HEC Paris **Financial Markets** **Quiz 4**
Fall 2013

LAST NAME ____________________ FIRST NAME ______________________

a) The price of a T-year maturity forward contract on a non-dividend paying stock should be equal to the spot price of the underlying stock at date T.

- ❑ True
- ❑ <u>False</u>
- ❑ Too little information to be able to answer

b) Today, the spot price for a 2-year zero-coupon bond (ZCB) is S_0 = €100, its 1-year forward price is $F_{0,1Y}$ = €105. The yield curve is flat at 2% per year. What is an arbitrage strategy?

- ❑ Buy ZCB forward, short ZCB spot, borrow €100 for 1 year
- ❑ Buy ZCB forward, buy ZCB spot, invest €100 for 1 year
- ❑ <u>Sell ZCB forward, buy ZCB spot, borrow €100 for 1 year</u>
- ❑ None of the above

c) Cocoa futures, which have a contract size of 10 tons and call for delivery of 1 ton of cocoa on May 1st, 2014, traded for 1,731 £/ton on November 25, 2013. Suppose you bought 10 of these contracts. If the spot price of cocoa is 1,741 £/ton on May 1st, 2014, how much money will you gain or lose on your cocoa futures position?

- ❑ Loss of 10,000 £
- ❑ Loss of 1,000 £
- ❑ Loss of 100 £
- ❑ Loss of 10 £
- ❑ Gain of 10 £
- ❑ Gain of 100 £
- ❑ <u>Gain of 1,000 £</u>
- ❑ Gain of 10,000 £

d) If you believe that the French stock market will collapse soon and the market does not anticipate this imminent collapse, how would you speculate to maximize your return?

- ❑ Buy CAC40 stocks spot
- ❑ Short-sell CAC40 stocks spot
- ❑ Buy futures on CAC40
- ❑ <u>Sell futures on CAC40</u>

e) The risk-free yield curve is flat at 4% per year. The spot price of stock ABC is €50 today. What is the forward price for a contract on stock ABC that will mature in three months?

- ❑ € 50.00
- ❑ € 50.03
- ❑ € 50.37
- ❑ <u>€ 50.49</u>
- ❑ € 51.23

HEC Paris **Financial Markets** **Quiz 4**

Fall 2013

LAST NAME ____________________ FIRST NAME ______________________

a) The price of a T-year maturity forward contract on a non-dividend paying stock should be larger than the spot price of the underlying stock at date T.

- ❑ True
- ❑ <u>False</u>
- ❑ Too little information to be able to answer

b) Today, the spot price for a 2-year zero-coupon bond (ZCB) is S_0 = €100, its 1-year forward price is $F_{0,1Y}$ = €105. The yield curve is flat at 8% per year. What is an arbitrage strategy?

- ❑ <u>Buy ZCB forward, short ZCB spot, invest €100 for 1 year</u>
- ❑ Sell ZCB forward, buy ZCB spot, invest €100 for 1 year
- ❑ Sell ZCB forward, short ZCB spot, borrow €100 for 1 year
- ❑ None of the above

c) Cocoa futures, which have a contract size of 10 tons and call for delivery of 1 ton of cocoa on May 1st, 2014, traded for 1,731 £/ton on November 25, 2013. Suppose you sold 10 of these contracts. If the spot price of cocoa is 1,741 £/ton on May 1st, 2014, how much money will you gain or lose on your cocoa futures position?

- ❑ Loss of 10,000 £
- ❑ <u>Loss of 1,000 £</u>
- ❑ Loss of 100 £
- ❑ Loss of 10 £
- ❑ Gain of 10 £
- ❑ Gain of 100 £
- ❑ Gain of 1,000 £
- ❑ Gain of 10,000 £

d) If you believe that the French stock market will go up in the near future and the market does not anticipate this change, how would you speculate to maximize your return?

- ❑ Buy CAC40 stocks spot
- ❑ Short-sell CAC40 stocks spot
- ❑ <u>Buy futures on CAC40</u>
- ❑ Sell futures on CAC40

e) The risk-free yield curve is flat at 6% per year. The spot price of stock ABC is €50 today. What is the forward price for a contract on stock ABC that will mature in one month?

- ❑ € 50.00
- ❑ <u>€ 50.03</u>
- ❑ € 50.37
- ❑ € 50.49
- ❑ € 51.23

HEC Paris **Financial Markets** **Quiz 4**
Fall 2013

LAST NAME ____________________ FIRST NAME ______________________

a) The price of a T-year maturity forward contract on a non-dividend paying stock should be equal to the spot price of the underlying stock at date T.

- ❑ True
- ❑ <u>False</u>
- ❑ Too little information to be able to answer

b) Today, the spot price for a 5-year zero-coupon bond (ZCB) is S_0 = €100, its 1-year forward price is $F_{0,1Y}$ = €102. The yield curve is flat at 5% per year. What is an arbitrage strategy?

- ❑ Sell ZCB forward, buy ZCB spot, invest €100 for 1 year
- ❑ Sell ZCB forward, short ZCB spot, borrow €100 for 1 year
- ❑ <u>Buy ZCB forward, short ZCB spot, invest €100 for 1 year</u>
- ❑ None of the above

c) Cocoa futures, which have a contract size of 10 tons and call for delivery of 1 ton of cocoa on May 1st, 2014, traded for 1,731 £/ton on November 25, 2013. Suppose you sold 10 of these contracts. If the spot price of cocoa is 1,721 £/ton on May 1st, 2014, how much money will you gain or lose on your cocoa futures position?

- ❑ Loss of 10,000 £
- ❑ Loss of 1,000 £
- ❑ Loss of 100 £
- ❑ Loss of 10 £
- ❑ Gain of 10 £
- ❑ Gain of 100 £
- ❑ <u>Gain of 1,000 £</u>
- ❑ Gain of 10,000 £

d) If you believe that the French stock market will collapse soon and the market does not anticipate this imminent collapse, how would you speculate to maximize your return?

- ❑ Buy futures on CAC40
- ❑ <u>Sell futures on CAC40</u>
- ❑ Buy CAC40 stocks spot
- ❑ Short-sell CAC40 stocks spot

e) The risk-free yield curve is flat at 3% per year. The spot price of stock ABC is €50 today. What is the forward price for a contract on stock ABC that will mature in three months?

- ❑ € 50.00
- ❑ € 50.03
- ❑ <u>€ 50.37</u>
- ❑ € 50.49
- ❑ € 51.23

HEC Paris **Financial Markets** **Quiz 4**
Fall 2013

LAST NAME ____________________ FIRST NAME ______________________

a) The price of a T-year maturity forward contract on a non-dividend paying stock should be lower than the spot price of the underlying stock at date T.

- ❑ True
- ❑ <u>False</u>
- ❑ Too little information to be able to answer

b) Today, the spot price for a 5-year zero-coupon bond (ZCB) is S_0 = €100, its 1-year forward price is $F_{0,1Y}$ = €110. The yield curve is flat at 5% per year. What is an arbitrage strategy?

- ❑ <u>Sell ZCB forward, buy ZCB spot, borrow €100 for 1 year</u>
- ❑ Buy ZCB forward, short ZCB spot, borrow €100 for 1 year
- ❑ Buy ZCB forward, buy ZCB spot, invest €100 for 1 year
- ❑ None of the above

c) Cocoa futures, which have a contract size of 10 tons and call for delivery of 1 ton of cocoa on May 1st, 2014, traded for 1,731 £/ton on November 25, 2013. Suppose you bought 10 of these contracts. If the spot price of cocoa is 1,721 £/ton on May 1st, 2014, how much money will you gain or lose on your cocoa futures position?

- ❑ Loss of 10,000 £
- ❑ <u>Loss of 1,000 £</u>
- ❑ Loss of 100 £
- ❑ Loss of 10 £
- ❑ Gain of 10 £
- ❑ Gain of 100 £
- ❑ Gain of 1,000 £
- ❑ Gain of 10,000 £

d) If you believe that the French stock market will go up in the near future and the market does not anticipate this change, how would you speculate to maximize your return?

- ❑ <u>Buy futures on CAC40</u>
- ❑ Sell futures on CAC40
- ❑ Buy CAC40 stocks spot
- ❑ Short-sell CAC40 stocks spot

e) The risk-free yield curve is flat at 5% per year. The spot price of stock ABC is €50 today. What is the forward price for a contract on stock ABC that will mature in six months?

- ❑ € 50.00
- ❑ € 50.03
- ❑ € 50.37
- ❑ € 50.49
- ❑ <u>€ 51.23</u>