**Student Instructions**

In this exercise, students will learn about the relationship between real and nominal interest rates, how the federal funds rate helps to determine the amount of lending and economic activity in an economy, why inflation rates and expected inflation rates matter when entering into both short-term and long-term financial contracts, and the importance of Fed transparency for long-term planning.

Students will work in pairs. One person will assume the role of borrower while the other is the lender. Each pair of students will fill in student worksheet as the activity progresses and turn this in at the end of class.

Borrowers will take out a 1 year loan with a principle amount of $10,000 at the beginning of each period and pay back the principle plus simple interest at the end of the period. The lender will use the principle plus interest amount that is paid back to purchase a market basket of goods at the end of each period.

There are three different scenarios students will face. Under each scenario, students may be asked to engage in 1 to 5 periods of borrowing and lending. At the end of each of the 3 scenarios, students will be asked to stop, think and share. In Round 1, pairs of students will receive black playing cards. The number on the card signifies the nominal interest rate on the loan. At the end of the period, students will hand those cards back in and receive a new card for the next period. In Round 3, pairs of students will receive red playing cards. The number on the card signifies the expected rate of inflation. At the end of each period, students will hand those cards back in and receive a new card for the next period.

By the end of this activity students should:

1. Be comfortable with and be able to use nominal interest rates and inflation rates to compute a real interest rate (or real interest rates and inflation rates to compute a nominal interest rate);
2. Understand how inflation impacts purchasing power;
3. Be able to explain how changes in the Fed Funds rate impacts overall borrowing and lending;
4. Understand the importance of inflation expectations as well as errors in expectations;
5. Understand the importance of Federal Reserve language in guiding inflation expectations (forward guidance).

Information students need to know:

1. The **federal funds rate** is the interest rate that banks charge each other for overnight loans. This rate can be thought of as the opportunity cost to banks for lending to consumers or firms.
2. The **nominal interest rate** is the contract rate on the loan. This is the rate used to compute how much interest the borrow needs to pay back.
3. The **cost of the market basket** is impacted by the actual rate of inflation over the period.

**Round 1**

* Assume a Federal Funds rate of 1%.
* Your instructor will distribute a black card to each pair of students. The number on this card is the nominal interest rate on the $10,000 loand.
* Fill in the nominal interest rate and the borrower pay back amount in the table
* The instructor will role to die to determine the actual rate of inflation. Put this rate of inflation in the table.
* Using the announced rate of inflation, fill in the cost of the market basket at the end of the year. Recall that the cost of the market basket at the start of the year is $10,000.
* With your partner, determine whether the lender can purchase the market basket with the principle plus interest amount they get paid back at the end of the year.
* Hand in your card and wait for the next period of lending.
* At the end of all periods of lending, get with 1 to 2 other pairs of students and go through the **stop, think and share questions** associated with this round.

**Round 2**

* Your instructor will distribute a black card to each pair of students.
* Fill in the nominal rate
* The instructor will announce a federal funds rate. With your partner, determine whether or not a loan will be made between the two of you.
* With your partner, go through the stop, think and share questions associated with this round.
* Hand in your card.

**Round 3**

* Assume a Federal Funds rate of 1%.
* In this round, all lenders want to receive an expected real interest rate of 4% on a $10,000 loan.
* Your instructor will distribute a red card to each pair of students. The number on this card is the expected rate of inflation. Fill in the table with this information.
* With your partner, determine the nominal interest rate and the borrower payback amount and enter this information into the table.
* Your instructor will roll the die and announce an actual rate of inflation. Enter this into your table and compute the actual real interest rate and the cost of the market basket at the end of the year.
* With your partner, determine whether the lender can purchase the market basket at the end of the period and enter this into the table.
* Hand your red card in and wait for another period of lending.
* At the end of all periods of lending, get with 1 to 2 other pairs of students and go through the **stop, think and share questions** associated with this round.