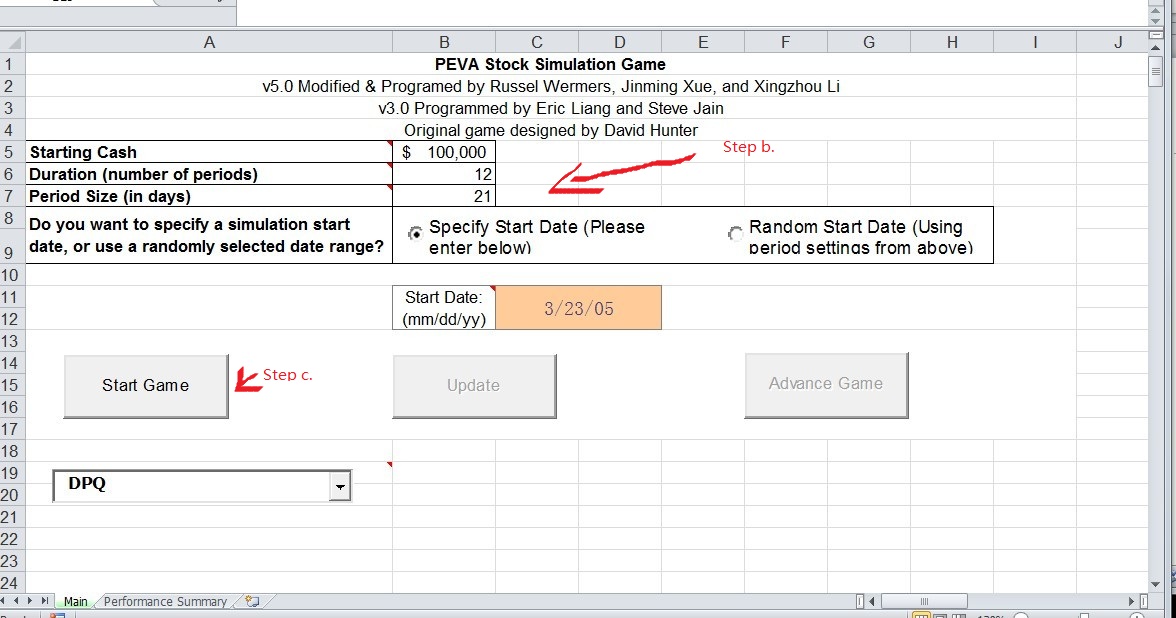
**PEVA Stock Simulation Game Instruction**

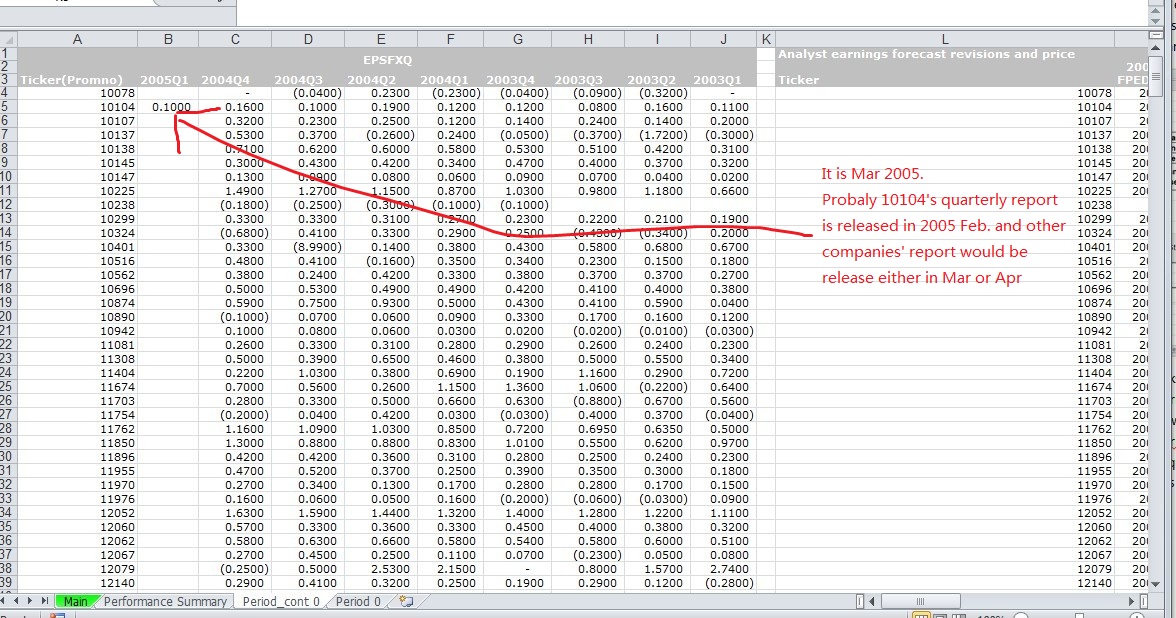
V5.0 Instruction – 1/6/2014

1. Keep the files PEVA\_v5.0.xls and PEVA.accdb under the same file  
   In order to accelerate the computation, you may wish to turn off the automatic calculation option for Excel file. You can do that by clicking the “file” table on the left-top corner in the Excel interface and then “option” => “Formulas” => “Calculation options” and selecting “Manual”.
2. Input initial portfolio value, durations, period size, and start date.  
   Period size is based on trading days, not calendar days.   
   E.g. durations (12) \* period size (21) is an approximate one year investment portfolio which will be adjusted monthly.  
   Database includes data from 1987/1/2 – 2007/12/31, please make sure do not select investment windows exceed that period.  
   Random selected data option is available
3. Click command bottom “Start Game” and wait a few minutes (**Figure 1**)
4. Two worksheets (period 0 and Period\_cont 0) will be generated.   
   Sheet (period 0) contains market and accounting information which is available at the date when investment decision is needed to make.   
   Sheet (period\_cont 0) contains some important accounting information within the past eight or night quarter (the extra quarter number depends on whether information of the most current quarter is available, **Figure 2**). Changing the text in the combo box in the sheet (Main), the dataset in sheet (period\_cont 0) would change. (Revenues, assets, earning, etc. **Figure 3**).  
   Sheet (period\_cont 0) also has analyst forecast data. PRFDATES states that date when the forecasted earning will be announced. MEDEST is the Median Estimator on that forecast date. NUMEST, NUMUP & NUMDOWN are the total, increased or decreased numbers of estimators compared to previous period. Price is the corresponding price on the date when the estimation is made. (**Figure 4**)
5. Construct your portfolio based on given information (external information is welcome); put shares needed to purchase in the green bar in sheet(period 0) (**Figure 5**)
6. Then click command bottom “update” in the sheet(main), wait a minute;
7. The click command bottom “advance” in the sheet (main), wait a minute again;
8. It will turn to next period (period 1) and following the step from d to g. (**Figure 6**) loop this procedure when it reaches the number of pre-set periods in step b.
9. Sheet (performance) shows the summary for the performance of constructed portfolio. Two Portfolio-Holdings based Performance Evaluation are available (Grinblatt and Titman Measure (GT) and Characteristic Selectivity measure (CS))
10. GT measure: input the adjustment date, benchmark date, and forward days (**Figure 7**). Click command bottom “Calculate GT” and wait a few minutes. Then the corresponding GT measures, Carhart’s four factors and adjusted GT measure will be returned. (**Figure 8**). In order to perform the regression to obtain adjusted GT, please input at least five sets (adjustment date, benchmark date, forward days)
11. CS measure: put the beginning date and ending date of the period you want to calculate CS measure. (**Figure 9**); press command bottom “Calculate CS”. Daily CS measure which is the daily return of the difference between the selected portfolio and the corresponding benchmark portfolio will be calculated. Average, standard deviation and histogram about that series would be returned. Daily CS measure is listed in column “x” in case of further analysis (its color is set to “white” because it looks mess).

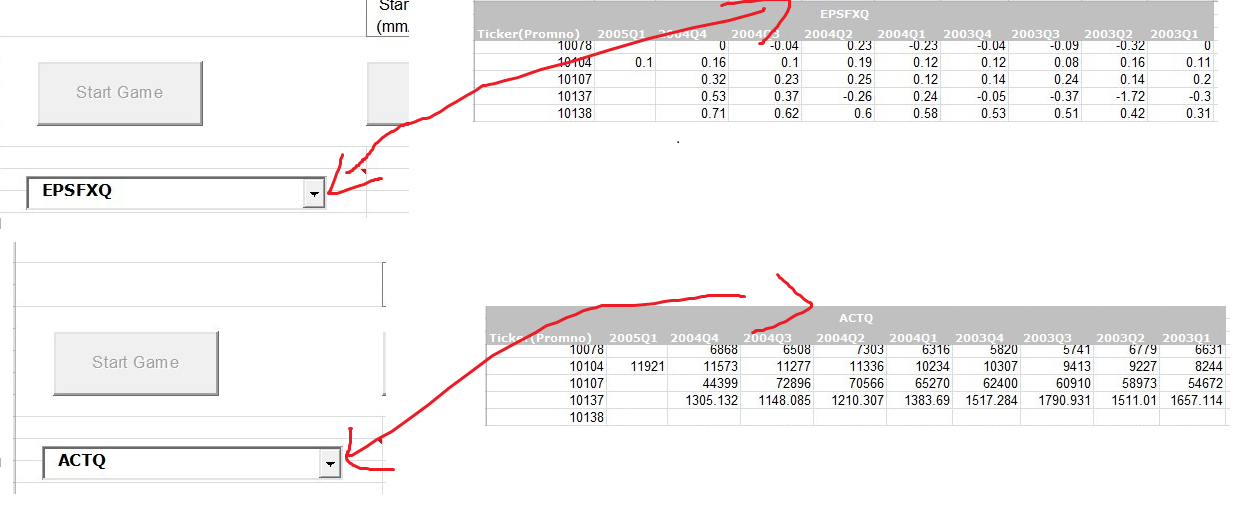
**Figure1**



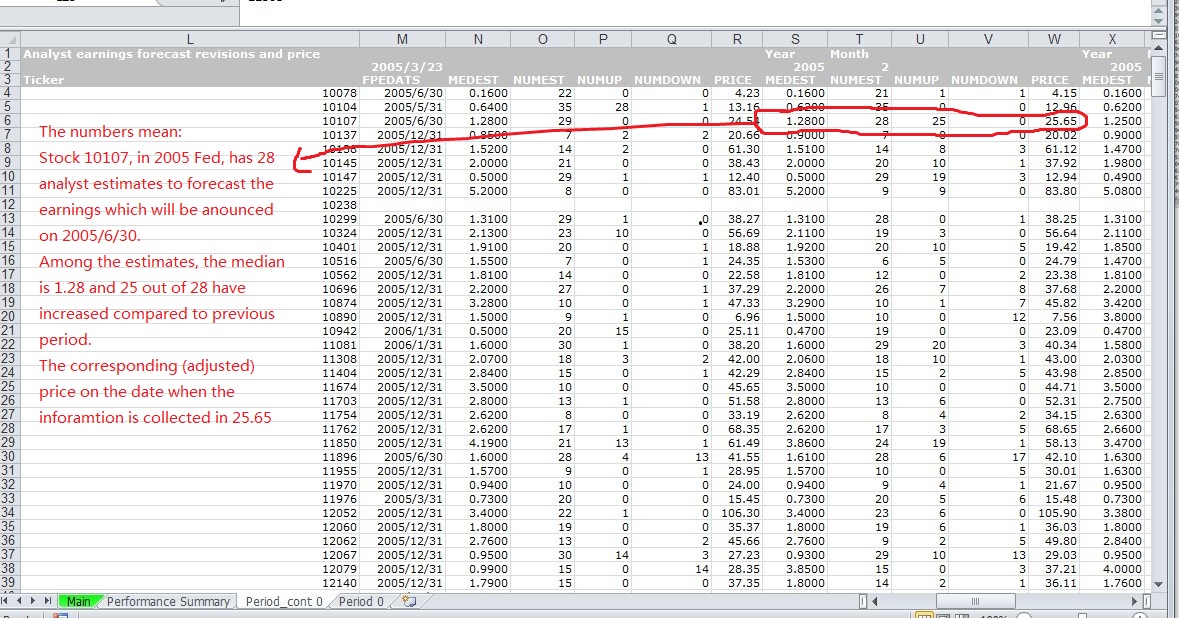
**Figure 2**



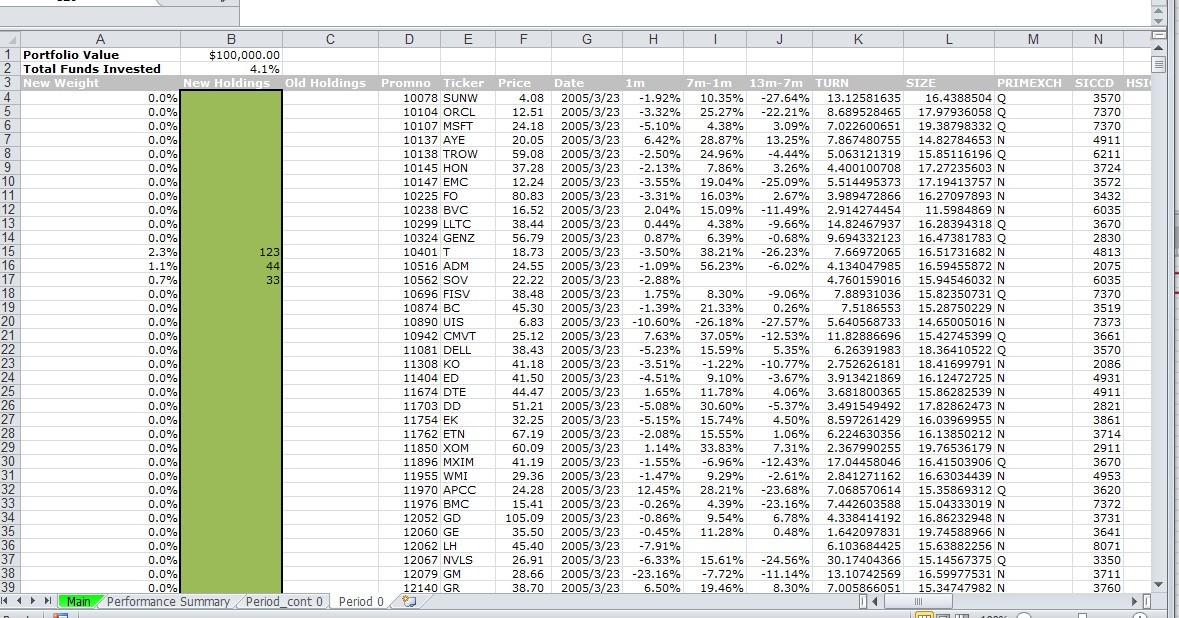
**Figure 3**



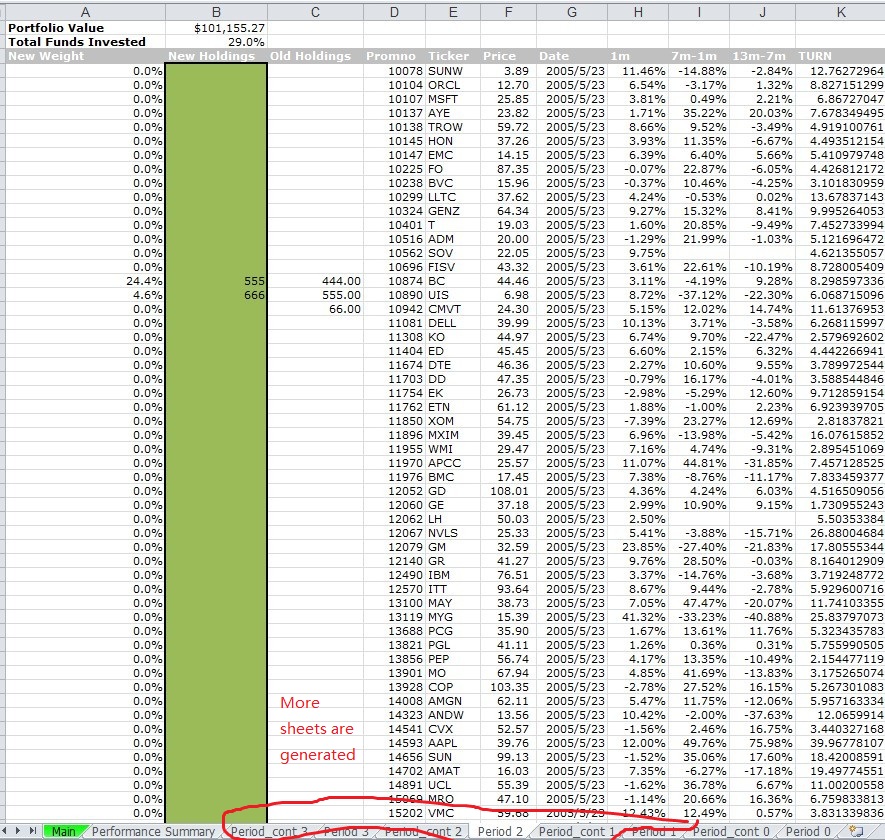
**Figure 4**



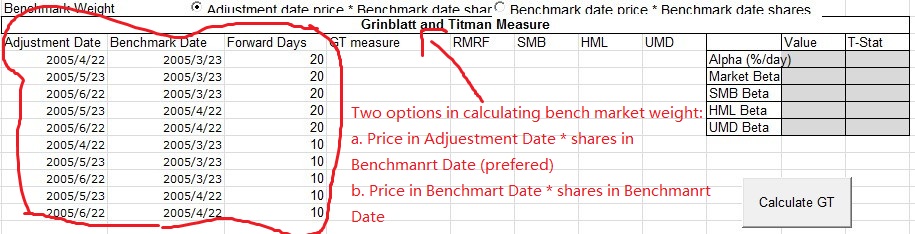
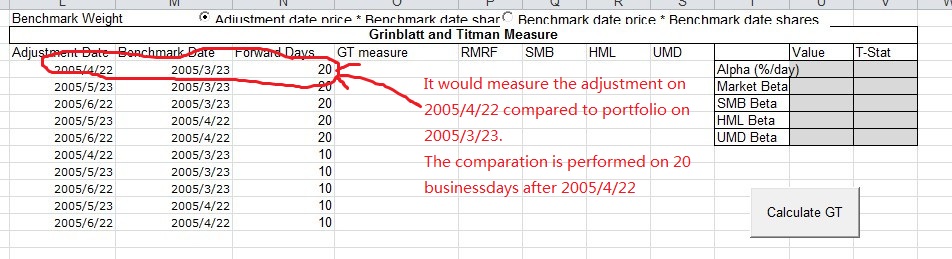
**Figure 5**

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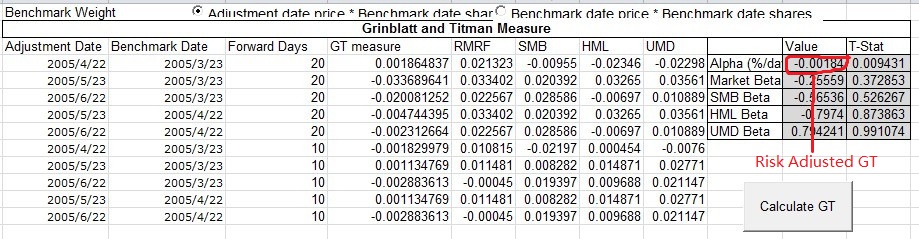
**Figure 6**

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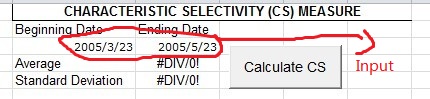
**Figure 7**

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**Figure 8**

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**Figure 9**

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