

Department of Economics, University of Maryland
International Finance (Econ 741)
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MIDTERM

This is a two hour and a half, closed-book exam. The points corresponding to each question (which add up to 150 points) are indicated in parentheses.

1 True, false, or uncertain (40 points)

Indicate whether you consider each of the following statements to be TRUE, FALSE, OR UNCERTAIN. In each case, give a **brief** explanation of your answer. Your grade will depend heavily on your explanation.

1. Our standard small open economy model says that the economy should adjust (i.e., reduce consumption by the amount of the shock) to both permanent and temporary falls in output.
2. If markets are incomplete, consumption and output will co-move positively.
3. Under financial autarky, a temporary fall in output will lead to a reduction in the real interest rate.
4. Anticipated shocks can have wealth effects.
5. If a small open economy is facing an upward sloping supply of funds, consumers will not smooth consumption over time.
6. An increase in wealth would typically lead to a real depreciation.
7. There is no difference between studying an unanticipated and temporary fall in output or studying a temporary fall in output along a perfect foresight path.
8. An increase in government spending of non-tradable goods should lead to a fall in the relative price of non-tradable goods.

2 Demand shocks in a two good model (45 points)

Consider a two good, endowment economy perfectly integrated with the rest of the world in both goods and capital markets. Preferences are given by

$$\int_0^{\infty} [\alpha_t u(c_t^T) + v(c_t^N)] e^{-\beta t} dt,$$

where c_t^T and c_t^N are consumption of tradables and non-tradables goods, respectively, β is the discount rate (equal to the world real interest rate) and α_t is a preference parameter (which will be used to capture changes in demand). Assume that the endowment of both goods is constant over time.

The flow constraint is given by

$$\dot{b}_t = rb_t + y^T + p_t y^N - c_t^T - p_t c_t^N,$$

where b are net foreign assets, r is the world real interest rate, and y^T and y^N are the constant endowment of tradables and non-tradable goods, respectively.

In the context of this model:

1. Suppose that α_t is constant over time. Characterize the corresponding perfect foresight equilibrium paths. (Just state the intertemporal constraint; you do not need to derive it.)
2. Starting from the stationary equilibrium characterized above, analyze the effects of an unanticipated and *permanent* fall in α_t at time 0. Solve for all the endogenous variables and plot the corresponding time paths. Explain the intuition behind the results.
3. Starting from the stationary equilibrium characterized above, analyze the effects of an unanticipated and *temporary* fall in α_t at time 0. Solve for all the endogenous variables and plot the corresponding time paths. Explain the intuition behind the results.

3 Taxation effects (65 points)

Consider a two good, endowment economy perfectly integrated with the rest of the world in both goods and capital markets. Preferences are given by

$$\int_0^{\infty} [\log(c_t^T) + \log(c_t^N)] e^{-\beta t} dt,$$

where c_t^T and c_t^N are consumption of tradables and non-tradables goods, respectively, and β is the discount rate.

The flow constraint is given by

$$\dot{b}_t = rb_t + y^T + p_t y^N - (1 + \theta_t)(c_t^T + p_t c_t^N),$$

where b are net foreign assets, r is the world real interest rate, y^T and y^N are the constant endowment of tradables and non-tradable goods, respectively, and θ_t is the consumption tax rate. (Just state the intertemporal constraint; you do not need to derive it.)

1. Suppose that the government spends on non-tradable goods according to the following constraint

$$p_t g_t^N = \theta_t (c_t^T + p_t c_t^N),$$

where g_t^N is government spending on non-tradable goods. Notice that θ_t is an exogenous variable (i.e., a policy instrument), whereas g_t^N will adjust endogenously to satisfy the government constraint. In this context:

- (a) Suppose that θ_t is constant over time. Characterize the corresponding perfect foresight equilibrium paths.
 - (b) Starting from the stationary equilibrium characterized above, analyze the effects of an unanticipated and permanent reduction in θ_t . Solve for all the endogenous variables and plot the corresponding time paths. Explain the intuition behind the results.
2. Suppose instead that the government spends on tradable goods according to the following constraint

$$g_t^T = \theta_t (c_t^T + p_t c_t^N),$$

where g_t^T is government spending on tradable goods.

- (a) Suppose that θ_t is constant over time. Characterize the corresponding perfect foresight equilibrium paths.

- (b) Starting from the stationary equilibrium characterized above, analyze the effects of an unanticipated and permanent reduction in θ_t . Solve for all the endogenous variables and plot the corresponding time paths. Explain the intuition behind the results.
- (c) Starting from the stationary equilibrium characterized above, analyze the effects of an unanticipated and *temporary* reduction in θ_t . Solve for all the endogenous variables and plot the corresponding time paths. Explain the intuition behind the results.