ECON 120C, FALL 2003, HOMEWORK #2 – PART II

This is due at the same time as the empirical part.

Consider the following simultaneous model's structural equations.

$$Y_t = \alpha_0 + \alpha_1 X_t + \alpha_2 Y_{t-1} + u_t$$

$$X_t = \beta_0 + \beta_1 Y_t + \beta_2 X_{t-1} + v_t$$

1) Derive the reduced form equations for X_t and Y_t. Note that you should express them only in terms of a constant term, X_{t-1}, Y_{t-1}, and the errors. Use the notation used in class for the reduced form parameters (π s and μ s).

2) Derive expressions for the α s and β s in terms of the π s and μ s. Are the structural equations under-identified, exactly identified, or over-identified?