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The Economics of Adjustment and Growth

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To my late mother, Rolande,
for her love, courage, and devotion
Contents

Acknowledgments xviii

Introduction and Overview 1

1 Budget Constraints and Aggregate Accounts 10

1.1 Production, Income, and Expenditure 11
1.2 A Consistency Accounting Matrix 11
  1.2.1 Current Account Transactions 14
  1.2.2 Capital Account Transactions 17
1.3 Identities and Budget Constraints 18
  1.3.1 Gross Domestic Product and Absorption 18
  1.3.2 The Government Budget Constraint 19
  1.3.3 The Private Sector Budget Constraint 20
  1.3.4 The External Sector Budget Constraint 20
  1.3.5 The Balance Sheet of the Financial System 21
  1.3.6 The Savings-Investment Balance 22
1.4 Social Accounting Matrices 23
  1.4.1 Activity, Commodity, and Factor Accounts 23
  1.4.2 Institutions and the Capital Account 25
  1.4.3 The Rest-of-the-World Account 25
  1.4.4 SAMs and Economy-wide Models 26
1.5 Summary 27
2 Consumption, Saving, and Investment  

2.1 Consumption and Saving  30  
  2.1.1 The Permanent Income Hypothesis  30  
  2.1.2 The Life-Cycle Model  33  
  The Basic Framework  34  
  Age and the Dependency Ratio  38  
  2.1.3 Other Determinants  40  
  Income Levels and Income Uncertainty  40  
  Intergenerational Links  41  
  Liquidity Constraints  41  
  Inflation and Macroeconomic Stability  43  
  Government Saving  43  
  Expectations, Taxation, and Debt  46  
  Social Security, Pensions, and Insurance  46  
  Changes in the Terms of Trade  47  
  Financial Deepening  49  
  Household and Corporate Saving  49  
  2.1.4 Empirical Evidence  49  
  
2.2 Investment  53  
  2.2.1 The Flexible Accelerator  53  
  2.2.2 The User Cost of Capital  54  
  2.2.3 Uncertainty and Irreversibility  56  
  2.2.4 Other Determinants  60  
  Credit Rationing  60  
  Foreign Exchange Constraint  61  
  The Real Exchange Rate  61  
  Public Investment  61  
  Macroeconomic Instability  62  
  The Debt Burden Effect  62  
  2.2.5 Empirical Evidence  63  

2.3 Summary  67  

Appendix—Income Uncertainty and Precautionary Saving  71  

3 Fiscal Deficits, Public Debt, and the Current Account  73  

3.1 Structure of Public Finances  74  
  3.1.1 Conventional Sources of Revenue and Expenditure  74  
  3.1.2 Seigniorage and Inflationary Finance  78  
  3.1.3 Quasi-Fiscal Activities and Contingent Liabilities  79
3.2 The Government Budget Constraint 83
3.3 Assessing the Stance of Fiscal Policy 87
3.4 Deficit Rules, Budget Ceilings, and Fiscal Transparency 90
3.5 Fiscal Imbalances and External Deficits 93
3.6 Consistency and Sustainability 93
  3.6.1 A Consistency Framework 93
  3.6.2 Fiscal and External Sustainability 101
3.7 Sustainability and Solvency Constraints 102
3.8 Commodity Price Shocks and Deficits 106
3.9 Can Fiscal Austerity Be Expansionary? 107
3.10 Summary 109

4 The Financial System and Monetary Policy 114

4.1 The Financial System 115
  4.1.1 Financial Repression 115
  4.1.2 Banks and Financial Intermediation 118
4.2 Money Demand 121
4.3 Indirect Instruments of Monetary Policy 123
4.4 Credit Rationing 125
4.5 The Transmission of Monetary Policy 130
  4.5.1 Interest Rate Effects 135
  4.5.2 Exchange Rate Effects 136
  4.5.3 Asset Prices and Balance Sheet Effects 137
    Net Worth and the Finance Premium 138
    The Financial Accelerator 138
  4.5.4 Credit Availability Effects 140
  4.5.5 The Role of Expectations 141
4.6 Monetary Policy: Inflation Targeting 141
  4.6.1 Strict Inflation Targeting 142
  4.6.2 Policy Trade-offs and Flexible Inflation Targeting 146
  4.6.3 Comparison with Intermediate Target Strategies 149
    Monetary vs. Inflation Targeting 149
    Exchange Rate vs. Inflation Targeting 150
  4.6.4 Requirements for Inflation Targeting 151
4.7 Monetary Policy in a Dollarized Economy 154
  4.7.1 Persistence of Dollarization 154
  4.7.2 Implications of Dollarization 156
4.8 Summary 157
Appendix—Inflation Targeting with Forward-Looking Expectations 162

5 Exchange Rate Regimes 166

5.1 The Nature of Exchange Rate Regimes 166
  5.1.1 Pegged Exchange Rate Regimes 167
  5.1.2 Flexible Exchange Rate Regimes 169
  5.1.3 Band Regimes 169
  5.1.4 Multiple Exchange Rate Regimes 170

5.2 Evidence on Exchange Rate Regimes 170
  5.2.1 General Trends 171
  5.2.2 Exchange Rate Bands 173

5.3 Choosing an Exchange Rate Regime 176
  5.3.1 Some Conceptual Issues 176
  5.3.2 The Evidence 178
  5.3.3 A Practical Guide 179

5.4 Trade-offs and Exchange Rate Credibility 181

5.5 Exchange Rates and the Trade Balance 188
  5.5.1 Measuring Competitiveness 189
  5.5.2 Devaluation and the Trade Balance 191

5.6 Devaluation with Imported Inputs 197

5.7 Summary 204

6 Inflation and Disinflation Programs 207

6.1 Sources of Inflation 207
  6.1.1 Hyperinflation and Chronic Inflation 208
  6.1.2 Fiscal Deficits, Seigniorage, and Inflation 210
  6.1.3 Other Sources of Chronic Inflation 216
    Wage Inertia 216
    Exchange Rates and the Terms of Trade 217
    The Frequency of Price Adjustment 218
    Food Prices 218
    Time Inconsistency and the Inflation Bias 219

6.2 Nominal Anchors in Disinflation 221
  6.2.1 Controllability and Effectiveness 222
  6.2.2 Adjustment Paths and Relative Costs 222
  6.2.3 Credibility, Fiscal Commitment, and Flexibility 225
  6.2.4 The Flexibilization Stage 226
6.3 Disinflation: The Role of Credibility 227
6.3.1 Sources of Credibility Problems 227
6.3.2 Enhancing Credibility 228
	Big Bang and Gradualism 229
	Central Bank Independence 229
	Price Controls 231
	Aid as a Commitment Mechanism 233
6.4 Two Stabilization Experiments 234
6.4.1 Egypt, 1992-97 234
6.4.2 Uganda, 1987-95 238
6.5 Summary 241
Appendix—Inflation Persistence and Policy Credibility 245

7 Capital Inflows: Causes and Policy Responses 247

7.1 Capital Flows: Recent Evidence 248
7.2 How Volatile Are Capital Flows? 253
7.3 Domestic and External Factors 254
7.4 Macroeconomic Effects of Capital Inflows 256
7.5 External Shocks and Capital Flows 259
	7.5.1 Households 260
	7.5.2 Firms and the Labor Market 262
	7.5.3 Commercial Banks 265
	7.5.4 Government and the Central Bank 265
	7.5.5 Equilibrium Conditions 266
	The Money Market 266
	The Credit Market 266
	The Market for Home Goods 267
	7.5.6 Graphical Solution 267
	7.5.7 Rise in the World Interest Rate 270
7.6 Policy Responses to Capital Inflows 271
	7.6.1 Sterilization 272
	7.6.2 Exchange Rate Flexibility 275
	7.6.3 Fiscal Adjustment 278
	7.6.4 Capital Controls 279
	Forms of Capital Controls 279
	Pros and Cons of Capital Controls 281
	7.6.5 Changes in Statutory Reserve Requirements 285
	7.6.6 Other Policy Responses 285
8 Financial Crises and Financial Volatility

8.1 Sources of Exchange Rate Crises 293
8.1.1 Inconsistent Fundamentals 293
8.1.2 Rational Policymakers and Self-Fulfilling Crises 301
8.1.3 Third-Generation Models 311
8.2 Currency Crises: Three Case Studies 312
8.2.1 The 1994 Crisis of the Mexican Peso 312
8.2.2 The 1997 Thai Baht Crisis 318
8.2.3 The 1999 Brazilian Real Crisis 324
8.3 Banking and Currency Crises 327
8.3.1 Causes of Banking Crises 327
8.3.2 Self-Fulfilling Bank Runs 328
8.3.3 Links between Currency and Banking Crises 331
8.3.4 Liquidity Crises in an Open Economy 332
8.4 Predicting Financial Crises 335
8.5 Financial Volatility: Sources and Effects 338
8.5.1 Volatility of Capital Flows 338
8.5.2 Herding Behavior and Contagion 339
8.5.3 The Tequila Effect and the Asia Crisis 340
8.6 Coping with Financial Volatility 345
8.6.1 Macroeconomic Discipline 346
8.6.2 Information Disclosure 347
8.6.3 The Tobin Tax 348
8.7 Summary 350

Appendix—The Mechanics of Speculative Attacks and Interest Rate Defense 355

9 Policy Tools for Macroeconomic Analysis

9.1 Assessing Business Cycle Regularities 360
9.2 Financial Programming 363
9.2.1 The Polak Model 364
9.2.2 An Extended Framework 367
9.3 The World Bank RMSM Model 372
9.4 The Merged Model and RMSM-X 380
9.4.1 The Merged IMF-World Bank Model 380
12 Knowledge, Human Capital, and Endogenous Growth

12.1 The Accumulation of Knowledge 464
   12.1.1 Knowledge as a By-Product: Learning by Doing 464
   12.1.2 The Production of Knowledge 471
12.2 Human Capital and Returns to Scale 473
   12.2.1 The Mankiw-Romer-Weil Model 473
   12.2.2 The AK Model 479
12.3 Human Capital and Public Policy 480
12.4 Other Determinants of Growth 481
   12.4.1 Fiscal Policy 481
      Government Spending 482
      The Dual Effects of Taxation 482
      Budget Deficits and Growth 488
   12.4.2 Inflation and Macroeconomic Stability 488
   12.4.3 Trade and International Financial Openness 490
   12.4.4 Financial Development 496
   12.4.5 Political Factors and Income Inequality 501
   12.4.6 Institutions and the Allocation of Talent 503
12.5 Summary 505
Appendix—Determinants and Costs of Corruption 509

13 The Determinants of Economic Growth: An Empirical Overview

13.1 Growth Accounting 511
13.2 The East Asian “Miracle” 515
13.3 Growth Regressions and Convergence 517
   13.3.1 Diminishing Returns and Convergence 517
   13.3.2 Convergence and Cross-Section Regressions 518
   13.3.3 Testing the Mankiw-Romer-Weil Model 520
13.4 The Empirics of Growth 523
13.5 The Econometric Evidence: Overview 528
   13.5.1 Saving and Physical and Human Capital 528
   13.5.2 Fiscal Variables 530
   13.5.3 Inflation and Macroeconomic Stability 531
   13.5.4 Financial Factors 532
   13.5.5 External Trade and Financial Openness 534
   13.5.6 Political Variables and Income Inequality 538
14  Trade and Labor Market Reforms  547

14.1 Trade Liberalization  548
  14.1.1 The Gains from Trade  548
  14.1.2 Recent Evidence on Trade Reforms  553
  14.1.3 Trade Reform, Employment, and Wage Inequality  555
  14.1.4 Obstacles to Trade Reform  560
14.2 Trade and Regional Integration  563
14.3 Reforming Labor Markets  568
  14.3.1 Labor Markets in Developing Countries  568
     Basic Structure  569
     Employment Distribution and Unemployment  569
     Wage Formation and Labor Market
     Segmentation  570
     Minimum Wages  570
     Trade Unions and the Bargaining Process  571
  14.3.2 Labor Market Reforms and Flexibility  573
14.4 Summary  576
Appendix—Reforming Price Incentives in Agriculture  580

15  Fiscal Adjustment and Financial Sector Reforms  582

15.1 Fiscal Adjustment  583
  15.1.1 Reforming Tax Systems  583
     The Excess Burden of Taxation  583
     Fighting Tax Evasion  585
     Guidelines for Reform  588
  15.1.2 Expenditure Control and Management  591
  15.1.3 Civil Service Reform  592
  15.1.4 Fiscal Decentralization  594
15.2 Pension Reform  595
  15.2.1 Basic Features of Pension Systems  596
  15.2.2 Pension Regimes and Saving: A Framework  597
  15.2.3 Recent Evidence on Pension Reform  602
15.3 Interest Rate Liberalization 604
  15.3.1 A Simple Framework 604
  15.3.2 Potential Pitfalls 608
15.4 Sources of Financial Fragility 610
  15.4.1 The Nature of Banks’ Balance Sheets 610
  15.4.2 Microeconomic and Institutional Failings 611
  15.4.3 Moral Hazard and Perverse Incentives 611
  15.4.4 Macroeconomic Instability 613
  15.4.5 Premature Financial Liberalization 613
15.5 Strengthening Financial Systems 615
15.6 Summary 616
Appendix—Structural Policy Indices 619

16 Aid, External Debt, and Growth 621
16.1 The Effects of Foreign Aid 622
  16.1.1 Aid Effectiveness and the Fungibility Problem 623
  16.1.2 Aid, Investment, and Growth 624
    The Situation without Aid 624
    The Effects of Aid on Investment 626
  16.1.3 Aid and Growth: Cross-Country Evidence 631
16.2 Growth, Debt, and Fiscal Adjustment 632
16.3 The Debt Overhang and the Debt Laffer Curve 638
16.4 Measuring the Debt Burden 642
  16.4.1 Conventional and Present Value Indicators 642
  16.4.2 Sustainability and External Solvency 644
16.5 Debt Rescheduling and Debt Relief 646
16.6 Summary 648
Appendix—The Theory of Stages in the Balance of Payments 651

17 Sequencing, Gradualism, and the Political Economy of Adjustment 653
17.1 Stabilization and Structural Adjustment 654
17.2 The Order of Liberalization 655
  17.2.1 Liberalization of External Accounts 656
  17.2.2 Financial Reform and the Capital Account 658
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Introduction and Overview

Understanding the process through which economic adjustment affects economic growth and standards of living remains a key issue for economists and policymakers in the developing world. Among some of the lessons that have emerged during the past decades is the realization that macroeconomic and financial volatility may have large adverse effects on growth rates and the level of income. Instability in relative prices and overall inflation may have a negative effect on the expected return to capital and the decision to invest; in turn, the lack of investment may hamper economic growth and worsen the plight of the poor. It has also been recognized that microeconomic (or structural) rigidities may have sizable effects on macroeconomic imbalances. For instance, interest rate ceilings that result in negative real rates of return may lead to disequilibrium between domestic savings and investment and greater reliance on foreign capital, thereby contributing to balance-of-payments problems. Thus, attempts at macroeconomic stabilization may fail if they are not complemented with adequate microeconomic (and often institutional) reforms.

Although the intricate interactions between the micro and macro dimensions of adjustment policies are now better understood, there have been few attempts to integrate them in a systematic and coherent framework. By and large, most textbooks in the field of development economics have maintained their focus on long-term growth, and continue to treat macroeconomic issues as a sideshow. In my book with Peter Montiel, *Development Macroeconomics*, first published in 1996, I took the opposite position and focused almost exclusively on macroeconomic policy issues. However, the advanced nature of that book makes it more suitable for graduate students and technically oriented professional macroeconomists.

This book fills a gap in the existing literature by providing a rigorous, but accessible, analysis of policy issues involved in both aspects of economic adjustment in developing countries—short-run macroeconomic management and structural adjustment policies aimed at fostering economic growth. As in my earlier work, the book emphasizes the need to take systematically into account important structural features of these countries for economic analysis. The underlying perspective is that structural (micro-) economic characteristics play an important role in both the transmission of policy shocks and the response of the economy to adjustment policies. It is therefore essential to take into account the behavioral implications of these characteristics in designing stabilization
and adjustment programs. As will become clear to the reader, an important analytical literature doing precisely that already exists; however, some of this literature has been available (often in compact form) only in professional economic journals. This book makes much of this material available in a coherent and, I hope, reader-friendly format.

The structure and contents of this book are likely to make it of interest to a variety of readers. A first group may consist of professional economists interested in a rigorous, but not overly mathematical, overview of recent developments in the principles of macroeconomic management and the economics of reform. It includes, in particular, economists in developing countries involved on a day-to-day basis with stabilization and structural adjustment issues, economists working in international organizations dealing with development, and economists in private financial institutions. A second group of readers includes advanced undergraduate students pursuing a degree in economic management, or students specializing in political science or public affairs, with a knowledge of intermediate microeconomics and macroeconomics. Although the material covered in the book is dense, the relatively self-contained nature of most of the chapters provides considerable discretion to teachers in choosing the exact list of topics to be covered during, say, a one-semester course. Finally, parts of the book can also be used as supplementary readings for advanced undergraduate courses in macroeconomics (Chapters 1 to 9), economic growth (Chapters 10 to 13), international economics (Chapters 7, 8, 14, and 16), and public economics (Chapters 3 and 15), quantitative techniques (Chapter 9), and political economy (Chapter 17).

The book is organized as follows. Chapters 1 to 9 focus on policy issues related to short-run macroeconomic adjustment. Chapter 1 provides a brief review of aggregate accounts, and the specification of flow and stock budget constraints. The first three parts of the chapter discuss basic concepts of macroeconomic accounting, a summary format for current account and financial transactions, as well as various aggregate identities and key macroeconomic relationships, and show how they are related to the sectoral budget constraints. The fourth part presents the principles underlying the construction of a social accounting matrix—an extremely useful tool for summarizing micro and macro features of an economy (including the distribution of income among agents). Social accounting matrices have gained considerably in popularity in recent years, because they are often used as a basis for the construction of applied general equilibrium models.

Chapter 2 begins with a discussion of the determinants of consumption and saving in developing countries. It starts with standard theories (the Keynesian specification, the permanent income hypothesis, and the basic life-cycle...
model) and continues with various extensions aimed at capturing factors that have been shown empirically to play an important role in developing economies. These factors include income levels and income variability, intergenerational links, liquidity constraints, inflation and macroeconomic instability, government saving behavior, social security and pension systems, and changes in the terms of trade. The second part of the chapter focuses on the determinants of private investment and includes a brief review of standard models (which emphasize accelerator effects and the cost of capital), as well as a discussion of the role of uncertainty and irreversibility. As in the case of consumption and saving, several additional factors found to be important in empirical studies on developing countries are also discussed, including credit rationing, changes in relative prices, public investment, macroeconomic instability, and the debt overhang—a particularly important consideration for low-income countries. The recent empirical evidence is also systematically reviewed.

Chapter 3 examines various issues associated with fiscal policy in macroeconomic adjustment. It begins with a description of the composition of conventional sources of public revenue and expenditure in developing countries. Implicit sources of revenue and expenditure (such as seigniorage and the inflation tax, and contingent liabilities) are examined next, and their implications for the measurement of the fiscal deficit of the consolidated public sector and the stance of fiscal policy are discussed. The second part specifies the government budget constraint and describes various measures of the fiscal stance. The third part presents a simple, yet very useful, technique aimed at disentangling the short- and medium-term effects of fiscal policy. The next three parts examine the link between fiscal imbalances and current account deficits, and issues associated with public debt sustainability and public sector solvency. The chapter concludes with a discussion of the link between commodity price booms and the fiscal balance, and the link between fiscal adjustment, expectations, and economic activity.

Chapter 4 focuses on the structure of the financial system and its implications for monetary policy. It begins with a description of some of the main characteristics of the financial system in developing countries—most notably the pervasive nature of government restrictions and the role played by banks in the process of financial intermediation. The determinants of money demand, the nature and operation of indirect instruments of monetary policy, together with the sources of credit market imperfections and credit rationing, are taken up next. The discussion then focuses on the transmission process of monetary policy under fixed and flexible exchange rates, and the use of inflation targeting as an operational framework for monetary policy. As a policy regime, inflation targeting has gained considerable popularity in recent years, in both industrial and developing countries; however, its performance in cyclical downturns remains open to question. The last part discusses issues raised by dollarization (the simultaneous use of domestic and foreign currencies) for the conduct of monetary policy.

Chapter 5 discusses various issues related to exchange rate management. It begins by reviewing the recent evolution of exchange rate regimes in developing
countries and discusses in detail the operation of currency board arrangements and exchange rate bands. The second part examines the various criteria that affect the choice of an exchange rate regime and identifies the potential trade-offs that may arise among them. Understanding the nature of these trade-offs is important because, as recent exchange rate crises have demonstrated, policy challenges do change over time; exchange rate arrangements must be adapted to changing circumstances. The third part explores the role of credibility factors, as well as the implications of inconsistencies between fiscal and exchange rate policies, for the viability of a fixed exchange rate regime. The links between exchange rates, competitiveness, and trade balance movements are examined in the fourth part, after a brief review of alternative measures of the real exchange rate. The last part of the chapter examines the channels through which exchange rate adjustment may induce contractionary effects on output—an issue that remains controversial in the developing world.

The focus of Chapter 6 is on inflation and disinflation policies. The first part of the chapter discusses the sources of chronic inflation and hyperinflation. It begins with an examination of the link between fiscal deficits, seigniorage, and inflation, and continues with a discussion of various other sources of price increases, including wage inertia, exchange rate depreciations, terms-of-trade shocks, and the inflation bias associated with a lack of credibility. The second part examines the factors affecting the choice of nominal anchors in disinflation programs, focusing notably on the macroeconomic dynamics associated with monetary- and exchange-rate based stabilization programs. The third part focuses on the role of credibility in disinflation. It reviews sources of credibility problems and discusses ways through which policymakers can enhance credibility—including, in particular, central bank independence and price controls. The last part reviews two experiences with alternative types of adjustment programs: Egypt (1992-97), where stabilization was based on a pegged exchange rate, and Uganda (1987-95), where a money supply anchor was used. A key lesson of these experiences is the role played by fiscal adjustment. Getting the government budget under control is essential to ensure a sustained reduction in inflation.

In recent years many developing countries have continued to globalize and integrate their economies through trade and international financial flows. Indeed, the share of trade (exports plus imports) in the gross domestic product of the developing world has risen from about one-third in the mid-1980s to almost 45 percent in 1996; it could exceed 50 percent by the year 2005. This tendency marks a sharp break from past trends and reflects the adoption of outward-oriented reforms by a growing number of these countries. However, the trend toward globalization has not been without setbacks. The efficiency, consumption smoothing, and risk-diversification gains of financial integration have been mitigated by the high economic and social costs associated with large and abrupt reversals in capital flows. At the same time, the financial crises in Mexico, East Asia, Brazil, Turkey, and Argentina in recent years have raised concerns regarding the effects of capital inflows in an environment in which financial institutions are weak. These issues are discussed in Chapters 7 and 8.
Chapter 1

Budget Constraints and Aggregate Accounts

By organizing our data in the form of accounts we can obtain a coherent picture of the stocks and flows, incomings and outgoings of whatever variables we are interested in . . . Given [a coherent set of accounts], we can formulate some hypotheses, or theories, about the technical and behavioural relationships that connect them. By combining facts and theories we can construct a model which when translated into quantitative terms will give us an idea of how the system under investigation actually works.


An integrated and consistent set of economic accounts is a prerequisite for any modeling exercise in macroeconomic analysis. This chapter discusses the relationships between national accounting, stock and flow budget constraints, and the consistency requirements that macroeconomic models must satisfy. Section 1.1 discusses the basic accounting concepts upon which macroeconomic analysis dwells (production, income, and expenditure) and the national income accounting concepts derived from them. Section 1.2 presents a consistency accounting matrix, the purpose of which is to summarize in a convenient format all current and financial transactions in an economy during a given period of time. Section 1.3 derives various aggregate identities and some key macroeconomic relationships and shows how they relate to sectoral budget constraints. Section 1.4 presents the principles underlying the construction of social accounting matrices, which integrate both sectoral and aggregate data on production, expenditure, and income flows.
1.1 Production, Income, and Expenditure

Macroeconomic analysis is organized around three basic accounting concepts: production, income, and expenditure.

- **Production** of goods and services is carried out by domestic agents, including firms, self-employed workers (in the formal or informal sector), financial institutions (banks, insurance companies, mutual funds), and the government.

- **Income** consists of wages and salaries, firms’ operating surpluses, property income (including interest and dividends), and imputed compensation (for self-employed workers or property owners, that is, rentiers).

- **Expenditure** consists of outlays on durable and nondurable final consumption goods and investment. In general, production and spending units are different—except for subsistence production by households (mostly in agriculture) and the production of government services.

The three concepts of production, income, and expenditure are linked by three basic macroeconomic relationships, which result from the budget constraints faced by each category of agents:

- **Production and income.** The value of production, for the economy as a whole, must equal the value of income (excluding transfers) generated domestically. Such income, however, may accrue to either resident economic agents or to nonresident agents. Similarly, resident agents may receive factor payments from abroad. Income accruing to residents, or national income, is thus defined as gross domestic product (GDP) plus net factor payments from abroad.

- **Income, expenditure, and savings.** For any economic agent, income earned (regardless of whether the source is domestic or foreign) plus transfers (from domestic sources or the rest of the world) must be equal to expenditure plus savings, the latter being either positive or negative.

- **Savings and asset accumulation.** Savings plus borrowing must equal asset acquisition for any economic agent. These assets may be physical assets (capital goods, for instance, but not consumer durables) or financial assets (such as bank deposits or government bonds). Borrowing, just like savings, may be either positive or negative.

1.2 A Consistency Accounting Matrix

This section sets out an integrated macroeconomic accounting framework that stresses two types of transactions between agents: transactions in goods and services, and financial transactions. Such a framework (which thus combines
income and flow-of-funds accounts) is an important step in the design of a consistent macroeconomic model, such as the **RMSM-X model** of the World Bank described in Chapter 9.

This integrated accounting framework records all incoming and outgoing transactions for each category of agent. Thus, the balance of all transactions (real and financial) for each and every one of them is necessarily equal to zero, and the balance of income-expenditure transactions is equal and of opposite sign to the balance of financial transactions. As a result, several equivalence relationships, or *identities*, emerge among the various magnitudes recorded in the accounts.

Consider an economy in which the following four categories of agents operate:

- The *private nonfinancial sector*, which includes the household sector as well as the private corporate sector.
- The *financial sector*, which includes both the central bank and the commercial banks as well as other financial intermediaries (private savings banks, finance companies, and public savings institutions).\(^1\)
- The *general government*, which comprises all levels of government (central, state, and local) as well as public sector corporations funded through the government budget.\(^2\)
- The *external (nonresident) sector*, which includes all transactions of nonresidents with residents.

Following Easterly (1989), Table 1.1 presents the transactions between these agents in the form of a **consistency matrix**, which essentially describes the sources and uses of funds in the economy. Five sets of accounts are incorporated in the consistency framework:

- the national accounts;
- the accounts of the nonfinancial private sector;
- the government accounts;
- the balance sheet of the financial sector;
- the balance of payments, which captures the consolidated accounts of the external sector—that is, transactions between residents and nonresidents.

\(^1\)The analysis here focuses only on the role of the financial system as an intermediary for channeling savings across sectors. A high degree of aggregation is thus reasonable. A disaggregated financial structure would, of course, be more appropriate to analyze, for instance, how regulations imposed by the central bank on commercial banks—such as cash reserve ratios or statutory liquidity ratios—affect the money supply and the provision of loans to other agents.

\(^2\)In general, whether public-owned enterprises are included in the government sector or in the private nonfinancial sector varies across countries; it depends on whether public enterprises are viewed as primarily *profit-seeking* entities (like private enterprises) or as primarily *government-controlled* entities. The share of assets under public control is often used to make the distinction, but this can be unreliable.