

Contents

1. Dynamic Programming 1

Brock-Mirman (1972) 1

Howard Policy-Improvement Algorithm 5

Levhari-Srinivasan (1969) 6

Habit Persistence: 1 8

Habit Persistence: 2 10

Lucas and Prescott (1971) and Kydland and Prescott (1982)

Meet a Linear Regulator 11

Interrelated Factor Demand 15

Two-Sector Growth Models 19

Learning to Enjoy Spare Time 20

Investment with Adjustment Costs 21

Investment with Signal Extraction 23

2. Search 26

Being Unemployed with Only a Chance of an Offer 26

Two Offers per Period 27

A Random Number of Offers per Period 28

Cyclical Fluctuations in Number of Job Offers 29

Choosing the Number of Offers 29

Mortensen Externality 30

Variable Labor Supply 31

Wage Growth Rate and the Reservation Wage 33

Search with a Finite Horizon 34

Finite Horizon and Mean-Preserving Spread	36
Pissarides' Analysis of Taxation and Variable Search Intensity	38
Search and Nonhuman Wealth	45
Search and Asset Accumulation	46

3. Asset Prices and Consumption 49

Taxation and Stock Prices	49
Contingent Claims Prices in a Brock-Mirman Economy	51
Trees (Stocks) in the Utility Function	55
Government Debt in the Utility Function	58
Tobin's q	59
A Generalization of Logarithmic Preferences	62
Arbitrage Pricing	67
Modigliani-Miller	68
Arbitrage Pricing and the Term Structure of Interest Rates	70
Pricing One-Period Options	71
Pricing n -Period Options	77

4. Currency in the Utility Function (no exercises)

5. Cash-in-Advance Models 86

Private Wealth	86
Unpleasant Monetarist Arithmetic	89
A Permanent (McCallum) Government Deficit	91
A Useful Identity under Interest on Reserves	95
Defining the State Vector	96
Computing an Equilibrium	101
Interest on Reserves and Stock Prices	107
Incentives for "Private Currencies"	108
Other Interest-on-Reserve Schemes	109
Stock Prices and Inflation	112

6. Credit and Currency with Long-Lived Agents 117

Value of Unbacked Currency	117
Computing Equilibrium Interest Rates	120
"Self-Insurance" and the Permanent Income Theory	122
The Distribution of Currency	128
Rate-of-Return Dominance	131

7. Credit and Currency with Overlapping Generations 139

Credit Controls	139
Inside Money and Real Bills	147
Social Security and the Price Level	153
Seignorage	158
Oscillating Physical Returns	164

Indeterminacy of Exchange Rates	171
Asset Prices and Volatility	178
Unpleasant Monetarist Arithmetic	181
Grandmont	184
Bryant-Wallace	186

**8. Government Finance in Stochastic
Overlapping-Generations Models 197**

A Version of Kareken-Wallace Exchange Rate Indeterminacy	197
The Term Structure of State-Contingent Claims	203
Walras's Law: 1	204
Walras's Law: 2	205
Constancy of Fiscal Policy	206
Altered Version of Logarithmic Preferences	206

Appendix. Functional Analysis for Macroeconomics 213

Periodic Difference Equation	213
Asset Pricing	216

Index	221
-------	-----