04:00, we make backups of all system files as of this point, and we carry out a full audit of all trader accounts to ensure the integrity of our trading system.

We caution our traders to keep their usernames and passwords in a secure place. The UBC-ESM assumes no responsibility for unauthorized access to individual accounts.

3.12 Market Manipulation and Suspension of Trading Rights

The Directors of the UBC-ESM reserve the right to suspend the trading privileges of any trader suspected of attempting to manipulate market prices.

3.13 Market Cancellation and Market Extension

In the unforeseen event that the elections are postponed, the Directors of the UBC-ESM reserve the right to either continue the market until the elections are held, or cancel the market. The Directors of the UBC-ESM also reserve the right to cancel the market due to *force majeure*, unforeseen technical problems, or other situations that significantly impede the continuation of the market or compromise its integrity. In the case of a cancellation, investors will be refunded their original investment.

4 Trading Mechanics

The UBC-ESM operates on a computer in the Sauder School of Business at the University of British Columbia. Access to the market is through the Internet at the address: http://esm.ubc.ca/ This is the UBC-ESM homepage. To connect to the market and obtain access to a trading account, follow the links to the relevant market, and click on the "Login" button on this page. This will connect you to a secure web server. Typically, a pop-up window will inform you about this switch to the secure server. When prompted, enter your user name and password. requested. After logging in you will see the Main Menu , illustrated in Figure 1 , which provides access to the Trader Menus in all markets as well as to Other Functions . You are logging in to one particular election stock market. If two election stock markets are operated at the same time, you can switch into the other election stock market at any time during your session through a function in the main menu.

4.1 Main Menu

Once you are logged in to the market, you are presented the main menu. From there you can proceed to the trader screen, or perform a variety of administrative functions that are described in detail below. Use the menu on the left to select the desired action. To begin trading, select "Trader Screen" in the menu on the left, and then select the desired exchange in the middle menu. Finally, click on "Go" to proceed.

4.1.1 Logging in and out

You can enter the UBC-ESM through the "Log In to Market" links on the home pages of the markets currently open. Clicking on these links will launch a separate web browser window (without the usual navigation buttons). Once you are logged in, you obtain a trading session that will expire after 30 minutes. A "Time Left" indicator will show you how much time is left in a trading session. This automatic expiry is a useful security feature but hopefully only a small inconvenience.

To log in, you need a user name and a password. On the login page, enter your login name and password in the corresponding fields and click on the LOGIN button. You will then see the main menu. User names are assigned by the market administrator upon registration. Likewise, a password is assigned initally, but you may change it at a later point. Keep your user name and password secret at all times. Always choose a secure password (e.g., a combination of letters and digits); passwords that are easy to remember are often too easy to guess. When you are logged in, your trading session is limited to thirty minutes for security reasons. After thirty minutes elapse, your session will be terminated. If you want to continue trading, you must log in again.

You can log out from the market by choosing the "log out" task in the main menu or by clicking on the "Log Out" link on the trader screen. You will receive an acknowledgement that your trading session has been terminated. Click on the "close window" button. While it is possible to close the trading window simply by clicking on the usual "X" button in the top-right corner of the window, this will not terminate your trading session. For this reason, we strongly recommend that you follow the proper log out procedure.

Technical Note: When you log in to the UBC-ESM, the UBC-ESM server offers your web browser a "cookie". Your browser must be enabled to accept cookies. In the preferences menu of your web browser, make sure that the browser is set to "Only accept cookies originating from the server server as the page being viewed". If your browser is not cookie-enabled, you will not be able to use the UBC-ESM. Likewise, your web browser must be able to execute JavaScript. Make sure that "Enable JavaScript" is switched on in the preference menu of your browser. Versions of Netscape (4.04 or higher) and Internet Explorer (4 or higher) all support cookies and JavaScript.

4.1.2 Changing your Password / Forgotten Passwords

Passwords can be changed at any time by a trader through a function in the main menu. Initially, traders are assigned a password that is communicated to them when a trader account is opened. Because password security is of great importance, the system will check that a new password meets basic security standards. You must mix letters and digits. For example, "tea4two" is valid, but "george" is not.

Figure 1: Main Menu

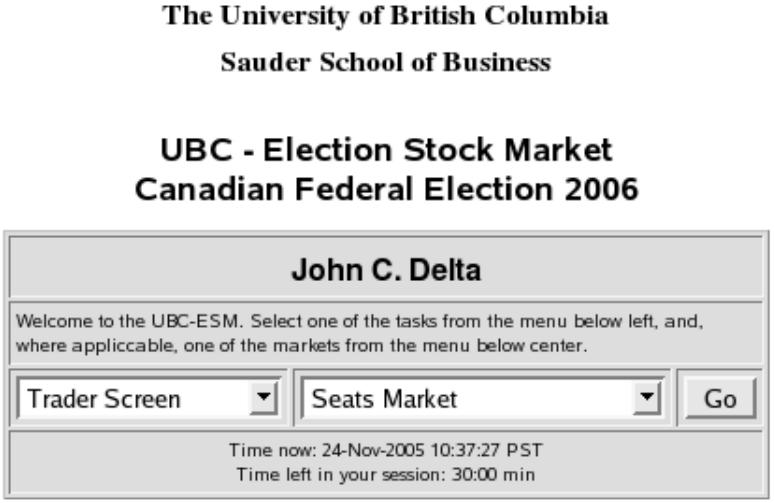
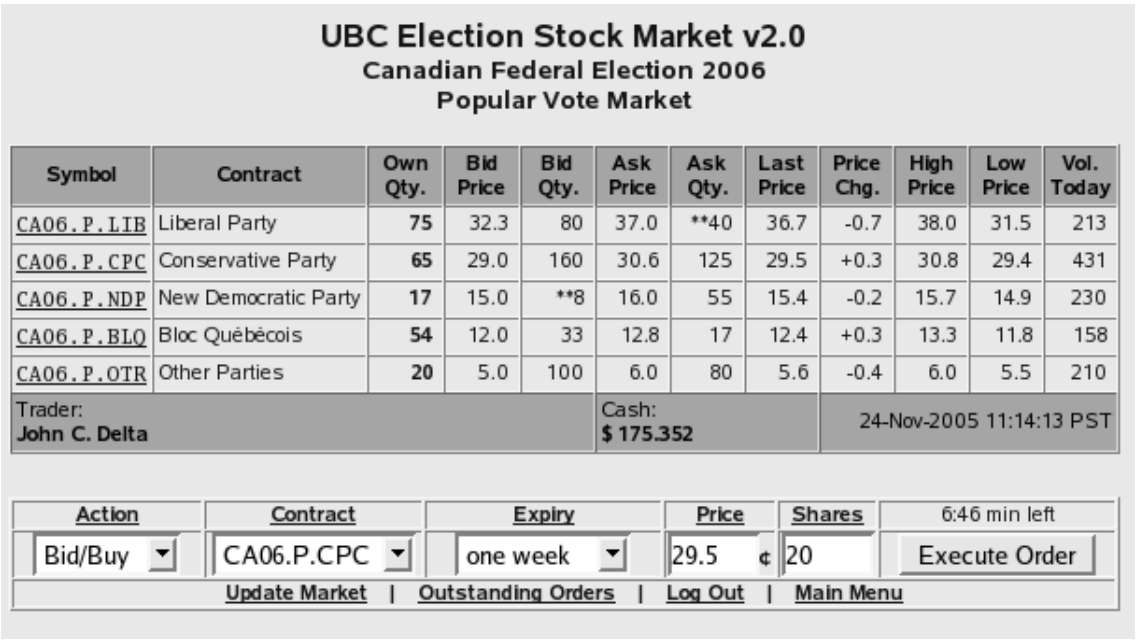


Figure 2: Trading Screen



If you have forgotten your password, you must contact the market UBC-ESM administrator by phone. The market administrator will communicate the current password to you by calling you back at the phone number we have on file. For security reasons, the market administrator is not allowed to tell you your password during the initial call you make. The market administrator will also ask you for information that verifies your identity. Thus, you must call from the phone number which we have on file.

4.1.3 Logging Out

When you are finished with your trading session, please log out from the market. This makes sure that your session authorization is expired immediately and cannot be used by an unauthorized person. However, the web pages in the cache of your browser may still be viewed after you have logged out. If you are using a publicly accessible computer (e.g., a work station in a library), you must shut down your web browser after you have logged out to erase these cached web pages. The UBC-ESM stock market assumes no responsibility whatsoever for misuse of trading privileges by unauthorized users if these safety precautions have not been followed.

4.1.4 Password Security

User names and passwords are set up to provide efficient protection of your trader account. Remember that your account is protected only as good as (1) you guard your password, and (2) how difficult your password is to guess. Transaction security is provided through our secure web server.

4.2 Trader Screen

After you select a market you will be presented with a trader screen which appears as in the Trader Screen Demo. The top part of the screen contains the Market Table identifying the contracts, for all the contracts offered in the market the number of shares you hold currently, the current highest bid, the current lowest ask and the last price at which the contract was traded. The highlighted blue line in the middle of the screen shows your name, your cash balance, and the current time. The second part of the screen is the trading menu through which you can carry out individual trades. How to do this in detail is explained below.

The last line of the trader screen provides a brief menu of possible actions, described below.

Update Market Refresh the trader screen. The screen will not refresh by itself. You may request a screen refreshment at any time. Note that you will always get a screen update when you execute an order.

Outstanding Orders View all outstanding (pending) orders. The list of outstanding orders provides a method to cancel any or all of them. See the relevant section below.

Log Out A quick way to log out from the market. Upong logging out, you will see a good bye screen that acknowledges that your trading session has been terminated. Click on the "close window" button.

Main Menu Return to the main menu

4.2.1 Market Information

This section describes the upper half of the trader screen. (All numbers in the above trader screen are purely fictitious.) The columns in the market table are explained below:

Symbol The symbol of the contract, for example "CA08.P.LIB". A symbol consists of three parts separated by dots: the election symbol (e.g., CA08 for the 2008 Canadian Federal Election); the market symbol (e.g., P for the Popular Vote Market), and the contract symbol (e.g., LIB for the Liberal Party).

Contract The name of the contract: the name of a political party or a particular election outcome.

Own Qty. (own quantity) The number of shares currently held in the trader's portfolio.

Bid Price The price of the highest bid (buy offer) in the bid queue. If the bid queue is empty, the field will be empty.

Bid Qty. The amount of shares being offered for purchase. If this number is preceeded by a star (*), it indicates that this offer is your own. Buying shares from yourself is not permitted.

Ask Price The price of the lowest ask (sell offer) in the ask queue. If the ask queue is empty, the field will be empty.

Ask Qty. The amount of shares being offered for sale. If this number is preceeded by a star (*), it indicates that this offer is your own. Selling shares to yourself is not permitted.

Last Price The price at which the contract was last traded.

Price Change The change between the last trade and the second last trade. A positive sign indicates a price increase, a negative sign indicates a price decrease.

High Price The highest price at which the contract was traded since markets opened today. When markets open, this field is empty until the first trade occurs.

Low Price The lowest price at which the contract was traded since markets opened today. When markets open, this field is empty until the first trade occurs.

Vol. Today The volume of shares of this contract traded today since markets were opened.

4.2.2 Trading Operations

The bottom part of the trader screen contains the menu to carry out trading operations. To execute an order, proceed through the menu from left to right:

1. **Choose a Task (Action)**: In this first step, you select if you want to buy shares or sell shares. A bid is a buy offer, and an ask is sell offer. Buys and Sells refer to immediate transactions at the current best offer price, while bids/asks refer to offers at other than the current best offers.

2. **Choose a Contract**: Select the contract you would like to trade. The "$1 Bundle" is a special contract that refers to Unit Portfolios. You can buy a unit portfolio at the price of $1 that will give you one share of each of the ordinary contracts in this market. Likewise, you can redeem a unit portfolio by selling a "$1 Bundle".

3. **Set the Order Limit (Expiry)**: For instantaneous purchases or sales at the current best offer price, select the item "immediate". This is a simple buy or sale. You notice that the price field will automatically display the correct current best offer that appears in the "Bid" or "Ask" column in the market information section on the screen. If you choose any of the other expiry dates, your order will be placed in the bid or ask queue and will await execution until the order expires or until the order is traded, whatever comes earlier. Orders are expired at the end of each trading day. This means that by selecting "today", your order will remain in the bid or ask queue until markets close today. Likewise, by choosing "tomorrow", your offer will remain valid until the markets close at 22:00 tomorrow.

4. **Enter the Price**: Enter the price at which you would like to buy or sell. The price you enter must be expressed in cents (¢) and 1/10th of cents. For example, 52.7 means 52 cents and 7/10th. The price you enter cannot be smaller than 0.1 or greater than 100.0. You cannot enter a price that has more than one digit after the decimal point.

5. **Enter the Number of Shares**: Enter the number of shares you would like to buy or sell. The minimum must be 1. The number must not exceed 1000. If you carry out an immediate purchase or sale and you enter a number that exceeds the quantity of the current best offer, the system will automatically reduce your quantity to match the current best offer.

6. **Execute the Order**: When ready, press the "Execute Order" button. A pop-up window will appear and confirm your order. (If something is amiss, the pop-up window will alert you to the fact and ask you to correct your input.) When satisfied with the order as displayed, click on the OK button and the order will be submitted to the UBC-ESM server for processing. Your UBC-ESM server will reply with a new screen that will acknowledge your order or inform you if a trade has occured.

Below we describe the trading operations in more detail.

- **Buying Contracts**: If you wish to accept a current offer to buy (accept an "ask") you can make your purchase by following the following steps. First click on the Action menu to reveal the alternatives (Bid/Buy and Ask/Sell) and select Bid/Buy. Then click on the Contract menu to reveal the set of contracts available and select the contract you wish to purchase (e.g. CA08.P.NDP). You will not need to change the Expiry menu, as it already indicates "immediate". If there is a current sell offer (and it is not your own), the price field will automatically display the current "ask" price. Finally, enter the number of shares you wish to purchase in the Quantity field, and click on "Execute Order". You will be asked to confirm your order. If it is correct click on OK and your transaction will be submitted to the UBC-ESM server for processing.

  If you place a purchase order at a price higher than the current ask price (that is, you deleted the price that were automatically placed in the price input field and entered a

higher price), the system will purchase contracts to you from the ask queue until either your order is complete or the ask price has risen above the price you have indicated. Consider an example. Suppose there are three traders with outstanding ask orders to sell CA08.P.LIB contracts. One is offering 10 shares at 40¢, the second 5 shares at 42¢ and the third 20 shares at 50¢. If you were to place a bid order for 20 shares at 45¢, you will immediately be given the 10 shares from the first seller (at the ask price of 40¢) and the 5 shares from the second seller (at that price of 42¢). Since the ask price for the remaining seller is above your bid price, the rest of your order remains unfilled and remains in the system until it expires, you cancel it or it is accepted by a seller.

- **Buying Unit Portfolios**: A unit portfolio is a bundle of contracts, one of each type offered in a market. For example, in the above example, a unit portfolio consists of one contract each of CA08.P.BLQ, CA08.P.CPC, CA08.P.LIB, CA08.P.NDP, and CA08.P.OTR. Unit portfolios cost $1 (that is, 100¢) each and would be worth exactly that if held to the end of the market as the fractions of seats won by all parties together must sum to 100. Most new traders begin their trading activity by purchasing a number of unit portfolios in each market. To do this, proceed exactly as just explained except that the contract selected is the Unit Portfolio, identified as "$1 Bundle". If you select this contract and choose, for example, a quantity of 10, you will receive 10 of each contract available in this market and your cash account will be reduced by $10. The UBC-ESM will sell unit portfolios at any time the market is open, and each will always cost $1. Of course, you must possess a sufficient amount of cash to purchase unit portfolios. If you enter a number that exceeds your cash balance, the system will only buy as many unit portfolios as you have cash in your account.

- **Placing an Offer to Buy (i.e. a "Bid")**: If you wish to place an offer to buy (make a "bid") you can do so by following the following steps. First click on the Action menu to reveal the alternative actions (Bid/Buy and Ask/Sell) and select Bid/Buy. Then click on the Contract menu to reveal the set of contracts available and select the contract on which you wish to place the bid (e.g. CA08.P.BLQ). Next, click on the Expiry menu and select a time limit for your offer. This should be any of the options listed except the "immediate" item, which will turn your Bid into an immediate purchase. For example, if you choose "tomorrow", your offer will be valid until the end of the trading session tomorrow. Now enter your bid price in cents. You can use at most one digit after the decimal point (e.g., 12.3). Then enter the number of shares you are bidding for, and click on "Execute Order". You will see a pop-up window that asks you to confirm your order, and if you are sure that the displayed information is correct, click on OK to submit your order to the UBC-ESM server. Once an offer is accepted by the system, you can cancel outstanding offers that have not yet been accepted at any time. If your bid is the highest in the bid queue (that is, it is the current best offer), the next time you visit the trader screen you will see the bid quantity will be prefixed with two asterisks (**). This indicates that this your own bid. (Because the trading system shows the total volume of all offers at the best price, the quantity displayed may sometimes exceed your own offer.) Note that you cannot purchase shares from yourself.

- **Selling contracts**: If you wish to accept a current offer to sell (accept a "bid") you can make your sale by following the following steps. First click on the Action menu to reveal

the alternative actions (Bid/Buy amd Ask/Sell) and select Ask/Sell. Then click on the Contract menu to reveal the set of contracts available and select the contract you wish to sell (e.g. CA08.P.BLQ). You will not need to change the Expiry menu, as it already indicates "immediate". If there is a current purchase offer (and it is not your own), the price field will automatically display the current "bid" price. Finally, enter the number of shares you wish to purchase in the Quantity field, and click on "Execute Order". You will be asked to confirm your order. If it is correct click on OK and your transaction will be submitted to the UBC-ESM server for processing.

If you sell shares at a price lower than the current bid (that is, you deleted the price that were automatically placed in the price input field and entered a lower price), the system will sell contracts from you to the bidders in the bid queue until either your order is complete or the bid price has fallen below the price you specified. Consider an example. Suppose there are three traders with outstanding bid orders for CA08.P.NDP contracts. One is offering to buy 10 shares at 30¢, the second 5 shares at 26¢ and the third 20 shares at 22¢. If you were to place an ask order for 20 shares at 25¢, you will immediately sell 10 contracts to the first buyer (at the bid price of 30¢) and the 5 shares from the second buyer (at that price of 26¢). Since the bid price for the remaining buyer is below your ask price, the rest of your order remains unfilled and remains in the system until it expires, you cancel it or it is accepted by a buyer.

- **Selling Unit Portfolios**: If you wish to sell unit portfolios back to the UBC-ESM, this can be done any time the market is open. The price of a unit portfolio will always be $1 (ie, 100¢). To do this, proceed exactly as just explained except that the contract selected is the Unit Portfolio, identified as "$1 Bundle". If you select this contract and choose, for example, a quantity of 7, you will surrender 7 shares of each contract, and your cash account will be credited $7. You can only redeem as many unit portfolios as you possess complete slates of contracts. That is, the largest number of unit portfolios you can redeem at any time is equal to the smallest "Own Qty." number you see on the screen. If you do not possess any shares of a particular contract, you cannot redeem any unit portfolios.

- **Placing an Offer to Sell (i.e. an "Ask")**: If you wish to place an offer to sell (place an "ask" order) you can do so by following the following steps. First click on the Action menu to reveal the alternative actions (Bid/Buy and Ask/Sell) and select Ask/Sell. Then click on the Contract menu to reveal the set of contracts available and select the contract for which you wish to place an ask order (e.g. CA08.P.BLQ). Next, click on the Expiry menu and select a time limit for your offer. This should be any of the options listed except the "immediate" item, which will turn your Ask into an immediate sale. For example, if you choose "tomorrow", your offer will be valid until the end of the trading session tomorrow. Now enter your ask price in cents. You can use at most one digit after the decimal point (e.g., 12.3). Then enter the number of shares you are asking for, and click on "Execute Order". You will see a pop-up window that asks you to confirm your order, and if you are sure that the displayed information is correct, click on OK to submit your order to the UBC-ESM server. Once an offer is accepted by the system, you can cancel outstanding offers that have not yet been accepted at any time. If your Ask is the highest in the ask queue (that is, it is the current best offer), the next time you visit the trader screen you will

see the ask quantity will be prefixed with two asterisks (**). This indicates that this your own ask order. Note that you cannot sell shares to yourself.

- **Canceling Outstanding Orders to Buy and Sell**: You can always check on your outstanding offers (bids and asks) by clicking on the "Outstanding Orders" link at the bottom of the trader screen, or by following the item in the main menu. You will see a list of outstanding orders for the particular market or exchange in which you are currently trading, indicating the details of the orders and when they expire. To cancel individual orders, check the relevant boxes at the end of each line. Finally, choose the "Cancel Orders" functions in the menu on this page, and click on GO.

4.3 Other Functions

In addition to launching you into the trader screen, the main menu provides a variety of functions which allow you to carry out a variety of operations related to your trader account. This section describes these functions.

4.3.1 Pending Orders

First select "Pending Orders" in the left menu, and then select one of the markets for which you would like to check the outstanding orders. Click on "GO" and you will obtain a page that lists the outstanding orders in this market in the order in which you have entered them. Each line shows the details of your order, the time when you entered them, the contract, price, and quantity, as well as the expiry date of your offer. The last column contains a checkbox. Checking this box requests the cancellation of this order. To confirm the cancellation, you must select the "cancel orders" function in the menu at the bottom of the screen and the click on "GO".

4.3.2 Account Statement

Selecting this function provides you with an account statement detailing all of your assets in all markets. Valuations are provided based on the current best bid and ask price as well as the price of the last trade. These valuations give you a plausible indication of the range of the total value of your assets. Values are expressed in dollars, with three digits after the decimal point indicating exact valuations at the level of 1/10-th of a cent.

4.3.3 Transaction Audit

This function allows you to view all of the transactions you have carried out since your account has been activated. The transactions are split into four groups: (1) deposits into and withdrawals from your trader account; (2) acquisitions and redemptions of $1 bundles of shares in the various markets; (3) all trades that have been carried out in your account; and (4) all orders you have placed. Please note that we can also send you a consolidated account statement as a PDF file via e-mail upon request.

4.3.4 Market Charts

When you select this option you must also select one of the markets in the menu in the middle. When you click on "Go", a separate window will pop up that will contain a price and volume chart for this market. Prices are closing prices, expressed in cents. Volumes are total number of shares traded on the corresponding day. To close the pop-up window, simply click on the "X" in the top right hand corner of the window.

4.3.5 Change Password

You can change your password at any time. Simply enter your old password, then enter your new password, and re-type your new password. The new password must conform to a minimum requirement of security. This means you must mixed characters from at least two of the following four groups: (1) lowercase letters; (2) uppercase letters; (3) digits; (4) the special characters "_" (underscore) or "-" (dash). Other characters are not permitted.

4.3.6 Switch to Other Markets

If you have signed up for more than one election market, you can switch into this market by going through the selection menu when you select this option. Note that if one of the markets is closed when the election has been held, you can only log in to the remaining open market using the log-in link on the home page of the corresponding market.

A Glossary

Action Anything that can happen to an outstanding bid or ask. Possible actions are: a sale, an expiry of an order, withdrawal of an order, cancellation of an order due to infeasibility.

Ask An ask is an offer to sell a contract (technically referred to here as an "order to sell"). An ask will require specifying the contract name, the price, the number of contracts you wish to sell, and the number of days until the ask expires. For example you could "ask" for $0.35 per contract for 5 CA08.S.LIB contracts for 5 days.

Ask queue The list of currently active asks. The system keeps them in order from lowest price to highest price. If there is more than one ask with the same ask price, these are listed from oldest to newest.

Bid A bid is an offer to buy a contract (technically referred to here as an "order to buy"). To make a bid you have to specify the contract type, the price, the number of contracts you want, and the number of days until the bid expires.

Bid queue The list of currently active bids. The system keeps them in order from highest bid price to lowest bid price. If there is more than one bid with the same price, these are listed from oldest to newest.

Closing Price The last price at which a contract traded before the UBC-ESM is shut down for routine system maintenance and back-ups each evening at 22:00.

Contract The basic items that are being bought and sold in the market. They can be identified by their stock symbols.

Feasibility constraints You cannot sell contracts that you do not own. You cannot buy contracts that you do not have enough cash in your account to pay for.

Liquidation value The dollar value paid out to the owner of a contract after the election. Each contract will have its own liquidation value depending on the results of the election and the terms of the contract.

Market Where things are bought or sold. Currently, the UBC-ESM contains three markets in each of two elections: two Seats Markets, two Majority Government Markets, and two Popular Vote Markets.

Order Either a bid or an ask.

Portfolio A list of the contracts held and the cash balance for a trader. Each trader has his or her own portfolio.

Stock Same as a contract

Stock Symbol A short name for a contract such as CA08.S.NDP that indicates the election (eg, CA08 for the Canadian federal Election in 2008), the type of market (eg, S for Seats Markets) and the political party or election outcome (eg, NDP for the New Democratic Party).

Time Limit The expiration date for an order, expressed in days from today. "0" means midnight today, "1" means midnight tomorrow, and so on.

Trade The sale of one or more contracts.

Trader Any registered participant in the UBC-ESM.

Transaction The sale of one or more contracts. The same as a "trade".

Unit portfolio A unit portfolio contains one unit of each contract that is traded in that market. Since there are two markets, there are two different unit portfolios. A unit portfolio can be either bought from the system, or sold back to the system, for $1.00 at any time when the market is open.