ECO 301: Money and Banking **Name:** ____________________

Instructor: James Murray

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Practice Exam 1

1. (10 points) Consider a fixed payment auto loan for a \$21,000 vehicle purchased on October 1, 2016. The financing terms include 5 years of monthly payments (60 payments), 4.5% annual interest rate, compounded quarterly, and no payments until January 1, 2017. What is your monthly payment? Show work for full credit.

2. Suppose you purchase a coupon bond that makes semi-annual coupon payments (two coupon payments per year) at a price of \$950 on the secondary market. The bond was initially issued 4 years ago with a face value of \$1000, annual coupon rate of 5%, and a maturity date of 10 years.

   (a) (9 points) What is the expected present value of holding the bond to maturity if you expect a 4% average market interest rate until that time?

(b) (9 points) Suppose the bond is held for only one year then resold on the secondary market when the interest rate was 4.5%. What is your expected capital gain?

3. (9 points) Suppose people expect companies in the U.K. to become less profitable following a decision to exit the European Union. *Describe and illustrate* the impact on the volume of trade and the interest rate paid for U.K. corporate bonds and risk-free bonds. Describe and illustrate the effect on the risk premium.

4. (9 points) Suppose people expect interest rates to remain constant, and due to better communication by the Federal Reserve, the degree of uncertainty regarding future interest rates is small. Draw and describe the shape the yield curve will take.

5. Suppose the Federal Reserve announces it will engage in open market operations in the secondary market for federal government bonds that result in an immediate increase in the federal funds rate, and announces it expects to make similar changes in monetary policy for the next 1-2 years to reach a long-run target for the federal funds rate.

   (a) (9 points) *Describe and illustrate* the impact on the market for money.

   (b) (9 points) *Describe and illustrate* the impact on the market for federal government bonds.

   (c) (9 points) *Describe and illustrate* the implication for the yield curve. Explain your reasoning for why the yield curve is upward sloping, downward sloping, or flat for maturity dates less than and more than 2 years.

6. From October 2011 through June 2012, the Federal Reserve conducted some open market operations that it dubbed, "Operation Twist." It involved open market sales of short-term U.S. federal government bonds and used the proceeds to make open market purchases of long-term U.S. federal government bonds.

   (a) (9 points) *Describe and illustrate* the implications for interest rates on short-term and long-term bonds.

   (b) (9 points) *Describe and illustrate* the implication for the yield curve. Show a yield curve before operation twist, and a yield curve after the policy.

7. (9 points) Suppose there is an increase in uncertainty regarding the future monetary policy actions of the Federal Reserve, and therefore the future path of interest rates. Describe and illustrate the impact of the change in uncertainty on the yield curve.