ECO 305: Intermediate Macroeconomics
Final exam practice problems

1. Suppose all markets in an economy are in equilibrium when financial market problems cause a decrease in present-period dividends earned from owning stock in firms.
   (a) Describe and illustrate the impact on utility maximizing choices for present-period consumption and leisure.
   (b) Describe and illustrate the impact on utility maximizing choices on present consumption, future consumption, and saving.
   (c) Describe and illustrate the impact in a dynamic general equilibrium model with flexible prices and wages. Describe the impact on all present-period endogenous variables.
2. Suppose all markets are in equilibrium when consumers' expectations about future wages fall. In the context of a dynamic general equilibrium model with fully-flexible prices and wages and inelastic responses (but not perfectly inelastic) to consumer choices for leisure, describe and illustrate the general equilibrium outcomes to consumption, investment, real GDP, employment, real interest rates, wages, and aggregate price level.
3. Suppose all markets are in equilibrium when consumers' expectations about future wages fall. In the context of a dynamic general equilibrium model with sticky wages and perfectly inelastic labor supply, describe and illustrate the general equilibrium outcomes to consumption, investment, real GDP, employment, real interest rates, wages, and aggregate price level.
4. Suppose all markets are in equilibrium when the government announces an increase in future government spending, which is not accompanied by any announcements regarding changes in tax policy. In the context of a dynamic general equilibrium model with fully-flexible prices and wages and inelastic responses (but not perfectly inelastic) to consumer choices for leisure, describe and illustrate the general equilibrium outcomes to consumption, investment, real GDP, employment, real interest rates, wages, and aggregate price level.
5. Suppose there is an increase in the interest rate. Consider consumers that are borrowers and describe and illustrate the impact on their choices for current consumption, future consumption, and saving. Describe and illustrate the income and substitution effects.
6. Suppose there is an increase in the interest rate. Consider consumers that are savers and describe and illustrate the impact on their choices for current consumption, future consumption, and saving. Describe and illustrate the income and substitution effects.
7. Suppose there is an increase in current government spending which is not accompanied by any announcements regarding changes in tax policy. In the context of a dynamic general equilibrium model with fully-flexible prices and wages and inelastic responses (but not perfectly inelastic) to consumer choices for leisure, describe and illustrate the general equilibrium outcomes to consumption, investment, real GDP, employment, real interest rates, wages, and aggregate price level.
8. Suppose there is an increase in current government spending which is not accompanied by any announcements regarding changes in tax policy. In the context of a dynamic general equilibrium model with fully-flexible prices and wages and inelastic responses (but not perfectly inelastic) to consumer choices for leisure, describe and illustrate the general equilibrium outcomes to consumption, investment, real GDP, employment, real interest rates, wages, and aggregate price level.
9. Suppose the government collects a proportional sales tax (let tax rate be given by τ) on consumption purchases. Answer the following in the context of a one-period model of consumption and leisure choices.

(a) Write down an equation for the consumers' budget line that includes the tax. Graph the budget line and report the slope.

(b) Describe and illustrate the impact on consumers' optimal choices for consumption and leisure given an increase in the tax.

(c) Given the tax and consumers' optimal choices, is the equilibrium socially optimal? Explain.

10. Suppose the government collects a proportional labor income tax (let tax rate be given by τ). Answer the following in the context of a one-period model of consumption and leisure choices.

    (a) Write down an equation for the consumers' budget line that includes the tax. Graph the budget line and report the slope.

    (b) Describe and illustrate the impact on consumers' optimal choices for consumption and leisure given an increase in the tax.

    (c) Given the tax and consumers' optimal choices, is the equilibrium socially optimal? Explain.

11. Suppose the government collects a proportional tax (let tax rate be given by τ) on consumers' dividend income. Answer the following in the context of a one-period model of consumption and leisure choices.

    (a) Write down an equation for the consumers' budget line that includes the tax. Graph the budget line and report the slope.

    (b) Describe and illustrate the impact on consumers' optimal choices for consumption and leisure given an increase in the tax.

    (c) Given the tax and consumers' optimal choices, is the equilibrium socially optimal? Explain.

12. Suppose the government collects a proportional tax (let tax rate be given by τ) on consumers' interest income from saving. Answer the following in the context of a two-period model of consumption and savings choices.

    (a) Write down an equation for the consumers' budget line that includes the tax. Graph the budget line and report the slope.

    (b) Describe and illustrate the impact on consumers' optimal choices for consumption and leisure given an increase in the tax.

    (c) Given the tax and consumers' optimal choices, is the equilibrium socially optimal? Explain.

13. Suppose the government collects a proportional tax on business revenue (let tax rate be given by τ). Answer the following in the context of a one-period model of production and profit maximization.

    (a) Write down the profit function for the firm.

    (b) Describe and illustrate the impact on producers' optimal choices for labor demand given an increase in the tax rate.

    (c) Given the tax and producers' optimal choices, is the equilibrium socially optimal? Explain.

14. Suppose the government collects a proportional tax on business profit (let tax rate be given by τ). Answer the following in the context of a one-period model of production and profit maximization.

    (a) Write down the profit function for the firm.

    (b) Describe and illustrate the impact on producers' optimal choices for labor demand given an increase in the tax rate.

    (c) Given the tax and producers' optimal choices, is the equilibrium socially optimal? Explain.