

# ECO 365 - International Monetary Economics

## Problem Set 1 Solution

### SHORT-ANSWER QUESTIONS

1. According to Atish Ghosh and Uma Ramakrishnan in *Current Account Deficits: Is There a Problem?*: “When a country runs a current account deficit, it is building up liabilities to the rest of the world that are financed by flows in the financial account. Eventually, these need to be paid back. Common sense suggests that if a country fritters away its borrowed foreign funds on spending that yields no long-term productive gains, then its ability to repay its basic solvency might come into question. This is because solvency requires that the country be willing and able to generate (eventually) sufficient current account surpluses to repay what it has borrowed to finance the current account deficits. Therefore, whether a country should run a current account deficit (borrow more) depends on the extent of its foreign liabilities (its external debt) and on whether the borrowing will finance investment with a higher marginal product than the interest rate (or rate of return) the country has to pay on its foreign liabilities.

But even if the country is intertemporally solvent meaning that current liabilities will be covered by future revenues its current account deficit may become unsustainable if it is unable to secure the necessary financing. While some countries (such as Australia and New Zealand) have been able to maintain current account deficits averaging about 4 1/2 to 5 percent of GDP for several decades, others (such as Mexico in 1995, Thailand in 1997, and several economies during the recent global crisis) experienced sharp reversals of their current account deficits after private financing withdrew during the financial crisis.

Such reversals can be highly disruptive because private consumption, investment, and government expenditure must be curtailed abruptly when foreign financing is no longer available and, indeed, a country is forced to run large surpluses to repay in short order what it borrowed in the past. This suggests that regardless of why a country has a current account deficit (and even if the deficit reflects desirable underlying trends) large and persistent deficits call for caution, lest a country experience an abrupt and painful reversal of financing.”

2. According to Kenneth Rogoff in *Managing the World Economy*: “Globalization sets constraints on governments’ capacity to raise the revenues needed to manage exceptionally large debt-to-GDP ratios. As factors of production become more mobile, they become more difficult to tax. Companies can ever more readily move production to countries where tax rates are lower. As global investment options expand, taxing wealth-holders has become harder too. Even labour cannot be relied on to remain at home. Indeed, countries that fail to achieve offsetting efficiencies (for example, by keeping after-tax rates of return competitive through above-average productivity growth) may find it

increasingly difficult to borrow as the 21st century rolls on. Otherwise, if a government allows its debts to rise too far, there will be an exodus of capital and labour that strains the ability to repay of the investors and workers who remain. Exacerbating this will be the diminished ability of governments to borrow, even at home, without indexing debt to major currencies. Indexation also pushes down levels of sustainable debt, as it increases vulnerability to exchange-rate adjustments that might otherwise be desirable”.

3. According to Kenneth Rogoff in *Managing the World Economy*: “Simply put, if lenders are confident they will ultimately be bailed out by heavily subsidised IMF loans, they will extend too much credit to emerging-market debtors at rates that do not reflect the true underlying risk”.

#### QUESTIONS FROM THE BOOK

4. The purchase of the German stock is a debit in the Canadian financial account. There is a corresponding credit in the Canadian financial account when the Canadian pays with a check on his Spanish bank account because his claims on Spain fall by the amount of the check. This is a case in which a Canadian trades one foreign asset for another.
5. The tourist expenditure would be counted as a service import for Canada, and therefore as a current account debit. The signature on the Visa slip entitles the restaurant to receive 200 CAD from CIBC, the company that issued the Visa card. It is therefore, an asset, a claim on a future payment from CIBC. Therefore, the tourist is selling an asset to Spain and generating a 200 CAD credit in the Canadian financial account.
6. The euro is less risky for you. When the rest of your wealth falls, the euro tends to appreciate, cushioning your losses by giving you a relatively high payoff in terms of dollars. Losses on your euro assets, on the other hand, tend to occur when they are least painful, that is, when the rest of your wealth is unexpectedly high. Holding the euro therefore reduces the variability of your total wealth.

#### PROBLEM

- 7.a The two period-by-period budget constraints are:

$$t = 1 \quad : \quad Y_1 = C_1 + B_2$$

$$t = 2 \quad Y_2 + (1 + r)B_2 = C_2$$

where  $B_2$  denotes the agent’s stock of net foreign wealth at the end of period 1. Combining these two equations, we obtain:

$$Y_1 + \frac{Y_2}{1 + r} = C_1 + \frac{C_2}{1 + r} \quad (1)$$

That is, the present value of consumption over the lifetime needs to equal the present value of the endowment over the lifetime.

- b. The agent maximizes lifetime utility subject to the intertemporal budget constraint, or

$$\max_{C_1} \log(C_1) + \beta \log((1+r)(Y_1 - C_1) + Y_2)$$

The first order condition for this problem is

$$\frac{1}{C_1} - \beta(1+r)\frac{1}{C_2} = 0$$

which leads to

$$C_2 = C_1 = \bar{C}$$

since  $\beta(1+r) = 1$ . From the intertemporal budget constraint (1) it follows that

$$\bar{C} = \frac{(1+r)Y_1 + Y_2}{2+r} = \frac{1.5 \times 10 + 35}{2.5} = 20$$

- c. The current account in the first period is  $CA_1 = B_2 - B_1$ . Since  $B_2 = Y_1 - C_1 = -10$  and  $B_1 = 0$ , it follows that  $CA_1 = -10$ . That is, in the first period the agent borrows 10 units of the consumption good in international capital markets.
- d. A country with a current account deficit is importing present consumption and exporting future consumption. A country with a current account surplus is exporting present consumption and importing future consumption.