Econ 102 Winter 2005
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Quiz 3: Monday Sections

Suppose that the government increases the income tax rate. Use the AD/AS model, together with the short-run model of the money market where appropriate, to show how this will affect the following variables in the short run. For the variables that do not appear explicitly in your diagrams, write a sentence explaining your result. (10 points)

a. real income
b. price level
c. interest rate
d. consumption
e. investment

Answers:
A rise in the income tax rate causes households to pay more taxes at every level of income, and thus reduces their disposable income at every level of pre-tax income. This causes them to both consume less and save less. Since consumption is a component of aggregate demand, AD, this shifts the AD curve to the left. As a result and as shown, both Y and P fall.

To determine what happens to the interest rate, we need the short-run money market shown in the next diagram. Here the money supply has not changed, but the falls in both P and Y reduce the demand for money for any given interest rate, shifting MD to the left. As a result, the interest rate falls.

This fall in the interest rate increases investment, since the interest rate is the cost (or opportunity cost) of financing real investment. (This does ***not*** *cause a further shift if AD, since this affect is already built into that curve as one of the reasons for its downward slope.)*

Consumption falls, not only because of the original tax increase and fall in disposable income, but also due to the further drop in pre-tax income as Y falls. (Strictly speaking you might object that the fall in the interest rate will reduce savings and thus increase consumption, offsetting the decline due to the drop in income. That's true, but this can only be a small affect, since if it were large enough to leave consumption unchanged, AD wouldn't shift and r wouldn't fall.)