**DBA Assignment**

**PLEASE ANSWER ALL QUESTIONS IN PART A,B&C**

**PART A**

1. Following Jensen and Meckling (1976), ***draw a graph*** ***yourself*** to demonstrate the changes in firm value associated with the changes in capital structure, and the determination of optimal capital structure. ***Explain the graph***.

2. Following Myers (1984) and Modigliani and Miller (1958), ***Compare and contrast*** the two major capital structure theories, trade off theory (M&M), and pecking order theory (Myers).

3. Describe and explain the main hypotheses, empirical methodology and results in Morck, Shleifer, and Vishny, 1988.

4. You want to examine both stock market reactions and operating performance changes following CEO turnovers. You conjecture firms replace incompetent CEO with better quality CEO to improve performance. Please describe how you would like to perform this analysis.

You need to answer the following questions.

a. In the test, what’s your null hypotheses? What’s your alternative hypotheses?

b. What data items do you need? How do you DEFINE and MEASURE the variables in your analysis?

c. What analysis do you need? ***SPECIFY*** the setup of the analysis

* If you need to run regression(s), what’s the specification of the regression(s)? ***Write down the regression equation(s)***. What’s your expectation on the coefficients in the regression(s)?
* If no regression is needed, how do you perform the analysis? ***Explain*** the steps of the analysis.

d. If you find evidence in favor of your hypotheses, is there other possible explanation(s) for the empirical findings? How to rule out the other possibilities?

**PART B**

1. Discuss the relative importance of the Purchasing Power Parity and Interest Rate Parity theories of exchange rate determination for explaining the exchange rate movements among key international currencies during the post financial crisis period.

2. What are the main theories of the term structure of interest rates? How relevant are they during the 2020-21 pandemic crisis?

3. Define and explain the direct inflation targeting framework of monetary policy. How relevant is flexible inflation targeting for the United States and for the Euro area during the post-Covid19 period?

4. Briefly explain the portfolio rebalancing channel of monetary policy transmission. To what extend can this channel be effectively used for stimulating the economic growth in the era of zero-bound interest rates?

P**ART C**

1. The price of a 9-month European call with strike $20 is $4, and the price of a 9-month European put option with strike $20 is $3. Both options are on the same stock, whose current price is $21. The risk-free rate is 4% (expressed with continuous compounding).

Is there an arbitrage opportunity? If so, carefully explain how to exploit it.

1. On May 1 the price of silver is $25 and the August futures price is $27. On July 1 the price of silver is $22 and the August futures price is $25. A company entered into an August futures contract on May 1 to hedge the purchase of silver on July 1, and it closed out its futures position on July 1. What is the effective price paid by the company for the silver?
2. A certain stock is currently $100. It is known that in one week it will be either $105 or $97. The current one-week risk-free rate is zero. You offer me the following bet: if the stock price increases to $105, I will receive the stock; but if the price goes down to $97, I will have to pay you $75. If I take this bet, show that you can make a guaranteed profit. Calculate your profit and carefully explain your arbitrage strategy to realize this profit.
3. Is the Black-Scholes formula appropriate for computing option prices on agricultural commodities? Explain.