Macroeconomics in Emerging Markets

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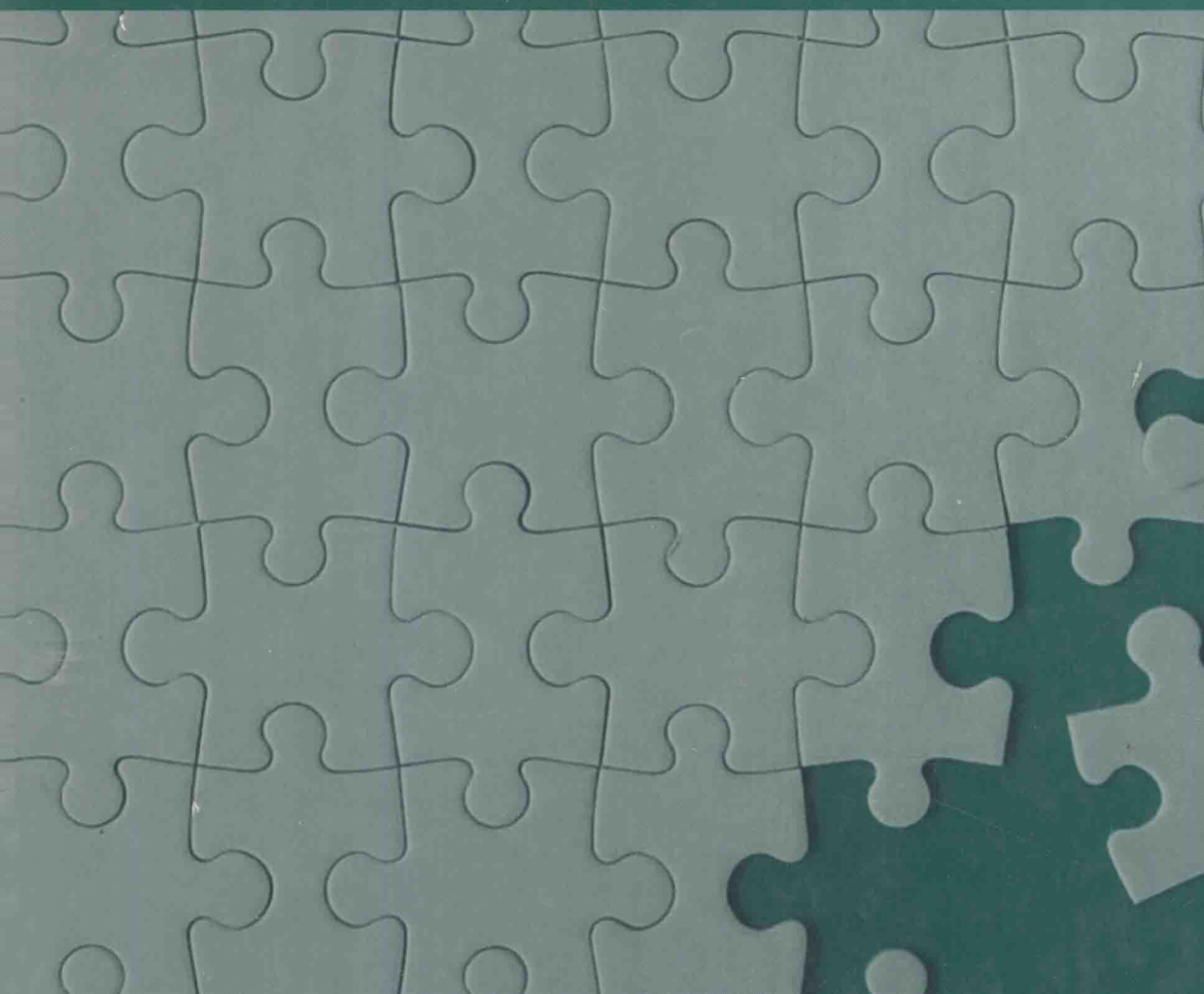

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Macroeconomics in Emerging Markets

This book is a rigorous yet nonmathematical analysis of key macroeconomic issues faced by emerging economies. In the book's first part, Peter Montiel develops an analytical framework that can be used as a workhorse model to study short-run macroeconomic issues of stabilization and adjustment in such economies, comparable to the IS-LM framework widely used in intermediate-level macroeconomics textbooks for industrial countries. The remainder of the book consists of three parts – the consideration of fiscal issues, financial sector issues, and issues concerning exchange-rate regimes and policies. In the fiscal area, the focus is on the formulation of intertemporal policies, that is, fiscal sustainability, seignorage, and the roles of central bank independence and privatization of public enterprises in the achievement of fiscal credibility. In his analysis of the financial sector, the author examines its role in promoting welfare and growth, as well as in generating crises. Finally, he explores recent developments in the theory of appropriate exchange-rate regimes and management and provides an overview of recent currency crises in emerging markets.

Peter J. Montiel is Professor of Economics at Williams College, Massachusetts. He formerly served as Senior Policy Advisor at the International Monetary Fund and as Chief of the Macroeconomics and Growth Division of the Policy Research Department of the World Bank, both in Washington, DC. Professor Montiel's other recent books include *Development Macroeconomics* (2000), coauthored with Pierre-Richard Agenor, and *Exchange Rate Misalignment* (1999), coedited with Lawrence Hinkle. He has published extensively in leading professional journals such as the *Journal of International Economics*, the *Journal of International Money and Finance*, and the *Journal of Development Economics*. Professor Montiel has also served as a consultant at various times to the IMF, World Bank, Inter-American Development Bank, and the Asian Development Bank.

To my wife Susan

Preface

My motivation for writing this book stems from my experiences teaching a Master's level macroeconomics course at the Center for Development Economics at Williams College, as well as from delivering lectures on various topics in macroeconomics to audiences of policymakers from emerging economies in a variety of settings. In both contexts the audiences have often been very bright, very knowledgeable about the problems of their countries, and not very interested in sophisticated mathematics. These experiences convinced me that there is a need for a book on macroeconomic policy in emerging economies that treats the most important issues facing these countries in a way that is conceptually sound but that does not place excessive technical demands on the reader, thus making it accessible to students and policymakers who are less mathematically inclined than the typical graduate student in economics. This book is my attempt to meet that need. It is intended to be accessible to upper-level undergraduates (i.e., undergraduates who have taken a course in intermediate macroeconomics), to students in policy-oriented master's degree programs in economics or in public policy, and to policymakers.

Why a book on macroeconomics in emerging economies instead of a more general macroeconomics text that could be applied to emerging economies? This is an important question, and I think that there are essentially two answers to it. The first is that, in thinking about developing-country macroeconomic issues, it is often necessary to modify the conceptual frameworks that are generally available in macroeconomics texts written with industrial countries in mind. All macroeconomic models are based on stylized descriptions of the environment in which economic agents interact, and this environment often differs in important ways in emerging economies from that in industrial countries. The second reason is probably more important. It is that, precisely because of the "emergent" nature of these economies, the most significant policy issues that economists and policymakers in developing countries face are often quite different from those that typically occupy center stage in industrial-country texts.

While macroeconomists who work on industrial countries do not always concur on the appropriate way to model the economies they study, the models they use have certain important features in common, at least in their textbook forms and in the forms most commonly used for policy analysis. For example, the governments in these models are usually assumed to be solvent, and are thus expected to service their debts on schedule. Indeed, the rate of return on short-term government debt is usually taken to represent the "safe" rate of interest in these models. The financial system is usually described as highly developed, with few if any credit market imperfections present. Domestic financial markets are well integrated among themselves. In this setting, banks are "special" as financial institutions only to the extent that their liabilities serve as means of payment, and bank loans are equivalent to securities traded in open markets. Banks themselves are solvent, and while potentially vulnerable to "runs," they are protected from such events by well-functioning deposit insurance schemes. Not only are financial markets well integrated internally, but they are also well integrated with world capital markets, and financial parity conditions link domestic interest rates with international ones. The exchange rate regime is typically taken to consist of a clean float, in which the exchange rate is fully market-determined. Unfortunately, these conditions do not hold in a typical "emerging economy."

Moreover, even the very focus of macroeconomic analysis is different in the emerging-economy context. Among industrial countries, short-run macroeconomics is typically concerned with business cycle phenomena, a name that connotes a fairly regular and mild rhythm of economic activity. Among emerging economies, by contrast, the concern is instead macroeconomic "instability," as well as "crises." These are of concern not only for their short-run costs, but also for their implications for the pace of economic growth and development that represents the main concern of macroeconomic policymakers in these economies. The words "instability" and "crises" refer to macroeconomic events that are both more irregular and more severe than those that usually concern industrial-country policymakers.

This book, then, has dual aims. The first is to provide students with a relatively simple analytical framework for thinking about macroeconomic issues in emerging economies. The second is to analyze in some detail several specific areas of macroeconomic policy that have recently been – and, I believe, will continue to be – important in these economies.

The content of the book is based on the course I have been teaching at the Williams College Center for Development Economics, and as such, it reflects my particular views regarding key macroeconomic challenges that face developing countries as they become increasingly financially integrated with the world economy. These consist of the management of the public sector's budget, of the domestic financial system, and of the exchange rate. These three areas are mutually interdependent, and the analytical framework developed in the first part of the book is subsequently used to shed light on all of them.

While the central importance of the budget in developing-country macroeconomic performance has come to be widely acknowledged over the past decade or so, it has not yet received pride of place in textbooks. The similarly important roles of the financial system and of exchange rate management, by contrast, have only recently begun to receive increased attention in the wake of the 1994 Mexican and 1997 Asian financial crises. My view is that the major macroeconomic crisis that afflicted many developing countries during the decade of the eighties – the international debt crisis – was at bottom a fiscal phenomenon, while the major emerging-economy crises of the nineties – the Mexican and Asian ones – arose from interactions between inappropriate financial sector and exchange rate policies in a context of increased financial integration. Thus, the analytical portion of the book (the model) focuses heavily on the macroeconomic implications of financial integration, while the more policy-oriented portions focus on the dimensions of policy failure that I feel have been critical for developing countries over the past two decades. I believe that this structure will continue to make the book relevant to students of developing-country macroeconomics for the foreseeable future.

This text is divided into four parts. Part 1 consists of a single overview chapter that examines the links between short-run macroeconomic performance and economic development (defined in a narrow way in terms of the growth of an economy's productive capacity). The analytical framework is presented in Part 2. The four chapters in Part 2 develop a model, essentially at the intermediate macroeconomics level of rigor (i.e., relying primarily on simple behavioral relationships and described with graphs rather than equations), that can serve as an organizing principle for thinking about emerging-economy macroeconomic policy issues. The model differs from the standard versions found in intermediate-level industrial-country textbooks in several ways. First, it describes a small economy that is open to trade in goods and financial assets with the rest of the world. Second, the exchange rate regime is one in which the nominal exchange rate is officially determined, rather than floating. Third, the aggregate supply side of this economy incorporates flexible wages and prices, ruling out Keynesian unemployment disequilibria which, though obviously not unknown in emerging economies, do not tend to be as central in policy debates as they are in the United States and other industrial countries. Fourth, in describing financial links with the rest of the world, the model assumes that domestic and foreign interest-bearing assets are imperfect substitutes and describes short-run financial market equilibrium as a *stock* equilibrium rather than the flow equilibrium that, while long discarded in research, continues to figure prominently in many macroeconomic textbooks. This specification permits the analysis of financial autarky and perfect capital mobility as special cases. Finally, the model incorporates current account dynamics. To do so, it is developed in two stages: the first stage describes a short-run equilibrium conditioned on a given level of the country's net international creditor position, and the second traces the

implications of the transition to a medium-term equilibrium in which the country's net international creditor position reaches a sustainable level.

Part 3 is devoted to issues related to the management of the public sector's budget. The central concept is the public sector's intertemporal budget constraint. The key points made in this part of the book are that the requirements of fiscal solvency create trade-offs between spending (and/or tax cuts) today and tomorrow, and that prospective fiscal insolvency can have severe macroeconomic implications, in the form of high inflation or the creation of a "debt overhang" problem, both of which can create crises and retard long-run growth. This portion of the book also analyzes the fiscal requirements for inflation stabilization and considers two ways in which the government can make an announced fiscal adjustment more credible – through granting independence to the central bank and by privatizing public enterprises.

In Part 4, the book turns to the management of the domestic financial system. The links between financial sector performance and growth of productive capacity are taken up first. This is followed by an analysis of financial repression and a discussion of appropriate methods for achieving reform of a previously repressed financial system. The role of capital account convertibility in the process of financial reform is considered separately, since financial openness has become the single most controversial aspect in the process of financial reform. Lastly, this part of the book concludes with a treatment of the macroeconomic problems posed by the capital inflows that have often accompanied capital account liberalization in emerging economies.

The final part of the book, Part 5, considers management of the exchange rate. While this is an old topic, it has received increased attention of late because of the implications for exchange rate management of opening up the capital account of the balance of payments in the process of reforming the financial system. Part 5 opens with a chapter on the meaning and measurement of equilibrium real exchange rates, before turning to issues of nominal exchange rate management. Many observers have recently claimed that with an open capital account, countries will be forced to adopt extreme exchange rate regimes. Accordingly, the next chapter considers the characteristics of extreme exchange rate regimes recently adopted in developing countries, notably currency boards and floating rates. The following chapter considers how to manage an officially determined exchange rate, taking into account specifically interactions with fiscal policy as well as with the condition of the domestic financial sector. These issues are illustrated in Chapter 19, with an analysis of the Mexican and Asian crises. The final chapter expands on these themes by exploring the lessons that can be drawn from these and other emerging-economy financial crises of the 1990s for domestic macroeconomic management in such economies, drawing on material from the preceding portions of the book.

Contents

PART 1

Overview

1

Macroeconomics and Development

Why should someone who is primarily concerned with long-term growth and development in emerging-market economies concern themselves with short-run macroeconomic performance? The answer to this question is that short-run macroeconomic stability has increasingly been recognized as an important determinant of long-term growth performance in such economies. Indeed, over the past two decades a significant consensus has emerged among professional economists and policymakers in developing countries that providing a stable and predictable macroeconomic policy environment and getting key macroeconomic relative prices "right" help to induce the accumulation of physical and human capital as well as the improvements in productivity that are the basic ingredients of long-term economic growth. A wide array of evidence is consistent with this proposition, derived from cross-country experience as well as from case studies of both successful and unsuccessful developing economies. The growing attention paid to macroeconomic issues by development-oriented institutions such as the World Bank is one consequence of this new perception.

What do we mean, however, by macroeconomic stability, and by "key macroeconomic relative prices"? In the emerging-market context, "stability" has come to mean the avoidance of high and variable rates of inflation, as well as of "financial" crises – a term that covers a variety of sins, including the public sector's inability to service its debts, domestic banks' inability to fulfill their obligations to their depositors, and the central bank's inability to sustain the value of the currency. The key macroeconomic relative prices are those that guide the allocation of production and consumption between present and future goods, as well as between domestic and foreign ones. Those relative prices are the real interest rate and real exchange rate, respectively.

The most important policies that influence macroeconomic performance in each of these areas are the management of the public sector's budget and its financing (fiscal and monetary policies), policies directed at the domestic financial sector, and

exchange rate management. This book is concerned with the effects that the quality of domestic policies in each of these areas can have on domestic macroeconomic stability and the behavior of key macroeconomic relative prices.

What are the links between fiscal management, financial sector policies, and exchange rate management, on the one hand, and long-run growth, on the other? That is the question we will address in this chapter. By way of motivating the issues that will concern us throughout the rest of the book, in this first chapter we will briefly review the theory and evidence linking macroeconomic stability to long-term growth. We will begin by reviewing the basic factors that underlie long-term economic growth, as summarized in aggregate production functions, before turning to a theoretical consideration of how such factors may be affected by short-run macroeconomic performance. Then we will briefly discuss some recent empirical research that investigates the importance of these links in practice.

I. THE AGGREGATE PRODUCTION FUNCTION

At the heart of the link between short-run macroeconomic performance and long-term economic growth is the concept of the "production function", a technological relationship that summarizes how the feasible level of output of a particular good is influenced by the state of technology and the efficiency of resource allocation, as well as by the amounts used of whatever inputs are relevant for the production of the particular good. Because production functions specify the factors that determine the level of real output that an economy is potentially capable of producing, they help us identify the channels through which short-run macroeconomic performance is capable of influencing the rate of growth of an economy's productive capacity.

a. Complete Specialization and the Aggregate Production Function

The first step in describing how goods are produced in a given economy is to specify how many distinct types of goods we must consider. For simplicity, it is convenient to assume that only one type of good is produced in the domestic economy (economists refer to this as *complete specialization in production*).[1] We will let the symbol Y denote the amount of this good produced during a given period of time. Notice that Y is a *real* quantity, since it is measured in units of goods, not of currency, and that it has the characteristics of a *flow* magnitude – that is, it is measured per unit of time. In the real world, Y would represent a country's *real GDP*. To produce the good, we will suppose that firms in the economy employ the services of labor and capital. The maximum amount of the good that can be produced with a given quantity of

[1] We can think of this single good as a composite, possibly consisting of many individual goods. Our assumption of complete specialization just means that we will not be analyzing changes in relative prices among goods produced domestically.

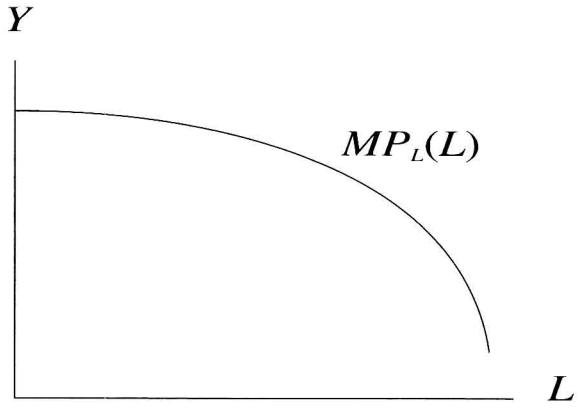

Figure 1.1. The Marginal Product of Labor

labor and capital services is determined by the *aggregate production function*, which we will write in the form:

$$Y = AF(L, K), \tag{1.1}$$

where A is a parameter that serves as an index of the productivity of the resources employed, L denotes the level of employment, and K is the capital stock, which determines the level of capital services employed in production each period.[2] An increase in A means that the economy becomes more productive, in the sense that more output can be produced with the same amounts of labor and capital services. Because changes in A correspond to changes in the productivity of both factors of production, A is usually referred to as an indicator of *total factor productivity.*

In order to use this production function, we will need to say something about its properties. We will assume that this function has three properties that are typical of *neoclassical* production functions. First, the function will be assumed to be *continuously differentiable.* This just means that each of the factors of production can be varied continuously, and that such variations will produce continuous changes in the level of output. The change in the level of output corresponding to a small increase in one of the factors, holding the other constant, is the *marginal product* of that factor. A second property is that these marginal products are positive and decreasing (the familiar property of diminishing marginal returns) for both labor and capital. This means that we can draw the marginal products of labor and capital as negatively sloped curves in the positive quadrant. For example, the marginal product of labor can be depicted as in Figure 1.1. A similar picture could be drawn for the marginal product of capital. This property turns out to be important in short-run macroeconomic models such as one we will be building in the next chapter. Finally, the function will be assumed to exhibit *constant returns to scale (CRTS),*

[2] An appendix to this chapter contains a very brief review of mathematical functions.

which implies that if both of the factors of production are multiplied by a positive constant (i.e., if they are both changed by the same proportion), the level of output will change by a factor equal to that same constant (e.g., doubling the amounts of capital and labor used in production doubles the amount of output produced).

b. Short Run and Long Run in Macroeconomics

In the next three chapters, we will build a simple macroeconomic model that can be used to study the economy's short-run equilibrium. The macroeconomic "short run" is usually defined as a period of time over which the capital stock and technology are fixed. The basic intuition is that stocks of capital and knowledge tend to change very slowly compared to the pace at which several other important macroeconomic phenomena play themselves out.[3]

Given the capital stock and technology, the level of output that the economy can produce depends on how much labor is employed. Heuristically, "full employment" refers to a situation in which everyone who wants a job can get one. When total employment L is at its full-employment level, say L_P, the resulting level of output is variously referred to as the *potential*, *capacity*, or *full-employment* level of GDP. Thus, potential GDP is given by:

$$Y_P = AF(L_P, K). \tag{1.2}$$

Short-run macroeconomics is typically concerned with stabilization of employment around its full-employment level, the determination of the average price level, and the behavior of various items in the economy's balance of payments. The "long run," by contrast, is a period of time long enough that the capital stock and technology can change. Long-run macroeconomics is primarily concerned with what determines how the level of the economy's productive capacity (potential GDP) changes over time. Increases in economic capacity are what we refer to when we use the phrase "economic growth."

Notice that this means that growth does not just refer to an increase in real GDP, but to an increase in productive "capacity," whether that capacity is used or not. It is useful to clarify the distinction algebraically. Using the aggregate production function, we can approximate the change in (actual) output during any given period

[3] To get a sense for this, consider the following example illustrating "typical" annual changes in a country's capital stock. Suppose the ratio of the capital stock to annual output (the capital-output ratio) is 3, and that 7 percent of the capital stock wears out each year. Under these circumstances, gross domestic investment of 21 percent of GDP would be required to keep the capital stock from changing. If an economy invests 30 percent of GDP (a high figure), then the net addition to the capital stock each year would be 9 percent of GDP. But this is only a 3 percent change in the capital stock. In many countries, this would barely be enough to keep up with the expansion of the "effective" labor force (that is, labor force growth augmented by the change in worker productivity), so that the ratio of the capital stock to effective labor would remain unchanged. Thus, achieving large changes in the capital stock relative to the size of the economy would tend to be a slow process.