

Main Subjects of Chapters 7 and 8

1. SSM for free-boundary problems: 1, 2, 4a, 10a. (Chapter 7)
2. Second-order implicit methods for solving free-boundary problems and finite difference methods for initial-boundary value problems: 4b, 5, 10b(Chapter 7), and supplement problem 19.
3. Solving the nonlinear system obtained from discretizing free-boundary problems: 6. (Chapter 7)
4. On the extrapolation method: 7, 8. (Chapter 7)
5. Derivation of the exponential scheme: 9. (Chapter 7)
6. The put–call symmetry relation: 3. (Chapter 7)
7. Conjugate operators of second-order operators, another formulation of inverse problems and second order numerical method for this problem: 1, 2. (Chapter 8)
8. How to determine $\lambda(t)$ from the today's zero coupon bond curve numerically: 3. (Chapter 8)
9. Solving swaption problems and bond option problems by using one-factor models: 4, 7, 8, 9. (Chapter 8)
10. Solving swaption problems and bond option problems by using the three-factor model: 11, 12. (Chapter 8)