Exam MFE/3F Flashcards Sample

ActuarialBrew.com

Overview of MFE/3F Flashcards

The ActuarialBrew.com MFE/3F Flashcards are designed to help you memorize the important Key Concepts and formulas quickly and efficiently. Having these formulas memorized by exam day is a great way to increase your confidence and speed during the exam. However, students should be aware that while Flashcards are a useful study aid, they are not a substitute for reading the Study Manual and working exam-style problems. While we have tried to include all the important formulas and key concepts for Exam MFE/3F in these Flashcards, it would be impossible to include everything that will actually be tested. Students should augment these Flashcards as desired.

Our Flashcards are organized so that the left side of equations is printed on odd-numbered pages to allow recitation of the formula from memory before the card is flipped to reveal the entire formula on the other side.

Headers and footers indicate the Chapter reference for each concept. A hole is punched in the upper left corner of each Flashcard and a ring binder is provided so that you can re-order or even randomize the cards. The Flashcards are numbered within each chapter so you can put them back in the original order.

Forward Prices and Prepaid Forward Prices

The prepaid forward price is the present value of the forward price:

$F_{0,T}^{P}(S) =$

1. If no dividends are payable between time 0 and time T, then:

   $F_{0,T} =$

   $F_{0,T}^{P}(S) =$

2. If discrete dividends are payable between time 0 and time T, then:

   $F_{0,T} =$

   $F_{0,T}^{P}(S) =$

3. If the stock pays continuous dividends, then:

   $F_{0,T} =$

   $F_{0,T}^{P}(S) =$

Forward Prices and Prepaid Forward Prices

The prepaid forward price is the present value of the forward price:

$$F_{0,T}^{P}(S) = e^{-rT} F_{0,T}$$

1. If no dividends are payable between time 0 and time T, then:

$$F_{0,T} = e^{rT} S_0$$

$$F_{0,T}^{P}(S) = S_0$$

2. If discrete dividends are payable between time 0 and time T, then:

$$F_{0,T} = e^{rT} S_0 - FV_{0,T}(Div)$$

$$F_{0,T}^{P}(S) = S_0 - PV_{0,T}(Div)$$

3. If the stock pays continuous dividends, then:

$$F_{0,T} = e^{(r-\delta)T} S_0$$

$$F_{0,T}^{P}(S) = e^{-\delta T} S_0$$

Put-Call Parity

A European call option plus ____________________ is equal to the ____________________ plus the ____________________:

$$C_{Eur}(K,T) + \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_$$

where:

$$F_{0,T}^{P}(S) =$$

Put-Call Parity and Dividends

Put-call parity has the following forms depending on whether dividends are paid and how they are paid:

1. If no dividends are payable between time 0 and time T, then:

$$C_{Eur}(K,T) + \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_$$

2. If discrete dividends are payable between time 0 and time T, then:

$$C_{Eur}(K,T) + \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_$$

3. If the stock pays continuous dividends, then:

$$C_{Eur}(K,T) + \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_$$

Put-Call Parity

A European call option plus the present value of the strike price is equal to the prepaid forward price of the underlying asset plus the European put price:

$$C_{Eur}(K,T) + Ke^{-rT} = F_{0,T}^{P}(S) + P_{Eur}(K,T)$$

where:

$$F_{0,T}^{P}(S) = PV_{0,T}(F_{0,T}) = e^{-rT}F_{0,T} = \text{Prepaid forward price of the underlying asset}$$

Put-Call Parity and Dividends

Put-call parity has the following forms depending on whether dividends are paid & how they are paid:

1. If no dividends are payable between time 0 and time T, then:

$$C_{Eur}(K,T) + Ke^{-rT} = S_0 + P_{Eur}(K,T)$$

2. If discrete dividends are payable between time 0 and time T, then:

$$C_{Eur}(K,T) + Ke^{-rT} = S_0 - PV_{0,T}(Div) + P_{Eur}(K,T)$$

3. If the stock pays continuous dividends, then:

$$C_{Eur}(K,T) + Ke^{-rT} = S_0e^{-\delta T} + P_{Eur}(K,T)$$

Put-call Parity for Options on Currencies

$$C_{Eur}(K,T) + \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_$$

Put-call Parity for Bonds

$$C_{Eur}(K,T) + \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_$$

where:

$B_0 =$

Put-call Parity for Options on Currencies

$$C_{Eur}(K,T) + Ke^{-rT} = x_0 e^{-r_f T} + P_{Eur}(K,T)$$

Put-call Parity for Bonds

$$C_{Eur}(K,T) + Ke^{-rT} = B_0 - PV_{0,T}(Coupons) + P_{Eur}(K,T)$$

where:

$B_0 =$ Bond price at time 0

Generalized Put-Call Parity

Put-call parity for exchange options is:

$$C_{Eur}(S_t, Q_t, T-t) + \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_$$

where:

$S_t =$

$Q_t =$

$C_{Eur}(S_t, Q_t, T-t) =$

$P_{Eur}(S_t, Q_t, T-t) =$

Generalized Put-Call Parity

Put-call parity for exchange options is:

$$C_{Eur}(S_t, Q_t, T-t) + F_{t,T}^P(Q) = F_{t,T}^P(S) + P_{Eur}(S_t, Q_t, T-t)$$

where:

S_t = Price of underlying asset at time t

Q_t = Price of strike asset at time t

$C_{Eur}(S_t, Q_t, T-t)$ = Price of call option with underlying asset S and strike asset Q

$P_{Eur}(S_t, Q_t, T-t)$ = Price of put option with underlying asset S and strike asset Q