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Department of Economics

Econ 345 Prof. Kasa
International Finance Spring 2020

PROBLEM SET 1
(Solutions)

1. (25 points). Suppose the 12-month forward price of the pound in terms of dollars is 1.5 dollars per pound. Suppose the spot price of of the pound in terms of dollars is 1.55. Next, suppose that currently the annual interest rate on dollar deposits is 2%, while the interest rate on a comparable pound deposit is 4%. There are no transactions costs. Is there an arbitrage opportunity here? If so, explain exactly how you would take advantage of this situation to make riskless profits.

   *Covered Interest Parity implies*

$$\frac{F}{E}(1+R^*) = 1+R$$

   *The right-hand side is the dollar return on a dollar investment, while the left-hand side is the (covered) dollar return on a pound investment. Substituting in the given information, we get*

$$\frac{F}{E}(1+R^*) = \frac{1.5}{1.55}1.04 \approx 1.006 < 1+R = 1.02$$

   *Hence, even though the pound interest rate is higher, the covered rate of return from investing in pounds is lower than the return from investing in dollars. You can make arbitrage profits by borrowing pounds, then buying dollars spot, investing in dollars, and then simultaneously selling the (known) amount of future dollars forward. You will have more than enough pounds to pay back your pound loan. Your profits are only limited by by how many pounds you can borrow! In practice, this would be implemented with a swap contract.*

2. (25 points). Read the article entitled "China, New Financial Superpower", by Brad Setser, which is posted on the class webpage. Setser points out that China is now the world's largest creditor country. Historically, the currency of the world's largest creditor becomes the world's reserve currency, e.g., Britain in the 1800s and the USA in the 1900s. This hasn't happened yet in the case of China. According to Setser, why hasn't China's currency become more internationalized? Describe three differences between China currently and the examples of Britain in the 1800s and America in the 1900s?

   *Setser hightlights 3 key differences between China now, and the previous cases of the UK and USA*

   (a) *China is still a relatively poor country, in per capita terms. In contrast, when the UK and USA were the world's largest creditor countries, they were also the world's richest countries. Why is a relatively poor country lending money to rich countries! (We will discuss this later).*

   (b) *Most of China's international lending takes place through the government, in particular the PBOC. In contrast, most (but not all!) UK and USA lending was conducted by private businesses. This makes capital flows a bit more political.*

   (c) *Currently, China does very little lending in its own currency. Most of its loans are in US dollars. In contrast, the UK and USA lent their own currencies. This exposes China to a considerable amount of exchange rate risk. If the US dollar depreciates, the value of China's foreign reserves are reduced. This is one of the main reasons why China is currently attempting to internationalize the RMB.*