(The attached PDF file has better formatting.)
Chapter 13: Taxes (Module 18)
Skip pages 235-237. Barro shows the types of taxes and their sizes in the United States. The final exam does not test any of the details in the textbook. As actuaries, you will pay the highest tax rates for most of your careers. The high tax rates after 1945 are depressing. The economic problems of some states (California) and countries (Greece) create calls for higher taxes, which will further depress their economies. The silver lining is that other countries have higher taxes. Only Hong Kong, Bermuda, Singapore, Eastern Europe, and a few other places avoid high taxes.

Read pages 237-240. The homework assignment computes actual tax rates and marginal tax rates for three tax systems. Flat tax rates over large deductibles are perhaps the best way to combine social policy (low taxes for the poor) with economic efficiency (low marginal tax rates). The final exam tests marginal tax rates and their effects on labor supply.

Read "Taxes in the Model" on pages 240-246, including "Extending the Model" on page 245 . Focus on the after-tax real wage rate on page 242, and implications for the macroeconomic model. Know Figures 13.5 and 13.6 on pages 243 and 244. The tax on labor income affects the rental market as well. The decline in labor and capital reduces real GDP.

The box "Extending the Model" on page 245 examines a consumption tax, like the value added tax in Europe or state sales taxes in the United States. A goal of macroeconomics is to identify the optimal tax system which least hinders the economy. Some tax reformers want to switch to a consumption tax instead of a labor tax, assuming that a consumption tax does not diminish the labor supply. Barro shows this is not true. A flat consumption tax is like a flat income tax, and a consumption tax that depends on the type of good bought (higher for luxury items, lower for essentials) is like a progressive income tax.

Read "An Increase in Government Purchases Financed by a Labor Income Tax" on pages 247, including "Back to Reality" on pages 248-249. The Laffer curve was ridiculed when it was introduced in the early 1980's. It is now accepted by many economists and governments, especially in the nearly emerging economies of Asia and Eastern Europe. Some Western European countries have marginal tax rates so high that reducing the tax rate would increase total tax revenue. One wonders: why don't these countries reduce the high marginal tax rates for the wealthy so that total tax revenue increases? The answer is that people compare themselves with their neighbors. Many people feel better if their wealthier neighbors have their high incomes taxed away, regardless of its effect on the economy.

Read Transfer Payments" on page 337. This section has only three paragraphs, and Barro does not discuss the details of Social security or other transfer payments. Focus on the first line of the second paragraph. Many transfer programs have the same effect as high marginal tax rates. Welfare discourages work, since \$100 dollars of work income may reduce welfare benefits by $\$ 100$. The reduction of the U.S. welfare system in the 1990's was probably the best way to help poor people re-join American society.

Review Questions A. 1 and A. 2 on page 250. For Question A.1, consider a flat tax of $20 \%$ on income above \$10,000 a year and a flat tax of zero on income below \$10,000 a year.

For Question A.2, what if the government increases the tax rate to $100 \%$ ? What would the total tax revenue be? Marginal tax rates above $100 \%$ are clearly detrimental to the economy, but occur every so often.

Review questions $B .4$ on page 250 and $B .8$ on pages $250-251$. What is the effect of a tax on nominal interest income on the propensity to save? Life insurance is one of the most tax advantaged assets in the United States. How might the demand for permanent life insurance change in the marginal tax rate on asset income increases?

