

Chapter 22

Developing Countries: Growth, Crisis, and Reform

■ Chapter Organization

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Summary

■ Key Themes

This chapter provides the theoretical and historical background needed to understand the macroeconomic characteristics of developing countries, the problems these countries face, and some proposed solutions to these problems. The chapter begins by discussing how the economies of developing countries differ from industrial economies. The wide differences in per capita income and life expectancy across different classes of countries is striking. Some economic theories predict growth convergence, and there is evidence of such a pattern among industrialized nations, but no clear pattern emerges among developing countries. Some have grown rapidly while others have struggled.

There are important structural differences between developing economies and industrial economies. Governments in developing countries have a pervasive role in the economy, setting many prices and limiting transactions in a wide variety of markets; this can contribute to higher levels of corruption. These governments often finance their budget deficits through seigniorage, leading to high and persistent inflation. The economies of developing countries are typically not well diversified, with a small number of commodities providing the bulk of exports. These commodities, which may be natural resources or agricultural products, have extremely variable prices. Finally, economies of developing countries typically lack developed financial markets and often rely on fixed exchange rates and capital controls.

Seigniorage revenues are obtained by a government when it prints money. Seigniorage serves as a tax on money holdings since inflation, which accompanies money creation, erodes the value of nominal balances. The real revenue from seigniorage equals the money growth rate (which, in the long run, equals the inflation rate) times the real balances held by the public. The amount of seigniorage governments collect does not grow one-for-one with the rate of monetary expansion, however, because an increase in the “tax rate” (that is, the rate of inflation) is accompanied by a reduction in the “tax base” (that is, the amount of real balances in the economy). Higher monetary growth leads to higher expected future inflation and (through the Fisher effect) to higher nominal interest rates. An increase in the nominal interest rate reduces the real balances people are willing to hold, leading to a fall in real seigniorage.

In principle, developing countries (and the banks lending to them) should enjoy large gains from intertemporal trade. Developing countries, with their rich investment opportunities relative to domestic saving, can build up their capital stocks through borrowing. They can then repay interest and principal out of the future output the capital generates. Developing country borrowing can take the form of equity finance, direct foreign investment, or debt finance, including bond finance, bank loans, and official lending. These gains from intertemporal trade are threatened by the possibility of default by developing countries. Developing countries have defaulted in many situations over time, from 19th-century American states to most developing countries in the Depression to the debt crisis in the 1980s. If lenders lose confidence, they may refuse further lending, forcing developing countries to bring their current account into balance. These crises are driven by similar self-fulfilling mechanisms as exchange rate crises or bank runs that were discussed in previous chapters and are often referred to as “sudden stops” when financial flows stop running to developing countries seemingly without warning.

It is important to recognize the different types of financing available to countries. Bond funding, bank borrowing, or official lending can all provide debt-oriented funding while foreign direct investment or portfolio investment in firms can provide equity financing. In addition, countries can borrow in their own currency or in another currency. The chapter discusses the problem of “original sin” where many countries are unable to borrow in their own currency due to both problems in global capital markets and countries’ own histories of poor economic policies.

The next section of the chapter focuses on the experiences of Latin America. In the 1970s, inflation became a widespread problem in Latin America, and many countries tried using a *tablita*, or crawling peg. The strategy, though, did not stop inflation and large real appreciations were the result. Government guaranteed loans were widespread leading to moral hazard (discussed in a box on Chile). By the early 1980s, collapsing commodity prices, a rising dollar, and high U.S. interest rates precipitated default in Mexico followed by other developing countries. After the debt crisis stretched through most of the decade and slowed developing country growth in many regions, debt renegotiations finally loosened burdens on many countries by the early 1990s.

After the debt crisis appeared to be ending, capital began to flow back into many developing countries. These countries were finally undertaking serious economic reform to stabilize their economy. The chapter details these efforts in Argentina, Brazil, Chile, and Mexico, and also discusses how crisis unfortunately returned to some of these countries.

The experiences of East Asian countries were far different in the 1970s and 1980s. The High Performing Asian Economies (HPAEs) experienced dramatic success before the financial crisis of 1997 (Chapter 10 also touches on this subject). The causes of success included high savings, strong education, stable macroeconomics, and high levels of trade. Some aspects of the economies remained weak, though, such as low productivity growth and weak financial regulation. The dramatic success of these countries (also called the Asian Tigers) came to an end (or at least temporary halt) beginning in August 1997. A currency crisis which began in Thailand rapidly became a banking and financial crisis as well and spread to Korea, Indonesia, and Malaysia. Later the crisis spread to other developing countries as well. The chapter summarizes the lessons of these years of growth and crisis: choosing the right exchange rate regime, the importance of banking, proper sequencing of reforms, and the importance of contagion. A box in the chapter considers whether currency boards can make fixed exchange rates more sustainable.

A box on international reserves and case study on China address two connected issues which are often controversial politically: the mass accumulation of international reserves (largely in the form of U.S. Treasury Bills) by developing countries and the attempt by China to limit the appreciation of its currency. The box points out that much of the reserves accumulation is connected to insuring against shifts in financial flows (such as sudden stops of external financing) more than trying to insure against excess needs based on trade flows (as was the case when financial flows were quite small). In addition to self-insurance, though, some of the reserves accumulation is a by-product of sterilized intervention. The most clear example of this is China. China has tried to limit appreciation of its currency to encourage export-led growth. This is done in part with capital controls, but also through purchasing dollars and selling yuan to prop up the value of the dollar. As we know from the *II-XX* model in Chapter 18, at some point, China will likely need to appreciate or experience inflation. Limited appreciation has been allowed in the last two years, perhaps as the start of this transition.

These experiences have emphasized the policy trilemma discussed in Chapter 21 and led to calls for reform of the world's financial architecture. The chapter considers some of these, from preventative measures to reduce the risk of crises, to measures that improve the way crises are handled (such as reforming the IMF). Finally, the chapter concludes with a section on current debates in the growth literature, chiefly a discussion of the relative importance of geography and institutions in driving income growth and levels. While some economists argue that differences in income levels and growth rates are in large part the result of geographical differences across countries, others argue that the institutions that countries set up are the dominant factor in determining economic well-being.

■ Key Terms

Define the following key terms:

1. Seigniorage _____

_____.
2. Debt Service _____

_____.
3. Debt Rescheduling _____

_____.
4. *Tablita* _____

_____.
5. Privatization _____

_____.
6. Contagion _____

_____.
7. Original Sin _____

_____.
8. Trilemma _____

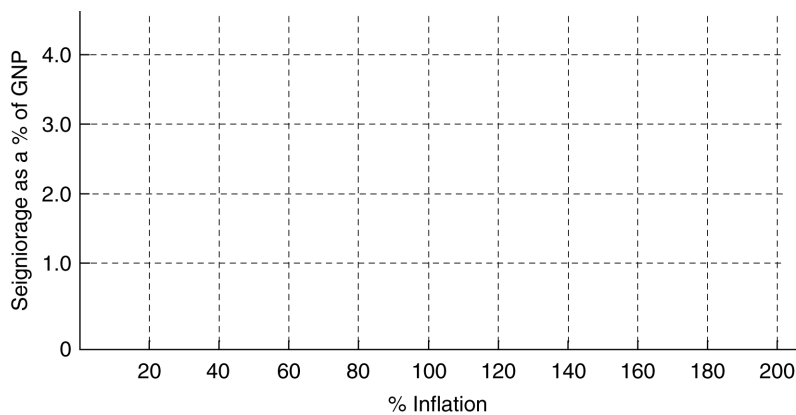
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■ Review Questions

1. The following table reports inflation rates and seigniorage as a percentage of GNP, for a number of countries for 1987 (these data are from the 1989 *World Development Report* published by the World Bank).

Country	Seigniorage	Inflation
Argentina	4.0	174.8
Ghana	2.0	34.2
Mexico	3.7	159.2
Nigeria	0.9	9.6
Peru	4.8	114.5
Philippines	0.6	7.5
Turkey	2.8	55.1
Zaire	4.2	106.5

- a. Plot the seigniorage and inflation data on the following graph:



- b. If seigniorage rose one-for-one with inflation, how would the graph appear? Does the graph in fact seem to reproduce a one-for-one relationship? What may be a reason for this?

2. Often, the official fixed exchange rate in many developing countries differs from the exchange rate that would prevail if the government allowed its currency to float freely. In light of this, black markets for foreign exchange flourish in many developing countries.

a. Would you expect the black market exchange rate to be more appreciated or more depreciated than the official rate?

b. What are some political ramifications of aligning the official exchange rate with the black market rate, a policy move often prescribed for developing countries?

c. Suppose exporters must surrender the foreign currency they earn to the government at the official exchange rate. Explain why this represents a type of tax on exports and why the black market premium, that is the difference between the black market and the official exchange rate, represents the size of the tax.

3. As the chapter discusses, convergence of living standards has happened among developed countries, but not more broadly. A key assumption of the growth model which implies convergence will occur is that technology flows across borders.

a. What about developing countries may make this less likely?

b. What about the HPAEs allowed them to avoid these problems and raise their living standards close to those of many developed nations?

4. As discussed in the chapter, the governments of the “Southern Cone” countries of Argentina, Chile, and Uruguay instituted a crawling-peg exchange rate in the late-1970s. Under this policy, the rate of devaluation of their currencies was to proceed according to a preannounced rate, eventually falling to zero. People in these countries expected, however, that governments would abandon the crawling peg and carry out a large surprise devaluation. What would the effect of this belief be on capital flight in these countries?

5. How might political cronyism (where the government supports the business interests of friends of the powerful) lead to excessive risk taking and possibly to crisis?

6. Some developing countries have not always had a free press or other modes of free information flow. How might this fact combined with our models explain contagion as something other than simple herd mentality and irrationality in investors?

7. If poor geography was a barrier to growth in the 16th century, but technology has overcome these issues, would you expect to see different income levels in “good” versus “bad” geographies? What about income growth rates?

■ Answers to Odd-Numbered Textbook Problems

1. The amount of seigniorage that governments collect does not grow monotonically with the rate of monetary expansion. The real revenue from seigniorage equals the money growth rate times the real balances held by the public. But higher monetary growth leads to higher expected future inflation and (through the Fisher effect) to higher nominal interest rates. To the extent that higher monetary growth raises the nominal interest rate and reduces the real balances people are willing to hold, it leads to a fall in real seigniorage. Across long-run equilibriums in which the nominal interest equals a constant real interest rate plus the monetary growth rate, a rise in the latter raises real seigniorage revenue only if the elasticity of real money demand with respect to the expected inflation rate is greater than -1 . Economists believe that at very high inflation rates this elasticity becomes very negative (quite large in absolute value).
3. Although Brazil's inflation rate averaged 147 percent between 1980 and 1985, its seigniorage revenues, as a percentage of output, were less than half the seigniorage revenues of Sierra Leone, which had an average inflation rate of 43 percent. Since seigniorage is the product of inflation and real balances held by the public, the difference in seigniorage revenues reflects lower holdings of real balances in Brazil than in Sierra Leone. In the face of higher inflation, Brazilians find it more advantageous than residents of Sierra Leone to economize on their money holdings. This may be reflected in a financial structure in which money need not be held for very long to make transactions due to innovations such as automatic teller machines.
5. Capital flight exacerbates debt problems because the government is left holding a greater external debt itself but may be unable to identify and tax the people who bought the central-bank reserves that are the counterpart of the debt, and now hold the money in foreign bank accounts. To service its higher debt, therefore, the government must tax those who did not benefit from the opportunity to move funds out of the country. There is thus a change in the domestic income distribution in favor of people who are likely to be quite well-off already. Such a regressive change may trigger political problems.
7. By making the economy more open to trade and to trade disruption, liberalization is likely to enhance a developing country's ability to borrow abroad. In effect, the penalty for default is increased. In addition, of course, a higher export level reassures prospective lenders about the country's ability to service its debts in the future. Finally, by choosing policies which international lenders consider sound, such as open markets, countries improve lenders' assessment of their credit-worthiness.
9. If Argentina dollarizes its economy, it will buy dollars from the United States with goods, services, and assets. This is, in essence, giving the U.S. Federal Reserve assets for green paper to use as domestic currency. Since Argentina already operates a currency board holding U.S. bonds as its assets, dollarization would not be as radical as it would be for a country whose central banks hold domestic assets. Argentina can trade the U.S. bonds it holds for dollars to use as currency. When money demand increases, the currency board cannot simply print pesos and exchange them for goods and services, it must sell pesos and buy U.S. government bonds. So in switching to dollarization, the government has not surrendered its power to tax its own people through seigniorage, it already does not have that power.

Still, though, through dollarization, Argentina loses interest by holding noninterest bearing dollar bills instead of interest bearing U.S. Treasury bonds. Thus, the size of the seigniorage given to the United States each year would be the lost interest (the U.S. nominal interest rate times the money stock of Argentina). This comes on top of the fact that any expansion of the money supply requires sending real goods, services, or assets to the United States for dollars (just as they do with bonds under the currency board). This is not a long-run loss because Argentina could cash in those dollars (just as it could the bonds) for goods and services from the United States whenever it wants. So, what they lose is the interest they should be getting every year that they hold the dollars.

11. The moral hazard comes from the fact that borrowers may borrow in a foreign currency assuming the government will keep its promise to hold the exchange rate constant. Rather than hedging against the risk of exchange rate volatility, these borrowers assume the government will prevent the risk from materializing. The moral hazard comes from the fact that these borrowers engage in a risky behavior, and assume the government will keep the exchange rate fixed—in part because of the promise to do so, but in part to prevent damage to these firms who have borrowed in a foreign currency.

