International Trade, Capital Flows
and Economic Development

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68 World Scientific
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International Trade, Capital Flows and Economic Development

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In memory of Luis

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Chapter 2. International Trade with Endogenous Technological Change (co-authored by Luis A. Rivera-Batiz and Paul M. Romer) was originally published in *European Economic Review*, Vol. 35, No. 4, May 1991, 971–1004.

Chapter 3. GATT, Trade and Growth (co-authored by Luis A. Rivera-Batiz and Danyang Xie) was originally published in *American Economic Review*, Vol. 82, No. 2, May 1992, 422–427.

Chapter 4. Integration among Unequals (co-authored by Luis A. Rivera-Batiz and Danyang Xie) was originally published in *Regional Science and Urban Economics*, Vol. 23, No. 3, July 1993, 337–354.

Chapter 5. The Economics of Technological Progress and Endogenous Growth in Open Economies (authored by Francisco L. Rivera-Batiz) was originally published in Georg Koopmann and Hans-Eckart Scharrer, eds., *The Economics of High Technology Competition and Cooperation in Global Markets*, Nomos Verlagsgesellschaft, Baden-Baden, Germany, 1996, 31–62.

Chapter 6. Increasing Returns, Monopolistic Competition, and Agglomeration Economies in Consumption and Production (authored by Francisco L. Rivera-Batiz) was originally published in *Regional Science and Urban Economics*, Vol. 18, No. 1, February 1988, 125–153.

Chapter 7. Geography, Trade Patterns, and Economic Policy (co-authored by Carlos M. Asilis and Luis A. Rivera-Batiz) was originally published in *Working Paper No. WP/94/16*, International Monetary Fund, Washington D.C., February 1994.

Chapter 8. Democracy, Governance, and Economic Growth: Theory and Evidence (authored by Francisco L. Rivera-Batiz) was originally published in *Review of Development Economics*, Vol. 6, No. 2, June 2002, 225–247.

Chapter 9. Political Institutions, Capital Flows, and Developing Country Growth: An Empirical Investigation (co-authored by Maria-Angels Oliva and Luis A. Rivera-Batiz), *Review of Development Economics*, Vol. 6, No. 2, June 2002, 248–262.

Chapter 10. International Financial Liberalization, Corruption, and Economic Growth (authored by Francisco L. Rivera-Batiz) was originally published in *Review of International Economics*, Vol. 9, No. 4, November 2001, 727–737.

Chapter 11. The East Asian Crisis and the Anatomy of Emerging Market Disease (authored by Francisco L. Rivera-Batiz) was originally published in Arvid J. Lukauskas and Francisco L. Rivera-Batiz, eds., *The Political Economy of the East Asian Crisis: Tigers in Distress*, Edward Elgar Publishers, Cheltenham, U.K., 2001, 31–73.

Chapter 12. Foreign Ownership, Non-Traded Goods and the Effects of Terms of Trade Changes on National Welfare (authored by Francisco L. Rivera-Batiz) was originally published in *Economics Letters*, Vol. 20, No. 4, July 1986, 367–371.

Chapter 13. Foreign Capital and the Contractionary Impact of Currency Devaluation, with an Application to Jamaica (co-authored by Luca Barbone and Francisco L. Rivera-Batiz) was originally published in *Journal of Development Economics*, Vol. 26, No. 1, June 1987, 1–15.

Chapter 14. The Effects of Direct Foreign Investment in the Presence of Increasing Returns due to Specialization (co-authored by Francisco L. Rivera-Batiz and Luis A. Rivera-Batiz) was originally published in

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Francisco L. Rivera-Batiz
New York City
February 2018

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Introduction

The rapid growth of international trade and capital flows in the last 30 years has been at the core of world economic affairs. Indeed, the expansion of trade has been unique by historical standards. The sum of the absolute value of exports and imports of goods and services as a percentage of Gross Domestic Product (GDP), a simple but popular index of trade, has grown from 36 percent in 1986 to 56 percent in 2016 for the world. In some countries, the increase has been even more dramatic. In China, for instance, the index grew from 12 percent to 37 percent between 1986 and 2016 and for Thailand, the rise has been from 54 to 123 percent.

Capital flows have also risen in the last few decades. Net foreign direct investment in developing countries, in particular, grew from $182 billion in 2000 to $543 billion in 2015, measured in constant 2015 U.S. dollars. But although the trend in the growth of capital flows has been positive, they also have become more volatile. For example, in 1997 the net flow of capital to developing countries was equal to $453 billion but this dropped to $229 billion by 2002, rising to $1,350 in 2007, declining to $743 billion in 2009, recovering to $1,466 billion in 2013, and then contracting sharply to $379 billion in 2015, with all measured in constant 2015 U.S. dollars.

This book contains a collection of articles examining the effects of increased international trade and capital flows on global economic affairs. It is a timely topic, as — at the time of writing — there is widespread skepticism and even resentment about the effects of globalization, as reflected in the divorce of the United Kingdom from

the European Union (BREXIT), the election of Donald Trump in the United States (on a platform that proposed border taxes and renegotiating free trade treaties), and growing restrictions on capital flows in a number of countries. What are the mechanisms through which international trade and capital flows affect an economy? What are the costs and benefits of economic integration and the liberalization of trade and investment flows? These are some of the questions that the papers in this volume seek to answer. As will be seen, the answers are nuanced. Both the theory and evidence indicate that the elimination of restrictions on trade and investment can potentially have a positive and possibly transformative effect on the economic welfare and growth of nations, but the impacts can be complex and in the absence of the appropriate environment — policy and otherwise — they can be negative and sometimes catastrophic.

Part 1: International Trade, Technological Change and Economic Growth

Both the Ricardian and the more modern Hecksher–Ohlin–Vanek approaches to international trade theory suggest that the opening of an economy to world trade provides an overall gain in the economic welfare of the liberalizing country. The greater specialization of the economy — according to its comparative advantage — makes it relatively more productive, resulting in a real income gain. This is, however, only a short-run gain. It starts after the trade liberalization occurs and it gradually ends as the economy adjusts to the incentives provided by integration into the world trading system. There are no long-run growth effects of trade in these classical and neoclassical frameworks.

Despite the theoretical lagoon, there is substantial evidence showing that — under the appropriate conditions — trade can be a significant stimulant for growth. The empirical research by Jeffrey Sachs, Andrew Warner, Sebastian Edwards, Ann Harrison, Gordon Hanson, David Dollar, Aart Kraay, Romain Wacziarg and Karen Horn, among others, use both cross-sectional and panel data to show that (1) countries that are more open to trade tend to have higher

rates of economic growth, holding other things constant, and (2) economic growth after the period of trade liberalization is on average substantially higher than that prevailing before the liberalization.

The chapters in this part of the volume examine the mechanisms through which the economic integration of a country into world markets can influence long-run economic growth. They form part of a literature that was the first in adopting models of increasing returns to scale, input specialization, and imperfect competition to study the dynamic effects of increased trade.

Chapters 1 and 2 present theoretical models showing the mechanisms through which economic integration and trade liberalization can accelerate economic growth. These chapters extend the scope of traditional theory by adding how trade in ideas — in addition to trade in goods — affects long-run growth. In a world of ever close electronic and telecommunications links, in which knowledge is increasingly transmitted worldwide, this analysis of the gains from such trade is especially relevant.

Chapter 1 analyzes the effects of integration in the case of economies or regions that have identical demand and supply characteristics. This is precisely the case for which traditional trade theory suggests trade should have very little impact, if any: in countries or regions that are identical to each other in terms of factor endowments and technology, there is no relative comparative advantage for countries to specialize on and be able to benefit from liberalization.

In the approach followed by Chapter 1, based on Paul Romer's theory of endogenous technological change, innovation — in the form of new capital goods — is generated through new knowledge and ideas that are produced by the economy's research and development sector. In this environment, when a closed economy integrates to others, the increased flow of goods and ideas may provide a stimulus to domestic and foreign research and development (R&D) sectors, thus accelerating innovation and economic growth. The paper presents different models of the economy's innovation production function and how they affect the analysis of how integration affects growth. Without integration, isolated R&D sectors may in fact reproduce

the efforts in other countries, at great expense due to the fixed costs involved in these activities. Under integration this redundancy can be eliminated, making both the domestic and foreign technological change sectors more efficient, leading to greater global growth.

In a comment on the economic integration and endogenous growth models presented in Chapter 1, Michael B. Devereux and Beverly J. Lapham show that the positive impact of trade is not just related to the expansion of world knowledge brought about by trade in ideas but also to the expansion of trade in goods. As the addendum to Chapter 1 describes, Devereux and Lapham consider two economies that have different initial stocks of knowledge. In this case, trade produces worldwide growth gains associated with the greater country specialization of the two countries in producing goods or ideas.

Chapter 2 extends the analysis in Chapter 1 by providing a more comprehensive framework to examine the consequences of international trade in a dynamic context. In contrast to the results obtained in Chapter 1, the discussion in this chapter shows that the impact of trade on long-run growth may be ambiguous. The chapter first identifies two positive effects of trade, which are labeled the integration and redundancy effects, both of which unambiguously increase worldwide growth rates. The integration effect is linked to the increasing returns allowed by the larger market obtained through economic integration. The redundancy effect is linked to the fixed costs involved in innovation. Closed/isolated economies double those fixed costs when they independently seek to create new designs that may have already been created abroad. With trade liberalization, the fixed costs only need to be incurred once, as existing ideas — whether embedded in designs or products — are freely imported from abroad.

But a third effect of trade is identified in this chapter, the allocation effect, which can either increase or decrease the rate of growth. This third effect is based on the interplay between two sectors of the economy: the research and development sector that produces the new ideas that make continued growth possible, and the manu- facturing sector that makes use of these ideas and produces capital and consumption goods using inputs that include physical capital,

human capital, and labor. The allocation effect of trade emerges because of the various possible inter-sectoral changes generated by trade in economies that have disparate factor endowments. When these economies liberalize, each country reallocates resources toward the sector in which it has a comparative advantage, but if this reallocation reduces the size of the research and development sector it will cause a drop in innovation efforts and reduce economic growth. As emphasized by the classical and neoclassical theories of trade, these allocation effects will be larger when the differences in the endowments or technologies of the trading partners are more substantial.

The relative significance of the allocation, integration and redundancy effects determines whether growth rises or declines with increased trade. In the model presented in Chapter 1, the integration and redundancy effects of trade were emphasized and trade therefore unambiguously raised long-run growth. But Chapter 2 develops models where the allocation effects can overwhelm the integration and allocation effects. Growth can therefore slow down when trade restrictions are eliminated.

Chapter 3 examines the effects of trade liberalization obtained through the General Agreement on Tariffs and Trade (GATT). The GATT was the major force behind the multilateral trade liberalization efforts of the world since 1947. It functioned through rounds of multilateral negotiations whose purpose was to reduce or eliminate tariffs, quotas and other barriers to trade among participating nations. The GATT ended with the Uruguay Round of negotiations, which gave rise to the creation of the World Trade Organization in 1995.

Chapter 3 examines how the trade liberalization activities of the GATT–WTO can enable greater economic growth worldwide. As in the previous two chapters, Chapter 3 adopts an endogenous technological change framework. But in contrast to Chapters 1 and 2, the model used in this chapter examines the effects of trade liberalization among countries that are asymmetric, that is, that have different factor endowments and, more specifically, different supplies of human capital. Liberalization can involve trade in goods or trade in ideas.

The chapter looks first at the impact of trade in goods but without any trade in ideas. With asymmetric countries, the chapter shows that integration in this case generates an allocation effect that shifts resources toward manufacturing in the high-human-capital country and reduces its growth rate compared with autarky. In other words, integration in goods (without knowledge diffusion) restricts growth in the high-growth regions and speeds it up in the low-growth regions.

The case of no diffusion of technology just described can be interpreted as a situation in which patents are unenforceable outside a country's borders. As local inventors protect their ideas through secrecy, they avoid their international diffusion. The opposite situation, with full diffusion of technology across borders, can occur if there is an internationally enforced patent system. This can emerge through a GATT–WTO-type multilateral agreement. Patents then allow inventors to receive a profit and enhances the incentives for the international transmission of knowledge. The multilateral agreement promotes innovation and leads to faster worldwide growth.

Suppose now that full diffusion of technology has been achieved. What would be the growth effects of trade liberalization in goods, such as in the form of the reciprocal, multilateral reductions in tariffs that GATT initiated? For the case of two asymmetric countries, the relation between tariff rates and economic growth is not monotonic. There is a critical rate τ^* below which lower tariffs lead to faster growth but above which increases in tariffs speed up growth. The chapter shows that this critical rate τ^* increases with the number of countries engaging in the reciprocal reduction of trade restrictions. This suggests that multilateral negotiations for reductions in trade barriers are more likely to speed up growth than are bilateral or regional agreements.

Chapter 4 continues the analysis of the effects of economic integration but provides greater detail about the policies that accompany the trade liberalization. When nations get together to form larger economic units, they can seek to integrate their goods and services markets, capital flows, labor migration and/or the flow of technology. For instance, through their Europe 1992 initiative, the European Union started a process of closer integration toward a

single internal market, seeking to establish free trade in goods and capital, and allowing free migration. On the other hand, the North American Free Trade Agreement (NAFTA) that came into force in 1994 sought to integrate goods and capital markets, but not the labor markets. Integration can also seek to cover the diffusion of technology and knowledge, through policies dealing with patents and intellectual property.

Chapter 4 adopts a two-country model that considers two distinct situations. In one case, two countries that are already hubs of innovation but of unequal size are integrated. The other case involves highly asymmetric countries in the sense that one of the countries does not initially count with the human–capital endowments needed to support a research sector. The first case can be interpreted as involving integration between industrialized, innovating countries, the second refers to North–South integration initiatives.

When two innovating countries integrate, the analysis in this chapter shows that integration through trade in goods alone results in a reduced growth rate for the initially faster-growing country and an increased growth rate for the slower-growing nation. But this result is shown to be affected by the extent to which the economic liberalization allows trade in knowledge. Once the door is opened for diffusion of technology, integration is growth-enhancing for both innovating countries. The growth effects of trade become more complex when one of the countries is not innovating under pre-integration conditions. The conclusions vary depending on whether the liberalization allows free trade in knowledge in addition to trade in goods, and whether free labor migration is part of the integration initiative. Despite the diversity of outcomes under the various types of liberalization, the chapter provides some experimental simulations showing that integration can have substantially positive growth effects.

Chapter 5 analyzes additional mechanisms through which trade can impact technological change. Firstly, the chapter develops a theoretical model of trade where increased competition between domestic and foreign produces induces firms to invest more in research and development, which stimulates innovation and economic

growth. This is an idea that the economist Michael E. Porter at the Harvard Business School has studied through a variety of case studies. In his book, *The Competitive Advantage of Nations*, he concludes: "Competitive advantage emerges from pressure, challenge and adversity, rarely from an easy life. Pressure and adversity are powerful motivators for change and innovation. . . Complacency and an inward focus often explain why nations lose competitive advantage. Lack of pressure and challenge means that firms fail to look constantly for and interpret new buyer needs, new technologies, and new processes. . . Protection, in its various forms, insulates domestic firms from the pressure of international competition."

Chapter 5 incorporates this idea in a theoretical framework where two identical economies producing a variety of products in a market characterized by monopolistic competition and increasing returns symmetrically open up their markets to international trade. This approach was first developed by Paul Krugman in his analysis of intra-industry trade, but his paper did not consider the pro-competitive effect modeled in this chapter. Since both countries have the same number and type of consumers, equal factor endowments and identical technology, when the two economies trade, intra-industry trade will emerge, doubling the number of competitors domestic firms face. Chapter 5 focuses on the fact that, with a greater set of competitors in the now global market, there is more rivalry and this is reflected in a reduced price markup above marginal cost as well as with an incentive for each firm to increase its research and development expenditures, which raises technological change and growth worldwide.

Secondly, Chapter 5 recognizes that although international trade can greatly increase the local stock of information available in an economy, the extent to which such knowledge can be gainfully utilized and steered into productive new inventions depends on a variety of supporting factors. In previous chapters, the importance of the economy's endowments of human capital have been emphasized. Chapter 5 focuses instead on the role played by the country's national innovation system. A national system of innovation is the network of institutions that support the initiation, modification and

diffusion of new technologies. More specifically, a national innovation system includes the wide array of specialized services that support innovation, from the firms that help design and engineer prototypes of new products to the entrepreneurs that market and distribute the finished product. The state of development of a country's national innovation system is essential in making technological change an engine of growth. If the sector is not well-developed, even though new knowledge may be flowing into the economy at a fast rate, the output of new products will lag because of the inability of the local innovators to take advantage of the new ideas and design new products and capital goods based on them. Within this context, the effects of trade on growth can be severely limited if the national innovation system is not well-developed and cannot utilize effectively the new information and knowledge in the production of new ideas.

Part 2: Trade, Increasing Returns and Economic Geography

Throughout history, urban areas — from the ancient city states of Venice and Genoa to the modern urban hubs in Hong Kong and New York City — have been at the center of international trade and growth. The papers in this section of the volume seek to explain the forces determining the geographical distribution of economic activity and the gains obtained by urban agglomeration. They form part of a set of papers that were the first to adopt models of increasing returns to scale, imperfect competition and product diversity in explaining regional and urban economics. This new economic geography literature includes the work of Masahisa Fujita, Vernon Henderson, and Paul Krugman, among others.

Chapter 6 provides an integrated view of two sets of forces providing economic advantages to cities: agglomeration economies in production and consumption. Agglomeration economies in production involve forces that make an increased agglomeration of firms more productive. The chapter focuses specifically on the role played by business or producer services — from accounting and tax law professionals to design and advertising firms — in allowing

final goods firms to be more productive. The theoretical model conceptualizes the producer services sector as supplying an array of specialized, differentiated intermediate inputs within a market structure of Chamberlinian monopolistic competition. As cities grow, two forces enter into play. On the one hand, the conventional effect of an increase in the labor force is to reduce the city's wage rate due to diminishing returns. However, an increase in the size of the urban population augments the size of the industrial sector and it shifts upwards the demand for producer services. The latter leads to an expansion in the variety of such services. With a wider diversity of service firms available, the industrial sector can obtain more specialized services and its productivity is therefore enhanced. This productivity increase is then embodied into higher wage rates. The net impact of an increased population on the equilibrium wage rate in the city is related to the relative importance of the "diminishing returns" and the "increased productivity or linkage externality" effects just discussed.

Chapter 6 also analyzes the nature of urban agglomeration economies in consumption, which involves mechanisms through which the increased agglomeration of consumers in cities raises individual economic welfare or utility. The chapter recognizes that one of the key advantages of larger urban areas to consumers is the wider array of specialized consumer services — from restaurants and theatres to doctors and hair stylists — that are not found elsewhere and that make the standard of living of urbanites higher. Modeling consumer services within a market structure of monopolistic competition, the model in this chapter utilizes a Dixit–Stiglitz utility function in which consumers assign value to product diversity. As people migrate to urban areas, two forces enter into play. On the one hand, the conventional effect of an increase in urban populations is to raise the cost of housing, which reduces the real income of urbanites. However, a growing urban population also augments the demand for consumer services, resulting in an increased diversity of those services. The latter leads to an increase in the utility consumers derive from urban areas. The net impact of increased city population on the utility derived by urban residents is related to the relative

importance of the "increased cost of housing" and the "increased local product diversity" effects just discussed. Chapter 6 shows how the various agglomeration economies, combined with the effects of congestion and diminishing returns, work in determining equilibrium city size.

Chapter 7 constructs a theory of interregional location and trade. In this framework, location is treated as an endogenous variable by firms, consumers and perfectly mobile workers. The model determines the potential range of locations of industrial centers in a country and the associated land and labor use patterns. Space plays a central role in location and trading decisions through transportation costs, access to markets, and distance from industrial centers that are assumed to generate pollution as an agglomeration of firms occurs. Interregional trade patterns emerge by the interaction between a manufacturing region that imports agricultural goods and an agricultural region that imports manufactured goods from the industrial center.

The theory developed in Chapter 7 goes beyond traditional trade theory — even the ones discussed in earlier chapters — because in this framework factor endowments are endogenous. Both trade and the location of factors of production are determined within a general equilibrium model that focuses instead on how the distribution of land, transportation costs and negative agglomeration externalities (such as pollution) lead to various possible outcomes of regional production, migration and trade. It provides a discussion of how the complex interaction of agglomeration economies and diseconomies can lead to the uneven regional distribution of economic activity.

The analysis in the chapter integrates previous research obtained by so-called gravity models of trade by showing the mechanisms though which increased distance may affect trade. Although the previous literature on gravity models have focused on the negative impact of distance on trade because of transportation costs, Chapter 7 suggests that the relationship is more complex and there are cases where distance may increase trade. More specifically, in cases in which population concentrates far from the center, trade will

increase with distance. The point is not taken to imply that by itself higher transportation costs tend to be beneficial to trade. But any detrimental role of greater distance on trade from an industrial center because of higher transportation costs can be offset by other factors, such as the costs of congestion and environmental pollution, which disperse production away from agglomerated centers and in favor of decentralized production centers, or land productivity differentials that may favor distant agricultural production and export regions.

Chapter 7 also shows how technological change — and therefore economic growth — is affected by changes in transportation costs. Improvements in transportation efficiency emerge as a force in innovation that has not been examined in the literature. Because the gains from creating new goods are related to market size, lower transportation costs tend to expand markets and provide incentives for innovation. This effect helps to explain how innovation feeds upon itself and how historical declines in transport costs have led to a second round of related innovation.

Part 3: Public Sector Governance, Capital Flows and Economic Growth

A country's public sector institutions determine and oversee the framework within which the economy functions. As such, the quality of a country's public sector governance is bound to be essential in determining the level and growth of GDP. The chapters in this part of the volume examine various aspects of how public sector governance affects economic growth. They form part of a literature that first analyzed — both at the theory level and through empirical evidence — the role played by the public sector in influencing a country's growth. It includes the work of Daron Acemoglu, Robert Barro, James Robinson, and Dani Rodrik, among others.

Chapter 8 provides theory and evidence on one of the most controversial questions in the field of economic development: Is democracy associated with greater economic growth? Do increased political and civil rights lead to improved standards of living, compared with more authoritarian regimes? The debate on this issue has raged

for centuries and continues to the present. On the one hand, a number of authors have noted that in polarized political systems, democratic institutions may lead to policy gridlock, preventing the major decisions that are required in the development process. Among those voicing this view is the late prime minister of Singapore, Lee Kuan Yew, who argued that Singaporean growth — one of the most remarkable over the last 40 years — would not have occurred without the stringent restrictions on political and civil rights under his regime. Some have also noted the successful experience of China in undertaking market reforms. At the same time, others — such as the economist Daron Acemoglu and the historian James Robinson — have argued that the rent-extraction policies generally adopted by authoritarian regimes on its population are ultimately a powerful inhibitor of long-run growth.

Chapter 8 provides a theoretical and empirical analysis of how democracy affects long-run growth. The chapter shows that the connections are more complex than they look at a first glance. Its conclusion is that democracy can effectively stimulate economic growth but only if it improves the quality of governance of the public sector in a country. In order to establish the links between improved governance and growth, the chapter carries out both theoretical and empirical analysis. The theoretical model develops a general-equilibrium, endogenous growth model showing how improvements in the quality of the public sector institutions in a country — such as a reduction in corruption — can raise growth. In this model, higher quality of a country's governance institutions makes domestic innovative activity more profitable, inducing greater technological change and growth.

The chapter then examines the empirical connection between quality of governance and economic growth using a multivariate linear regression analysis of the determinants of average growth in real GDP per capita between 1960 and 1990 in a cross-section of 59 countries. To measure the quality of governance, the chapter utilizes an index constructed by Robert Hall and Charles Jones in 1999 in which the quality of government institutions is based on a comprehensive evaluation of each country's government institutions

regarding: (1) law and order, (2) bureaucratic quality, (3) corruption, (4) risk of expropriation, (5) government repudiation of contracts, and (6) the degree of openness of the economy to international trade. The empirical analysis of the connection between improved quality of public sector governance, as measured, and growth of GDP per capita shows a positive and statistically significant coefficient at conventional levels of confidence, holding equal other determinants of growth.

But is democracy associated with greater economic growth? The empirical work in Chapter 8 adds democracy as one of the variables explaining growth. To measure the strength of democratic institutions the chapter utilizes the Freedom House index of political rights. The empirical work in Chapter 8 shows that democracy is a statistically significant factor affecting total factor productivity and growth of GDP per capita between 1960 and 1990, but that the relationship is mediated by the quality of governance. Democracy influences growth mainly through its strong positive effects on the quality of governance. But once a measure of the quality of governance in a country is introduced into the growth regression equations, democracy ceases to be a statistically significant influence on growth. It suggests that if a country has an authoritarian regime which also has high-quality public sector governance, it will grow essentially as fast as the democratic country with the same quality of governance.

Of course, the question remains: do democracies promote improved public sector governance? The empirical work in Chapter 8 does show that, in the long run, democracies have a strong, positive and statistically significant association with improved quality of governance. One would expect this to be the case. After all, by definition, democracies allow populations to peacefully and regularly oust inept, inefficient, and corrupt government administrations, while allowing people to keep more efficient, successful regimes, thus tending to make the quality of governance on average higher in the long run. Authoritarian regimes may randomly provide high-quality governance, but if they do not, they can be changed only by

force, which may take years or decades longer than under democratic institutions.

Chapter 9 carries out a multivariate empirical analysis of the effects of the degree of democratic development, the rule of law, and alternative forms of capital flows on the growth of real GDP per capita between 1970 and 1994 in a cross-section of developing countries. In terms of capital flows, the empirical work carried out in this chapter shows that, holding other things constant, foreign direct investment (FDI) has a positive, strong and statistically significant connection to economic growth. In fact, the estimated growth effect of FDI is found to be several times higher than the growth effect of domestic fixed investment. By contrast, the empirical analysis does not find support for the notion that non-FDI capital flows exert significant positive growth effects or improve the explanatory power of growth regressions. This general finding is robust to different econometric methods and applies to a large sample of developing countries as well as to various subsamples including those encompassing African and Latin American countries. The research also finds that a greater degree of democracy and an improved rule of law can exert indirect growth effects through other variables. For instance, the analysis offers evidence that the rule of law influences growth indirectly by encouraging FDI.

The evidence provided in Chapter 9 is consistent with the view that developing countries might do well to promote FDI. The findings are also useful for the assessment of the controversy concerning the growth consequences of capital flows and capital account liberalization. On one side, the major international institutions — such as the International Monetary Fund and the World Bank — have supported the view that capital account liberalization has strong positive growth effects. On the other side, economists such as Dani Rodrik, Jeffrey Sachs and Joseph Stiglitz, among others, claim that the growth effects of capital flows and their liberalization are not necessarily positive and could even be negative. The empirical evidence in this chapter shows that the strength of the growth effects of capital flows depends on the type of flow considered: FDI appears

to have strong positive effects but no such evidence emerges for non-FDI capital flows.

The globalization of capital markets has led to a substantial increase in the trend of capital flowing into emerging markets. But many developing nations also face substantial capital outflows. According to the estimates of Global Financial Integrity, capital flight from developing countries grew from US\$769 billion in 2004 to over US\$1,000 billion in 2013. In sub-Saharan Africa, the estimates suggest that the cumulative outflows of capital have made the region a net creditor to the rest of the world. A significant share of the capital outflows represents undocumented transactions flowing through offshore financial centers.

Chapter 10 presents a theoretical framework showing how capital flight may be stimulated by the liberalization of a developing country's international financial transactions. It then studies the effects of the capital outflows on the long-run growth of the economy. A general-equilibrium, endogenous growth model is constructed in which corruption forms a part of the country's economic environment. Corruption is assumed to act as a tax on the firms and entrepreneurs innovating, designing, and producing new goods in the economy. This reduces the economy's rate of technological change and lowers the domestic rate of return to capital.

In this context, the chapter shows that the impact of international financial liberalization on long-run growth can be either positive or negative. A drop in growth is obtained when the level of corruption is high enough to cause domestic rates of return to capital before liberalization to drop below those in the rest of the world. Opening the capital account in this case generates capital flight, which causes the economy's innovation sector to contract, reducing the rate of technological change and causing output growth to decline. On the other hand, if the level of corruption in the economy is sufficiently low, the capital account liberalization will act to boost the country's technological change and growth by stimulating capital inflows.

Capital flight has induced policymakers in many poor countries to introduce capital and exchange controls, to block the outflows that would result if liberalization were to occur. Chapter 10 shows,

however, that this is not the first-best policy. Insofar as corruption is behind the relatively low domestic rates of return to capital, the first-best policy in this context is to intervene to reduce or eliminate corruption. Indeed, improved governance would result in a burst of growth since it would allow domestic entrepreneurs and innovators to be unbound from the chattels imposed by a corrupt regime, even in a closed economy. As bribe requests are eliminated or controlled, the returns to research and development will boom, fostering technological change. But, even more importantly, a drop in corruption allows an opening of the capital account to further benefit the domestic economy. With a drop in corruption, the developing economy's natural shortage of capital will reveal itself in high rates of return to capital, which would result in capital inflows caused by international financial liberalization. On the other hand, introducing capital account liberalization without the appropriate domestic policies in place to improve governance and control corruption may result in a magnification of domestic distortions and a decline of economic growth.

In 1997, after what had been a decade of remarkable growth, the economies of Thailand, the Philippines, Malaysia, Indonesia and South Korea all came to a sudden and grinding halt, suffering a severe crisis from which it took years to recover. What became known as the East Asian crisis was not foreseen by most observers. On the contrary, these countries had been characterized in previous years as "miracle economies" and their economic policies as exemplary. What went wrong in East Asia? What reversed the situation of countries that, just a few months earlier, had been hailed as examples of economic stability and as showcases of the way economic policies should be handled?

Chapter 11 examines the causes and consequences of the East Asian crisis. Previous research considered the role of a wide array of factors that helped precipitate the debacle, including currency overvaluation, moral hazard and excessive risk-taking among financial institutions, the growth of short-term foreign-currency debt, domestic bank fragility, speculative lending bubbles, financial panic, herd effects and contagion. Although these forces are important, this

chapter argues that a focus on them has missed the fundamental, underlying economic phenomenon behind the crisis. Chapter 11 insists that the crisis is a reflection of a deeper problem facing emerging markets in general, not just East Asia. The fact is that the capital inflows that cause an investment and economic boom in these countries, and puts them in the category of emerging markets, also plants the seeds of an eventual slowdown, or a bust, that may reverse the economic progress.

Chapter 11 refers to this economic phenomenon as "emerging market disease". The term disease is utilized because the forces involved are not short term in nature but are rather long term and endemic to the development strategy followed in the countries involved. In essence, emerging markets seek to achieve high rates of economic growth through the rapid and substantial expansion of domestic investment by means of increased foreign capital flows linked to a major liberalization of international financial transactions. The flood of capital inflows associated with this strategy allows the economies to boom, providing an aura of everlasting prosperity. However, the seeds of a future slowdown or bust are being planted at the same time, through the impact of the capital influx on a set of linked economic variables. Capital inflows exert upward pressure on the value of the domestic currency and may also ignite inflation. As a result, a persistent real currency appreciation develops and eventually slows down export growth, increases imports and worsens the current account balance. This has serious consequences. A sluggish export sector will reduce output growth and undermine the confidence of investors on the future of the economy. Furthermore, a widening current account balance deficit, even if initially financed enthusiastically by foreign capital, leads to an accumulation of external debt that, at some point, raises the risk of default, whether in the public or private sector. The sustained real appreciation of the currency also means that expectations of devaluation will inevitably materialize, sooner or later. All of these developments eventually precipitate a withdrawal of funds from the country and a credit crunch that plunges the economy into recession. If the domestic banking system is fragile, and if the capital flight is aggravated by

policymakers who tenaciously refuse to devalue, the result is a crisis.

The economic forces behind emerging market disease have been known for a long time. In Latin America, the "capital inflows problem" was studied by Carlos Diaz-Alejandro and Rudiger Dornbusch. The best-known cases of the disease in this region had been in Chile (1978–82) and Mexico (1980–84 and 1990–95), but there were other examples in Argentina, Brazil and Uruguay. Some of the symptoms of emerging market disease are akin to what has been called "Dutch disease" The latter describes the case of countries where a boom based on the exploitation of natural resources leads to a disastrous de-industrialization in the rest of the economy. Dutch disease erupts as a repercussion of the massive capital that flows into an economy stimulated by the discovery and exploitation of natural resources. These inflows increase the value of domestic currency, hurting the international competitiveness of local exports and shrinking the industrial base of the economy. Countries that were expected to grow rapidly due to their natural wealth end up instead with a sluggish expansion. In emerging market disease, the influx of capital is not necessarily linked to the exploitation of natural resources but is instead associated with rising domestic investment rates, financial liberalization and an opening of the capital account.

Part 4: The Effects of Foreign Direct Investment

FDI has been a growing source of capital in developing countries. And previous chapters in this volume have provided evidence showing that FDI can have a positive effect on economic growth and allow a more stable source of capital than portfolio capital inflows. The chapters in this part of the volume contain further analysis of the consequences of FDI on the level and growth of income per capita in host countries.

Chapter 12 is part of a literature in international trade theory that first examined the role that foreign-owned factors of production have on the welfare impact of external disturbances — a literature that includes the work of Jagdish N. Bhagwati, Richard Brecher and Ronald Findlay. For instance, a deterioration in a country's terms of trade — which is usually assumed to hurt domestic residents — could

actually raise national welfare if there is a differential trade pattern phenomenon, defined as a situation where the national and aggregate trade specialization patterns differ due to the foreign presence in the economy. As Bhagwati and Brecher succinctly summarize the issue (as cited in Chapter 12): "The paradoxical behavior of national welfare arises simply because the aggregate pattern of trade masks a contrary pattern of trade for the domestically-owned, national factors of production."

The model in Chapter 12 extends the theory on the effects of foreign ownership to incorporate internationally non-traded goods. It is shown that, in the presence of non-traded goods, national welfare might increase in response to a deterioration in the economy's external terms of trade even when there is no differential trade pattern phenomenon. The explanation lies in that, with non-traded goods, changes in national welfare are related not only to the external trade specialization pattern of nationals but also to their pattern of specialization on internal trade in (internationally) non-traded goods. Therefore, whether national welfare rises or declines depends on the internal trade pattern in non-traded goods between nationals and the foreign-owned inputs in the country as well as on the impact of the terms of trade disturbance on the prices of non-traded goods. If nationals are exporting non-traded goods to the foreign-owned factors inside the economy and the terms of trade deterioration raises non-traded goods prices substantially, then a terms of trade that reduces the relative prices of export goods may in effect raise national welfare even if nationals within the country are net exporters of these products. There is still, of course, a reduction in real national income associated with the negative impact of the terms of trade deterioration on the net exports of the local population, but this negative impact is more than compensated by the improvement in the internal terms of trade that nationals obtain through the rise in the relative price of non-traded goods. As net exporters of non-traded goods within the economy, nationals receive a gain in real income when the relative price of their internal exports rises.

Chapter 13 studies the effects of currency devaluation in an economy that is host to foreign capital. The chapter shows that the presence of foreign capital introduces the possibility that increases in currency values could actually reduce both Gross Domestic Product (GDP) and Gross National Product (GNP), immiserizing domestic residents. That policy measures can have unexpectedly negative effects on national welfare in the presence of foreign ownership was first discussed in the trade-theoretic literature by the work of Jagdish N. Bhagwati, Richard Brecher, Carlos Diaz-Alejandro and Ernesto Tironi, among others. That currency devaluation can have a short-run negative impact on GDP has been known for many years and received serious theoretical attention when Paul Krugman and Lance Taylor utilized a simple Keynesian model of the open economy to show that the impact effect of a devaluation is to be contractionary if the economy is initially in a trade deficit, if there are export or import tax revenues which are affected by devaluation, or if the exchange rate change redistributes income from labor to capital, which results in a reduction of aggregate demand when the marginal propensity to consume out of wages exceeds the marginal propensity to consume out of profits.

Chapter 13 shows how the presence of foreign capital in an economy can make a currency devaluation contractionary, even when the other mechanisms discussed in the literature are not present. Within a short-run framework, with rigid nominal wages, a devaluation raises the prices of home goods and redistributes income from wages to profits. Some of the increased profits, however, are repatriated, and thus leak out of domestic consumption. If the leakage is large enough, the amount of home goods consumed out of the remaining profits will not be sufficient to compensate for the contraction in demand associated with lower domestic real wages. The consequence is a decline in aggregate demand and, in a short-run Keynesian context, a contractionary effect on output. Furthermore, the impact on national product (versus its impact on domestic product) will be even more negative since the claims of foreign capital on domestic output (the foreign profits) rise with devaluation: GNP declines by more than GDP.

Chapter 13 applies its model of the effects of devaluation to the case of Jamaica, which is a substantial recipient of FDI, equal to about 17 percent of GDP in 2016. A significant portion of foreign investment in Jamaica is in the bauxite and alumina sector, which has become the biggest export sector in the country since it was first exploited in the 1950s. The computations carried out for the case of Jamaica in Chapter 13 suggest that concerns regarding the contractionary mechanisms of currency devaluation in the presence of foreign capital are well-founded. For this country, using data for 1980, the presence of foreign ownership accounts for 85 percent of the potential, short-run negative impact of currency devaluation.

The literature on the effects of FDI in host countries has traditionally emphasized the positive effects arising from the employment created by the foreign capital in situations of unemployment or underemployment. Chapter 14 focuses instead on analyzing the nature of positive externalities generated by FDI. More specifically, the chapter shows how foreign capital operates to increase the extent of the local market and raise the variety and specialization of producer service firms, enhancing their productivity and, as a consequence, also that of the nationally-owned firms using them. There is, then, a direct positive externality generated by foreign capital inflows on national welfare. These external effects, in this framework, are not pure technological externalities but are closely allied to the concept of pecuniary externalities, as developed by the late economist Tibor Scitovsky. The source of pecuniary externalities here is the divergence between price and marginal cost in the service sector and the corresponding undervaluation of capital. An inflow of an input whose private reward falls short of its marginal social value leads to a welfare gain for the receiving country.

In the model presented in Chapter 14, capital inflows generate positive effects on national welfare by means of their stimulus to entry and increased specialization in the producer services sector. The resulting increase in industrial productivity acts as an external effect on nationally-owned factors that benefit from the use of the more specialized services. But it should also be noted that,

in evaluating the employment effects of direct foreign investment, one should consider not only the direct employment created in the industries generated by FDI but also the induced secondary employment generated in the service sector. Foreign investments in industries that, due to their high capital–labor ratios, generate meager direct employment effects may stimulate sufficient secondary employment in services to have stronger job-creating impact than investments in industries that use substantial amounts of direct labor but do not have extensive service linkages.

The globalization of capital flows has been the result of policy moves undertaken in a wide range of countries. Within the European Community (EC), the economic integration project known as Europe 1992 pursued the creation of a single internal market that further promoted the liberalization of FDI flows among member countries, targeting particularly the service sector, including financial services. Chapter 15 examines how FDI flowing into the service sector may affect the economy differently than capital flowing into manufacturing. The chapter models sector-specific direct foreign investment into the host country's producer services sector and compares it with FDI in manufacturing investment.

Chapter 15 develops a theoretical model showing that foreign capital flowing into a service sector characterized by specialized firms operating in a market structure of monopolistic competition generates greater specialization among these services, augmenting industrial productivity. There is, then, a direct positive externality of these capital flows on national welfare. The external effects originate here in the existence of a wedge between price and marginal cost in the service sector due to the presence of imperfect competition. This wedge is directly connected to an undervaluation of capital in the service sector. But an inflow of an input whose private rate of return falls short of its marginal social value leads to a welfare gain for the receiving country. In this case, then, capital flowing into services will raise national host-country welfare. To emphasize this point, the chapter considers a situation where foreign investment in the industrial sector does not generate the external effects just described. Capital in manufacturing is assumed to be sector-specific,

homogenous and traded in a competitive market. As a consequence, there is no externality originating in industry. Capital in this sector is paid its marginal product; and a small capital inflow has no effects on national welfare: the foreigners take away from the economy (as a rate of return) as much as they contribute (through their marginal productivity). Chapter 15 thus concludes that there are major differences in the way foreign investment affects the economy depending on the external effect or externality existing in the sector into which capital moves. This result is related to the literature on linkages in economic development, as first emphasized by Albert Hirschman, suggesting that industries that have numerous forward and backward linkages with other sectors of the economy are likely to generate greater growth than industries with no such linkages.