SIMON FRASER UNIVERSITY
Department of Economics

Econ 842 — Prof. Kasa
International Monetary Economics — Spring 2018

MIDTERM EXAM - March 5

Answer the following questions True, False, or Uncertain. Briefly explain your answers. (10 points each).

1. The Feldstein-Horioka Puzzle refers to the fact that national Saving and Investment rates are uncorrelated.

2. Positive productivity shocks produce current account deficits.

3. According to the Monetary Model of Exchange Rates, expectations that US output will grow more rapidly than in Canada will cause the US dollar to appreciate against the Canadian dollar.

4. If Uncovered Interest Parity doesn't hold, speculators can make profits in the foreign exchange market.

The following questions are short answer. Briefly explain your answer. Clarity will be rewarded.

5. (30 points). **Debt Dynamics**. Consider a small open economy that can borrow or lend all it wants at a fixed world interest rate, $r$. Preferences are given by

$$E_0 \sum_{t=0}^{\infty} \beta^t U(C_t) \qquad U(C) = -\frac{1}{2}\left(C_t - \bar{C}\right)^2$$

where $(1+r)\beta = 1$. The intertemporal budget constraint is

$$C_t + (1+r)D_{t-1} = Y_t + D_t \qquad D_{-1} = 0 \tag{1}$$

where $D_t$ is the economy's external debt at the end of period-$t$, and $Y_t$ is an exogenous output sequence, which follows the autogressive process, $Y_t = \rho Y_{t-1} + \varepsilon_t$, with $0 < \rho < 1$.

   **(a)** Write down the Euler equation characterizing the optimal consumption path. Show that it implies $C_t = E_t C_{t+1}$

   **(b)** Substitute your answer to part (a) into the budget constraint and derive an expression for $C_t$ in terms of the expected present discounted value of $\{Y_{t+j}\}$. (What is the transversality on $D_{t+T}$?)

   **(c)** Use the autoregressive process for $Y_t$ to evaluate the present value in part (b) and derive an expression for $C_t$ in terms of $Y_t$ and $D_{t-1}$.

   **(d)** Substitute the expression for $C_t$ into the budget constraint in eq. (1) and derive the equilibrium debt process, $\{D_{t+j}\}$. Does the country ever 'pay back' its debt? Prove that external debt is nonstationary, and does not possess a long-run mean.

   **(e)** Using your previous answers, illustrate how Output, Consumption, the Current Account, and External Debt respond over time to a one-time shock in $\varepsilon_t$ (i.e., trace out their 'impluse response functions'). Put $t$ on the horizontal axis, and $(Y_t, C_t, CA_t, D_t)$ on the vertical axes.

6. (30 points). What is the Forward Premium Puzzle (or Uncovered Interest Parity Puzzle)? On what evidence is it based? Briefly discuss a couple of possible resolutions of this puzzle.