The Economics of Adjustment and Growth

Pierre-Richard Agenor

The World Bank Washington, -D.C.



ACADEMIC PRESS

A Harcourt Science and Technology Company

San Diego

San Francisco New York

^~

Boston

London Sydney

Tokyo

CONTENTS

Introduction and Overview	1
1 Consumption, Saving, and Investment	
1. Consumption and Saving '	12
1.1 The Permanent Income Hypothesis	12
1.2 The Life-Cycle Model	14
1.21 The Basic Framework	15
1.2.2 Age and the Dependency Ratio	19
13 Other Determinants	21
1.3.1 Income Levels and Income Uncertainty	21
1.3.2 Intergenerational Links ~	22
1.3.3 Liquidity Constraints	22
1.3.4 Inflation and Macroeconomic Stability	23
1.3.5 Governing Saving	23
1.3.6 The Debt Burden and Taxation	25
1.3.7 Social Security, Pensions, and Insurance	25
1.3.8 Changes in the Terms of Trade	26
1.3.9 Financial Deepening	27
1.3.10 Household and Corporate Saving	28
14 Empirical Evidence	23
2. Investment	33
2.1 The Flexible Accelerator	33
2.2 The Cost of Capital	34
2.3 Uncertainty and Irreversibility	35
2.4 Other Determinants of Investment	39
2.4.1 Credit Rationing	39
2.4.2 Foreign Exchange Constraint	40
2.4.3 The Real Exchange Rate	40
2.4.4 Public Investment	40
2.4.5 Macroeconomic Instability	41
2.4.6 The Debt Burden Effect	41
2.5 Empirical Evidence •	43
3. Summary	47
Appendix—Income Uncertainty and Precautionary Saving	51

V111

2 The Financial System, Money Demand, and Monetary Policy

1. The Financial System	55
1.1 Financial Repression	55
1.2 Banks and Financial Intermediation	58
2. Indirect Instruments of Monetary Policy	61
3. Credit Rationing	63
4. Monetary Policy in a Dollarized Economy	69
5. The Demand for Money	73
6. Summary	75
Appendix—Money Demand and Cointegration	78

3 Fiscal Deficits, Public Debt, and the Current Account

1. Structure of Public Finances	81
1.1 Conventional Sources of Revenue and Expenditure	81
1.2 Seigniorage and Inflationary Finance •	86
1.3 Quasi-Fiscal Activities and Contingent Liabilities	87
2. The Government Budget Constraint	91
3. Assessing the Stance of Fiscal Policy	96
4. Fiscal Imbalances and External Deficits	99
5. Consistency and Sustainability	99
5.1 The Consistency Framework	100
5.2 Fiscal and External Sustainability	107
6. Sustainability and the Solvency Constraint	108
7. Commodity Price Shocks and Fiscal Deficits	112
8. Public Debt and Fiscal Austerity	113
9. Summary	114
Appendix—The Generalized Solvency Constraint	119

4 Exchange Rate Regimes

1.	The Nature of Exchange Rate Regimes	121
	1.1 A Basic Typology	121
	1.2. Currency Board Arrangements	122
	1.3 Exchange Rate Bands	124
2.	Evidence on Exchange Rate Regimes •	125
	2.1 General Trends	125
	2.2 Exchange Rate Bands	128
3.	Choosing an Exchange Rate Regime	130
	3.1 Some Conceptual Issues	130
	3.2 The Evidence	132
	3.3 A Practical Guide	133
4.	Policy Trade-Offs and Exchange Rate Credibility	135
5.	Exchange Rates, Competitiveness, and the Trade Balance	142
	5.1 Measuring Competitiveness	143
	5.2 Devaluation and the Trade Balance	145
6.	Devaluation and Ouptut with Imported Inputs	152
7.	Summary	159

5 Inflation and Disinflation

1.	Sources of Inflation			162
	1.1 Hyperinflation and Chronic Inflation •			163
	1.2 Fiscal Deficits, Seigniorage, and Inflation			165
	1.3 Other Sources of Chronic Inflation			170
	1.3.1 Wage Inertia			172
	1.3.2 Exchange Rates and the Terms of Trade			172
	1.3.3 The Frequency of Price Adjustment			175
	1.34- Food Prices			175
	1.3.5 Time Inconsistency and the Inflation Bias			175
2.	Nominal Anchors in Disinflation Money vs. the Exchange Rate			178
	2.1 Controllability and Effectiveness			179
	2.2 Adjustment Paths and Relative Costs			179
	2.3 Credibility, Fiscal Commitment, and Flexibility			182
	2.4 The Flexibilization Stage			183
3.	Disinflation Programs: The Role of Credibility			183
	3.1 Sources of Credibility Problems -			183
	3.2 Enhancing Credibility i '			185
	3.2.1 Big Bang and Gradualism			186
	3.2.2 Central Bank Independence			186
	3.2.3 Price Controls			188
	3.2.4 Aid as a Commitment Mechanism			190
4.	Two Recent Stabilization Experiments			191
	4.1 Egypt, 1992-97			191
	4.2 Uganda, 1987-95	,	1	95
5.	Summary			198
Ap	opendix—Inflation Persistence and Policy Credibility			202

6 Capital Inflows: Causes and Policy Responses

1.	The Surge in Capital Flows	•	205
2.	Domestic and External Factors		209
3.	How Volatile are Capital Flows?		214
4.	Macroeconomic Effects		215
5.	Policy Responses		219
	5.1 Sterilization		220
	5.2 Exchange Rate Flexibility		224
	5.3 Fiscal adjustment		227
	5.4 Capital Controls		228
	5.5 Changes in Statutory Reserve Requirements		233
	5.6 Other Policy Responses		234
5.	Summary		235
Aŗ	ppendix—Measuring the Degree of Capital Mobility		238

7 Currency Crises and Financial Volatility

1.	Sources of Exchange of Rate Crises	241
	1.1 Inconsistent Fundamentals	241
	1.2 Rational Policymakers and Self-Fulfilling Factors	249

Contents	5
----------	---

	2. Currency Crises: Recent Experiences	258
	2.1 The 1994 Crisis of the Mexican Peso .	258
	2.2 The Thai Bant Crisis	265
	3. Currency and Banking Crises	271
	4. Predicting Financial Crises	276
	5. Sources and Effects of Financial Volatility	279
	5.1 Volatility of Capital Flows	279
	5.2 Herding Behavior and Contagion	280
	5.3 The Tequila Effect and the Asia Crisis	281
	6. Coping with Financial Volatility ,	287
	6.1 Macroeconomic Discipline	289
	6.2 Information Disclosure	290
	6.3 TheTobinTax	291
	7. Summary	293
	Appendix—The Mechanics of Speculative Attacks	
	and the Interest Rate Defense	297
	Ι'	
8	Aggregate Accounts, Budget Constraints,	
U	and Model Consistency	
	-	
	1. Production, Income, and Expenditure	303
	2. A Consistency Accounting Matrix	303
	2.1 Current Account Transactions	305
	2.2 Capital Account Transactions	308
	3. National Income Identities and Budget Constraints	309
	3.1 Gross Domestic Product and Absorption	309
	3.2 The Government Budget Constraint	310 311
	3.3 The Private Sector Budget Constraint	311
	3.4 The External Sector Budget Constraint3.5 The Balance Sheet of the Financial System	311
	3.6 The Savings-Investment Balance	312
	4. A Three-Good Model with Banks	313
	4.1 Households	314
	4.2 Firms and the Labor Market	316
	4.3 Commercial Banks	318
	4.4 Government and the Central Bank	319
	4.5 Equilibrium Conditions	319
	4.5.1 The Money Market	320
	4.5.2 The Credit Market	320
	4.5.3 The Market for Home Goods	321
	4.6 Graphical Solution	321
	4.7 Rise in the World Interest Rate	324
	4.8 Extensions	325
	5. An Intertemporal Framework	327
	5.1 Basic Structure	328
	5.2 Financial Openness	331
	6. Summary	334

9 Policy Tools for Macroeconomic Analysis

1.	Assessing Business Cycle Regularities	.337
2.	Assessing the Effects of External Shocks	343
3.	Financial Programming	345
	3.1 The Polak Model	' 345
	3.2 An Extended Framework	349
4.	The World Bank RMSM Model	354
5.	The Merged Model and RMSM-X	363
	5.1 The Merged IMF-World Bank Model	363
	5.2 The RMSM-X Framework	369
6.	Three-Gap Models	372
7.	The 1-2-3 Model	377
	7.1 The Minimal Setup	377
	7.2 An Adverse Terms-of-Trade Shock	383
	7.3 Investment, Saving, and the Government	385
8.	Lags and Behavioral Functions	388
9.	Summary ,•'	390

10 Growth, Poverty, and Income Distribution: Some Basic Facts

1. A Long-Run Perspective	392
2. Some Simple Arithmetic	397
2.1 Growth and Standards of Living.	397
2.2 How Fast Do Economies Catch Up?	397
3. Some Basic Facts	398
3.1 Output Growth, Factor Inputs, and Population	398
3.2 Saving, Investment, and Growth	399
3.3 Poverty and Growth	401
3.4 Inequality, Growth, and Development	406
3.5 Trade, Inflation, and Financial Deepening	411
4. Summary	415
Appendix-Income Distribution and Polarization	418

11 Growth and Technological Progress:

The Solow-Swan Model

1. Basic Structure and Assumptions	420
2. The Dynamics of Capital and Output	425
3. A Digression on Low-Income Traps	430
4. Population, Savings, and Steady-State Output	432
5. The Speed of Adjustment	435
6. Model Predictions and Empirical Facts	438
7. Summary	440
Appendix—Dynamics of k, the Output Effect of s,	
and the Speed of Adjustment	442

12 Knowledge, Human Capital and Endogenous Growth

1. The Accumulation of Knowledge	447
1.1 Knowledge as a By-Product: Learning by Doing	447
1.2. The Production of Knowledge	455
2. Human Capital and Returns to Scale	456
2.1 The Mankiw-Romer-Weil Model	456
2.2 The AK Model	462
3. Human Capital, Public Policy, and Growth	463
4. Other Determinants of Growth	464
4.1 Fiscal Policy	464
4.1.1 Government Spending	464
4.1.2 The Dual Effects of Taxation	465
4.1.3 Budget Deficits and Growth	471
4.2 Inflation and Macroeconomic Stability	471
4.3 Trade and Openness	473
4.4 Financial Development	475
4.5 Political Factors and Income Inequality	477
4.6 Institutions and the Allocation of Talent	478
5. Summary	480
Appendix—The Savings Trap and Coordination Failures	483

13 The Determinants of Economic Growth: An Empirical Overview

1. Growth Accounting	484
2. The East Asian "Miracle"	488
3. Growth Regressions and Convergence	491
3.1 Diminishing Returns and Convergence	491
3.2 Convergence and Cross-Section Regressions	492
3.3 Testing the Mankiw-Romer-Weil Model	495
4. The Empirics of Growth: Econometric Issues	498
5. The Econometric Evidence: An Overview	501
5.1 Saving and Physical and Human Capital	502
5.2 Fiscal Policy	503
5.3 Inflation and Macroeconomic Stability	504
5.4 Financial Factors	505
5.5 Openness to External Trade	506
5.6 Political Variables and Income Inequality	508
6. Catching Up or Falling Behind?	509
7. Summary	511
Appendix—Growth Accounting and Increasing Returns	514

14 Structural Adjustment: Agriculture, Trade, and the Labor Market

1. Price Reform in Agriculture	517
2. Trade Liberalization	519
2.1 The Gains from Trade	519

2.2 Recent Evidence on Trade Reforms	523
2.3 Trade Reforms, Employment, and Wage Inequality	526
2.4 Obstacles to Trade Reform	531
3. Trade and Regional Economic Integration	534
4. Reforming Labor Market -	540
4.1 Labor Markets in-Developing Countries	541
4.1.1 Basic Structure	541
4.1.2 Employment Distribution and Unemployment	541
4.1.3 Wage Formation and Labor Market Segmentation	542
4.1.4 Minimum Wages	543
4.1.5 Trade Unions and Bargaining Process	544
4.2 Labor Market Reforms and Flexibility	546
5. Summary	548
Appendix—Measuring Reforms: Structural Policy Indices	552

X111

15 Fiscal and Financial Sector Reforms.

Contents

1. Fiscal Adjustment	555
1.1. Reforming Tax Systems	555
1.1.1 The Excess Burden of Taxation	555
1.1.2 Guidelines for Reforms	557
12 Expenditure Control and Management	560
13 Civil Service Reform	561
1.4 Fiscal Decentralization	563
2. Pension Reform	. 565
3. Interest Rate Liberalization	566
4. Unification of Foreign Exchange Markets	568
4.1 Implicit Export Taxation and Inflation	569
4.2 An Extended Framework	571
4.3 Jamaica's Experience with Unification	574
4.4 A Simple Formula •	576
5. Financial Liberalization and Financial Fragility	577
5.1 Sources of Financial Fragility	577
5.1.1 Microeconomic and Institutional Failings	579
5.1.2 Moral Hazard and Perverse Incentives	579
5.7.5 Macroeconomic Instability	581
5.1.4 Premature Financial Liberalization	581
5.2 Strengthening Financial Systems	583
6. Summary	584
Appendix—Models of Tax Evasion	587

16 Adjustment and External Debt in Low-Income Countries

1.	Growth, External Debt, and Adjustment	591
2.	The Debt Overhang and the Debt Laffer Curve	597
3.	Measuring the Debt Burden	601
4.	Debt Rescheduling	608
5.	The HIPC Debt Initiative	612
	5.1 First Stage	612

Contents

5.2 Second Stage	613
5.3 Eligibility Criteria and Prospects •	614
6. Summary	615
Appendix-The Theory of Stages in the Balance of Payments	617
17 Sequencing, Gradualism, and the Political Economy	
of Adjustment	
1. Stabilization and Structural Adjustment	621
2. The Order of Liberalization	622
2.1 Liberalization of External Accounts	623
2.2 Financial Reform and Capital Account	625
2.3 Sequencing Labor Market Reforms	625
3. Political Constraints and Economic Reforms	626
3.1 Modeling Political Conflict	626
3.2 The Benefits of Crises	628
3.3 Political Acceptability and Sustainability	628
4. Shock Treatment or Gradual Approach?	634
5. Summary	637
Appendix—The Costs of Corruption	638
Annex A: The Informal Sector and The Urban Labor Market	640
Annex B: Informal Financial Markets	658
Annex C: Exchange Market Unification	668

References	684
Index	719