Monetary and Financial Economics
Instituto Superior de Economia e Gestão

Exam – 16 June 2015 - **Duration: 2h**

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1. **The exam has three groups. The points for each question are mentioned alongside.**

2. **The answers to the questions of each group have to be made in different sheets.**

3. **Only non-graphical calculators are allowed. It is not allowed the use of mobile phones or computers. Improper use will lead to cancellation of the exam.**

4. **It is not possible to use any reading material. During the exam no clarifications can be made.**

I

1.

a) Define the measure Value at Risk. [1.50]

b) Identify the 3 possible strategies for reducing the risk of financial investments. [1.00]

2. Consider the following information for two financial assets:

Asset A		Asset B	
Probability	Return (%)	Probability	Return (%)
1/3	12	1/3	4
1/3	10	1/3	5
1/3	8	1/3	6

a) Compute the expected rates of return and standard deviation of each asset, as well as the respective correlation coefficient. [1.50]

b) Determine analytically and graphically the opportunity investment formed by the two assets. [1.50]

c) Consider an average portfolio with an expected return of 10% and risk (standard deviation) of 50%, and a risk-free asset with a return of 1%. With the following utility function for a given investor, $U\left[E\left(R_p\right)\right] = \alpha + 0{,}5\sigma_p^2$, determine the share of the risk-free asset in the optimal portfolio of the investor. [1.00]

II

3.

a) Determine the selling price of a bond with an annual coupon return of 5 EUR, bought by 100 EUR, to obtain a return rate of 8%, assuming that the bond is held for one year. [0.50]

b) Assume that in a country there are expectations of increasing interest rates and that the budget deficit will keep on increasing. Explain and analyse graphically the effects of these developments on the demand and supply of bonds, and say what will be final effect on bond prices and on the equilibrium interest rate. [1.50]

c) Present and discuss the validity of two empirical evidences that might contradict the efficient financial market hypothesis. [1.50]

4.

a) Present the main advantages and disadvantages of the forward contracts. [1.50]

b) Explain what will happen to the exchange rate of a currency of a given country if the interest rate of deposits in foreign currency decreases, with everything else constant. [1.50]

III

5. Consider the following data for the consolidated monetary situation in the euro area at the end of 2014 (billion EUR): C = 2000; DO = 6000; $D_{\leq 2Y}$ = 2000; $D_{\leq 3M}$ = 600; TD = 10000; Rc = 200; R_L = 80. The system allows for a potential expansion of money supply in 2015, at a growth rate of 4.5%.

a) Calculate $M1$, $M2$ and $M3$ in 2014. [1.50]

b) Calculate the money multiplier and the monetary base in 2014. [1.50]

c) Consider the intended growth rate for the Money supply and the following forecasts for 2015: real GDP growth rate and inflation rate, respectively 3% and 2.5%. Obtain the variation of the velocity circulation of money in 2015 and comment the result. [1.00]

6.

a) The efficacy of Monetary Policy is different in a Keynesian context and in the context of the quantity theory of money. Comment the statement adequately. [1.50]

b) Explain and exemplify how it works an operation of money destruction implemented by the European Central Bank in the foreign exchange market. [1.50]