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To my late mother, Rolande,

for her love, courage, and devotion

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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).[1]

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

[1] It should be clear from this overview that there are a number of issues that normally figure prominently in textbooks in development economics but nevertheless are not addressed in this book. In particular, the rural economy is not discussed in any depth, despite its importance for the process of development. Basu (1997) provides a detailed discussion of many of the important topics in this area, including stagnation and backward agriculture, tenancy and efficiency, rural credit markets and interlinkages in rural markets.

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.
>
> J. Richard N. Stone, *The Accounts of Society*, Nobel Memorial Lecture, 1984.

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.