GS/ECON 5300 PUBLIC ECONOMICS I

Midterm Exam October 24 2001

Do all 3 questions. All count equally.

1. Demonstrate that any set of commodity taxes will impose a positive excess burden, if a positive amount of revenue is raised by the taxes.

2. Would it be optimal to tax goods 1 and 2 at the same rate in a one–person economy, if the person's expenditure function $E(q_1, q_2, w, u)$ could be written

$$E(q_1, q_2, w, u) = w(1 + u) - w \ln w - \frac{w^2}{q_1} + w \ln q_2$$

where q_1 and q_2 are the (tax–included) prices the person pays for goods 1 and 2, w is the person's (given) wage, u is her level of utility (and ln is the natural logarithm function, with the derivative of $\ln x$ equalling $1/x$)? Explain briefly.

3. Suppose that initially a person's return to saving were taxable. Now suppose that this tax is eliminated, and replaced by a head tax, set at a rate so as to leave the person exactly as well off as she was before. What would be the effect of this policy change on the person's saving?