

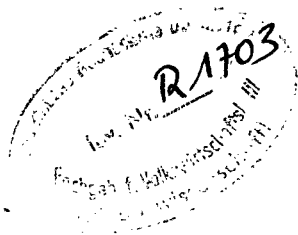
Money, employment and inflation

ROBERT J. BARRO

UNIVERSITY OF ROCHESTER

HERSCHEL I. GROSSMAN

BROWN UNIVERSITY



CAMBRIDGE UNIVERSITY PRESS

CAMBRIDGE

LONDON NEW YORK NEW ROCHELLE

MELBOURNE SYDNEY

Contents

Preface xi Introduction 1

1	The basic model	7
1.1	The essentials of the basic model	7
1.2	The behavior of firms, households, and government in the basic model	10
1.2.1	The firms	10
1.2.2	The households	11
	Mathematical note	16
1.2.3	Government	17
1.3	Comparative-statics analysis in the basic model	18
1.3.1	Market-clearing conditions	18
1.3.2	The supply and demand for money balances	22
1.3.3	The effects of exogenous disturbances	23
	Mathematical note	29
1.4	Dynamic analysis in the basic model	30
1.4.1	The market process in the basic model	30
1.4.2	Wage and price adjustment relations	32
1.4.3	The dynamics of exogenous disturbances	34
	Mathematical note	36
2	Output and employment under non-market-clearing conditions	38
2.1	Exchange under non-market-clearing conditions	38
2.2	The general excess supply case	41
2.2.1	The behavior of firms under excess supply of commodities	41
2.2.2	The behavior of households under excess supply of labor services	45
	Mathematical note	53
2.2.3	The determination of output and employment under general excess supply	54
2.2.4	The liquidity constraint	62
2.3	The general excess demand case	68
2.3.1	The behavior of firms under excess demand for labor services	68

2.3.2	The behavior of households under excess demand for commodities	69
	Mathematical note	78
2.3.3	The determination of output and employment under general excess demand	79
2.4	Output and employment in general	87
2.4.1	Effective market-clearing loci	87
2.4.2	Iso-employment loci	92
2.5	Dynamic analysis in the absence of recontracting	94
2.5.1	Wage and price adjustment relations	95
2.5.2	The dynamics of exogenous disturbances	97
	Mathematical note	99
3	Capital, financial assets, and the rate of return	101
3.1	The framework for analyzing capital and financial assets	101
3.2	Capital, financial assets, and the behavior of firms, households, and government	106
3.2.1	The behavior of firms	106
3.2.2	The behavior of households: optimal transactions frequency and money holding	109
3.2.3	The behavior of households: labor supply, consumption demand, and saving	113
	Mathematical note	118
3.2.4	The behavior of government	119
3.3	Investment and the rate of return under market-clearing conditions	120
3.3.1	Market-clearing conditions	120
3.3.2	Comparative-statics analysis under market-clearing conditions	124
3.3.3	The effects of fiscal policy	127
3.3.4	The effects of monetary policy	130
3.3.5	Growth of the capital stock	135
3.4	Investment and the rate of return under excess supply of labor services and commodities	137
3.4.1	The behavior of firms under excess supply of commodities	137
3.4.2	The behavior of households under excess supply of labor services	140
	Mathematical note	146
3.4.3	The determination of output, employment and the rate of return under general excess supply	146
3.4.4	Comparative-statics analysis under general excess supply	151
4	Inflation and rates of return	154
4.1	Rates of return and expected rates of price and wage change	154
4.2	Expected price changes and firm and household behavior	156
4.2.1	The behavior of firms	157
4.2.2	The behavior of households: optimal transactions frequency and money holding	158

4.2.3	The behavior of households: labor supply, consumption demand, and saving	162
4.3	Comparative-statics effect of expected price changes	166
4.3.1	Market-clearing conditions	166
4.3.2	Comparative-statics analysis	170
	Mathematical note	175
4.4	Dynamic analysis of inflation, expected inflation, and rates of return	177
4.4.1	Adaptive expectations	177
4.4.2	The price adjustment relation with expected price changes	178
4.4.3	Dynamic effects of monetary policy	179
	Mathematical note	186
5	Inflation and unemployment	188
5.1	Wage inflation, underemployment, and unemployment in a single labor market	188
5.1.1	Wage inflation and underemployment	189
5.1.2	Unemployment	189
5.2	Wage inflation and unemployment with heterogeneous labor	191
5.2.1	The rate of average wage inflation	193
5.2.2	The aggregate level of unemployment	194
5.3	Asymmetrical wage response	197
5.4	Gradual adjustment of measured unemployment	199
5.5	Unemployment, wage inflation, and inflationary expectations	202
5.5.1	Clockwise cycles and accelerating inflation	204
5.5.2	The dominant cyclical pattern	209
6	The dynamics of aggregate demand	211
6.1	Gradual adjustment of money balances	211
	Mathematical note	215
6.2	Gradual adjustment of effective commodity demand	217
	Mathematical note	221
6.3	Adaptive expectations	223
6.3.1	Permanent income	224
6.3.2	The disposition of transitory income	227
6.3.3	Speculative demand for money	228
6.4	Gradual clearing of the financial asset market	230
	Mathematical note	235
7	Output and employment with wage and price speculation	238
7.1	The framework of wage and price speculation	238
7.2	Wage and price speculation by households	239
7.2.1	The employment-acceptance decision	240
7.2.2	Consumption demand	243
7.3	The determination of output and employment	244
7.3.1	Market-clearing conditions	245
7.3.2	The effect of monetary contraction	246

Contents

viii

7.3.3	Quits and layoffs	248
7.3.4	The cyclical pattern of real wage rates	250
7.3.5	The cyclical behavior of consumption and the demand multiplier	251
7.3.6	The effects of monetary expansion	252
7.4	Wage and price speculation by firms	253
7.4.1	Labor demand and output supply	253
7.4.2	Output and employment	255
	References	259
	Index of names	264