Written Exam for the M.Sc. in Economics summer 2011

International Finance

Master's Course

June 10, 2011

(3-hour closed book exam)

Please note that the language used in your exam paper must correspond to the language of the title for which you registered during exam registration. I.e. if you registered for the English title of the course, you must write your exam paper in English. Likewise, if you registered for the Danish title of the course or if you registered for the English title which was followed by "eksamen på dansk" in brackets, you must write your exam paper in Danish.

If you are in doubt about which title you registered for, please see the print of your exam registration from the students' self-service system.

University of Copenhagen
Department of Economics
Michael Bergman

Written exam for the M.Sc. in Economics
International Finance

June 10, 2011

Number of questions: This exam consists of 3 questions.

---

1. **Which of the following statements are correct? Remember to provide a brief explanation.**
   (a) It makes sense to diversify even if the covariance between the returns on two assets is zero and the variances of the return on each security are identical.
   (b) Buying an asset then selling a put option on that asset limits the amount I can lose from this investment.
   (c) Order flows on the foreign exchange market always affects quoted prices.
   (d) Marking to market means that profits and losses on futures contracts are paid every day to the investor.

2. **Central bank intervention.**
   (a) Describe and contrast the two main competing theories concerning the channels by which central bank interventions affect exchange rates, i.e., the portfolio balance channel and the signalling channel.
   (b) Explain in detail how the Danish central bank Nationalbanken would undertake a sterilized intervention intended to support the value of the krone.
   (c) Explain why a central bank would use secret interventions and summarize the empirical evidence.

3. **Hedging with forwards and options.**

   Consider a Danish importer that has to pay a bill for Swedish kroner (SEK) in one months time. The importer considers two alternative ways to hedge against a rise in the value of SEK without eliminating the gains that can be realized if the value of SEK falls. The two alternatives are to either buy a call option or to buy a forward contract. Assume that the strike price of the call option and the forward exchange rate are identical.

(a) Show the payoff of the two alternatives together with the payoff of an unhedged position in a graph. What are the advantages/disadvantages with the two strategies to hedge?

(b) When should a call option be used to hedge instead of a forward contract? Distinguish between the following three scenarios; (i) when the value of SEK is expected to rise, (ii) when the value of the SEK is expected to fall, and (iii) when there is an expected movement up or down in the value of the SEK but there is also a high probability of a move in the opposite direction.

(c) Derive the put–call–parity condition by comparing payoffs from buying a call option, selling a put option with the same strike price and expiration date and buying a forward contract. Combine the payoffs of a purchased call and a written put and show in a graph that the combined payoff is equal to the payoff from a purchased forward contract.