ECN 209 International finance
Solution to problem set 1

Please refer to the notes for the 1st lecture.

$CA_t = B_{t+1} - B_t$ by definition or $CA_t + (B_t - B_{t+1}) = CA_t + FA_t + KA_t = 0$. This is the balance of payments identity. The current account equals net foreign asset accumulation. $FA_t + KA_t$ (financial account+capital account) is the inflow of capital which is positive if the country is borrowing (i.e. $B_t - B_{t+1} < 0$). Note that what the book (and the world, since 1999) calls financial account is what you were taught was the capital account during your undergraduate degree. The capital account KA now refers to one-off debt forgiveness (or one-off asset changes). You can assume $KA = 0$ nearly always in what follows since it is negligible for most countries.

FA_t increases if the stock of foreign assets owned by domestic residents falls and decreases if the stock of domestic assets owned by foreign residents goes up.

1. Questions 3 from Krugman and Obstfeld.

   (a) FA falls as the stock of German shares owned by US residents increases. FA increases by the same amount as the stock of Swiss assets owned by US residents falls by the same exact value.

   (b) FA falls as the stock of German shares owned by US residents increases. FA increases by the same amount as the stock of US deposits owned by foreign residents increases.

   (c) FA falls as the stock of US assets owned by the Korean government falls. FA increases by the same amount as the stock of US assets owned by the Korean citizens increases.

   (d) CA falls. FA increases by the same amount as the stock of US deposits owned by French residents increases.

   (e) CA increases. KA falls by the same amount as the debt the London wine shop had with the Californian producer is foregiven.

   (f) Nothing involving the US happens. It may be the case (or not) that dividends transferred to US shareholders fall, but not at the moment of this transaction.

2. Question 5 from Krugman and Obstfeld.

   Use $CA_t + (B_t - B_{t+1}) = CA_t + FA_t = 0$.

   $FA = FA^P + FA^{CB}$. FA^P is financial account containing transactions by private agents. FA^{CB} is financial account containing transactions by central banks. The latter goes down if home (US in this case) CB increases stock of foreign reserves and goes up if foreign CBs increase stock of reserves of the home (US in this case) assets. In the question $FA^P = 0.5b$, so it has to be $FA^{CB} = 0.5b$.

   (a) Balance of payments $CA_t + FA_t = 0$ equals zero. The country's stock of net foreign assets falls by $B_{t+1} - B_t = CA_t = -1b$.

   (b) $FA^{CB} = 0.5$ is achieved by CB selling 0.5b of foreign currency reserves.

(c) The foreign acquisition shows up as an addition to FA^{CB} of 0.6b. This requires a subtraction of 0.1b which must come from home CB buying 0.1b of foreign currency reserves.

(d) The balance sheet follows from p. 295 in the book where the relevant entries have been detailed above.

3. Questions 9 from Krugman and Obstfeld. Given that assets and liabilities pay the same return, interest payments as a fraction of GDP are $\frac{rB}{Y} = 0.05 \times 0.25 = 0.0125$. Not too much. They would be 0.05 (5 per cent) if the external debt GDP ratio were 1. Still less than the US defense budget (roughly 0.07). When is it too much? Uhm? Not an obvious answer. Thirty per cent of GDP means that basically all a country's capital income accrues to foreigners (possibly because they own all the capital stock). Should we care?

4. How come the US net foreign income is 291.3-252.6=38.7b¿0 despite a large negative stock of net foreign assets. The rate of return that US residents get on their foreign assets is significantly higher that the rate of return that foreigners receive on their US asset holdings. E.g. US owns foreign factories, China holds lots of money market US deposits.

5. Straight from lecture notes.