**Instructions for Excel Project**

**Goals** The purpose of this project:

* provide you with the opportunity to learn and explore the various tools of Excel.
* provide you with the opportunity to learn how to inform by displaying data.

**Grading Policy** The project grade will be calculated based on:

50%\*(calculation) + 50%\*(presentation)

*Calculation*: There are 4 parts to the project. With the data provided (look up your Student ID in column A for which row of data is yours), calculate and interpret variables for the four parts to the assignment. 50% of the project grade will be based on correctly calculating and interpreting the variables.

*Presentation*: The 4 parts to the project require the presentation of data. 50% of the project grade will be based on the clarity of the data display.

**Questions:** The following questions refer to the data file. See Data Specification for future explanation of variables:

*Question 1)* You purchase a house for (see Column B) using a 30-year mortgage that makes monthly payments with an annualized interest rate of (see Column C)

How much are the monthly mortgage payments?

After (see Column D) number of years you refinance the remaining balance at a new lower interest rate (see column E)

How much are the new monthly mortgage payments?

*Question 2)* You need to calculate the 1-year interest rates for 10 years using the yield to maturities for bonds of various terms to maturity (see Columns F to Column O) and liquidity premiums (see Column P to Column Y) provided under the Expectations Theory and Liquidity Premium Theory.

*Question 3)* Using the start year (see Column Z) and end year (see Column AA) plot the M1 money supply (see Column AC) and Monetary Base (see Column AD) on the same graph from January of the start year to December of the end year (see Column AB.) Comment on what happened to the money multiplier. Your comment should be included with the graph.

*Question 4)* Using the start year (see Column Z) and end year (see Column AA) plot the US Dollar to Euro exchange rate (see Column AE), the US Dollar to Australian Dollar exchange rate (see Column AF) and Canadian Dollar to US Dollar exchange rate (see Column AG) plot the value of the three currencies in terms of both US Dollar to Foreign Currency and Foreign Currency to US Dollar from January of the start year (see Column Z) to December of the end year (see Column AA) Comment on what happened to the value of the dollar compared to each currency. Your comment should be included with the graph.

**Data Specifications** The data file contains the following variables

*Column A)* Student ID: This variable contains the student ID numbers. Use the row that contains your student ID number for the variables in Column B to Column AA.

*Column B)* House Price: This variable is the value of the house you purchase to calculate the monthly mortgage payment in Question 1.

*Column C)* Rate 1: This variable is the annualized interest rate to calculate the monthly mortgage payment in Question 1.

*Column D)* Years: This variable is the number of years later that the mortgage is refinanced at the new annualized interest rate to calculate the new monthly mortgage payment in Question 1.

*Column E)* Rate 2: This variable is the new annualized interest rate to calculate the new monthly mortgage payment in Question 1.

*Column F to Column O)* YTM 1 year to YTM 10: These variables are the Yield to Maturities for 1-year to 10-year bonds needed to calculate the 1-year interest rates under both the Expectations Theory and Liquidity Premium Theory in Question 2.

*Column P to Column Y)* LP 1 year to LP 10: These variables are the Liquidity Premiums for 1-year to 10-year bonds needed to calculate the 1-year interest rates under the Liquidity Premium Theory in Question 2.

*Column Z)* Start year: This variable is the beginning year to plot variables in Column AC to AG for Questions 3 and 4.

*Column AA)* End year: This variable is the last year to plot variables in Column AC to AG for Questions 3 and 4.

**Note: For questions 1 and 2 use the data in Columns B to Y that correspond with the row with your student ID in Column A. For questions 3 and 4, use the rows in Columns AB to AG from the dates in Column Z and AA.**

*Column AB)* observation date: This variable contains the monthly dates to plot variables in Column AC to AG for Questions 3 and 4.

*Column AC)* M1SL: This variable is the M1 money supply for Questions 3.

*Column AD)* AMBSL: This variable is the Monetary Base for Questions 3.

*Column AE)* EXUSEU: This variable is the US/Euro exchange rate for Question 4.

*Column AF)* EXUSAL: This variable is the US/Australian exchange rate for Question 4.

*Column AG)* EXCAUS: This variable is the Canadian/US exchange rate for Question 4.