DIRECTIONS: Obey page limits. If a question has multiple parts, indicate exactly where you answer each part. This exam has multiple sections; be sure to follow the directions for each section. Allocate your time carefully: many students spend too much time on the short answer questions.

1. VERY SHORT ANSWERS:

ANSWER ALL OF THESE. Carefully define and briefly discuss the following terms. Whenever possible, supplement your verbal definition with **both** a mathematical definition and an example.
Allocated time: 3 minutes each.

Page limit: one page per definition.

gross substitutability	asset demand normality
open market purchase	Tobin's q
primary fiscal deficit	reported fiscal deficit
rational expectations	long-run perfect foresight
"jump" variable	predetermined variable

2. LONG ANSWERS:

ANSWER THE FIRST QUESTION AND ONE MORE FOR A TOTAL OF TWO (2) QUESTIONS.
Allocated time: 1 hour per question.

LA1. Consider the following "Keynesian term-structure" model of a simple fix-price economy.

$$M = L(i, R, Y) \qquad DY = \phi(Y, R, F) \qquad i = R - DR/R$$

Here D is the differential operator, i is the short-rate, R is the coupon rate of return on a perpetuity, Y is real income, M is the exogenous money supply, and F is a "fiscal stance" variable. Give an intuitive explanation of each of the "structural" equations, including and explanation of the sign of each of the partial derivatives. Then consider the effects of a one time, permanent, anticipated fiscal expansion in the short run, intermediate run (i.e., dynamic adjustment), and long run. Include a complete intuitive discussion supported by detailed graphs. Provide the complete algebra for the long-run comparative statics.

LA2. Consider the following stripped down version of the Tobin (1969) disaggregated model of the assets market:

$$\begin{aligned} M &= L(r_B, 1/q, Y, M + B + qK) \\ B &= b(r_B, 1/q, Y, M + B + qK) \\ qK &= k(r_B, 1/q, Y, M + B + qK) \end{aligned}$$

Here r_B is the short-rate, q is Tobin's q, Y is exogenous real income, M is the exogenous money supply, B is the exogenous bond supply, and K is the exogenous supply of real capital. Comment on the assumptions of the model, including any assumptions that allow us to write the model in this simplified form. What are the effects of an increase in the bond supply? Provide a detailed verbal analysis, along with supporting graphs, and the explicit comparative statics algebra.

LA3. Consider a simple version of the Friedman (1948) deficit finance model: the fiscal deficit is financed by bond issue. (The case of 100% bond finance.) Are adjustment dynamics stable? Derive a stability condition algebraically, illustrate graphically, and explain intuitively. Include a detailed explanation of whether this condition likely to be satisfied. Assuming stable adjustment dynamics, what are the short-run, intermediate-run, and long-run effects of a tax cut? Illustrate graphically, and explain intuitively. Also, provide the long-run comparative static algebra.

END OF EXAM