

CLO

(2015 年)



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1.

Monte Carlo

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1).

$$P_t^{(R)} = P\{R_t > 0, R \in \{AAA, AA, \dots, CCC\}\}$$

$$P_t^{(R)}$$

$$P_t^{(R)}$$

$$P_t^{(R)}$$

$$R = \frac{1}{R} \left(\frac{p_t^{(R)}}{p_0} \right)$$

$$H(x_1, \dots, x_n) = C(F_1(x_1), \dots, F_n(x_n))$$

Copula

$$C(x_1, \dots, x_n) = G(G_1^{-1}(x_1), \dots, G_n^{-1}(x_n)) \quad x_i \in [0, 1]^n$$

G Copula

$$C(x_1, \dots, x_n; R) = f_{n,R}(f^{-1}(x_1), \dots, f^{-1}(x_n))$$

R Copula

$$C(x_1, x_2, \dots, x_n; \nu, R) = T_{\nu,R}(t_v^{-1}(x_1), t_v^{-1}(x_2), \dots, t_v^{-1}(x_n))$$

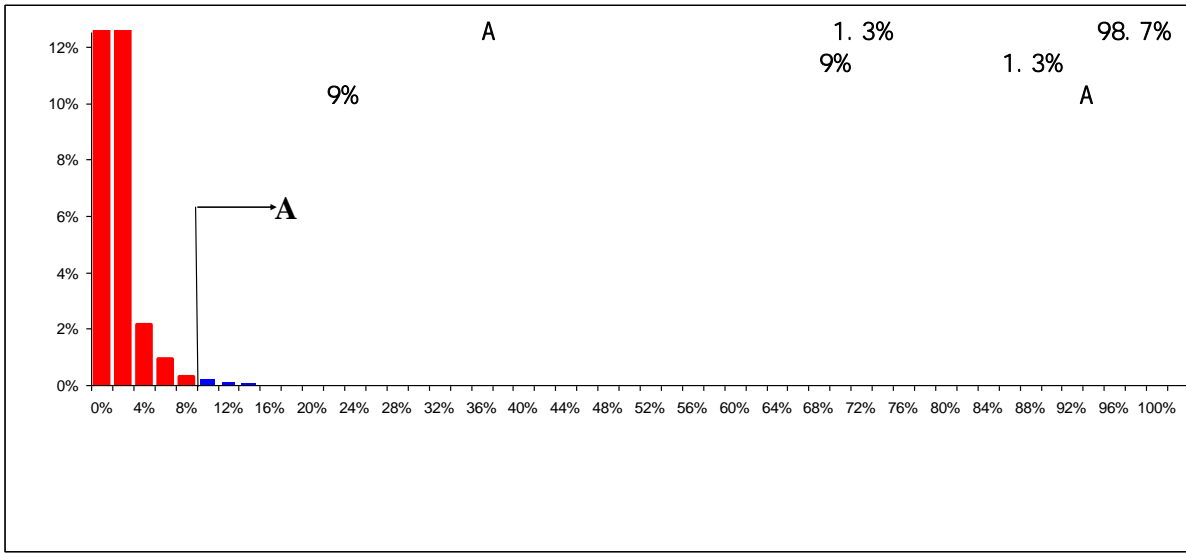
v R t Copula

2).

[0 1]

Cholesky





1

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1.

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A

A

2.

3.

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1.

CLO

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2.

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BDRs

1).

1

	1	2	3	4	5
1	15	30	30	15	30
2	40	20	20	10	10
3	20	20	20	20	20
4	25	25	25	25	-

40/20/20/10/10

20/20/20/20/20

2).

CLO

3).

- 2

4).

1.

2.

AAA AA

A BBB BB B CCC CC C AAA CCC

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	AAA	
	AA	
	A	
	BBB	
	BB	
	B	
	CCC	
	CC	
	C	