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DIVERGENT AND UNEQUAL DEVELOPMENT IN LATIN AMERICA

Causes and policy challenges

Carlos A. Mendez-Guerra

26.1 Introduction

Within the next decade most Latin American countries[1] will be celebrating 200 years of colonial independence. In spite of being favored by productive land, diverse natural resources, and a favorable land-to-labor ratio, the long-run socio-economic performance of the region has been disappointing. From a comparative perspective, Latin America today is one of the most unequal and economically unstable regions in the world. Historically, economic growth in Latin America has been interrupted by recurrent macroeconomic crises and long stagnation episodes. Also, these shocks have further deteriorated the already high level of inequality that has characterized the region since its independence.

Latin American divergent and unequal development has a long history. Figure 26.1 summarizes this key fact based on two recent data sets. The evolution of income per capita (relative to the United States) in the last century shows a moderate catch–up episode during the first four decades of the twentieth century. After the great depression, however, a long divergence process characterized the region, with sporadic catch–up episodes in the 1960s and 1970s. Although the lack of household surveys makes the historical evaluation of inequality a difficult task, Prados de la Escosura (2007) estimates a heuristic Gini Index using data on wages from skilled and unskilled workers. This estimation suggests that income inequality in the region has been rising during both convergence and divergence episodes.[2]

Latin American countries show large structural differences among themselves. Geography, climate, ethnicity, or export base differences could potentially affect the economic performance of any of these countries. Although such diversity challenges any generalization about the region, Latin American countries share a common historical legacy, which includes similar political and economic institutions, language, and culture. After their independence they also shared similar
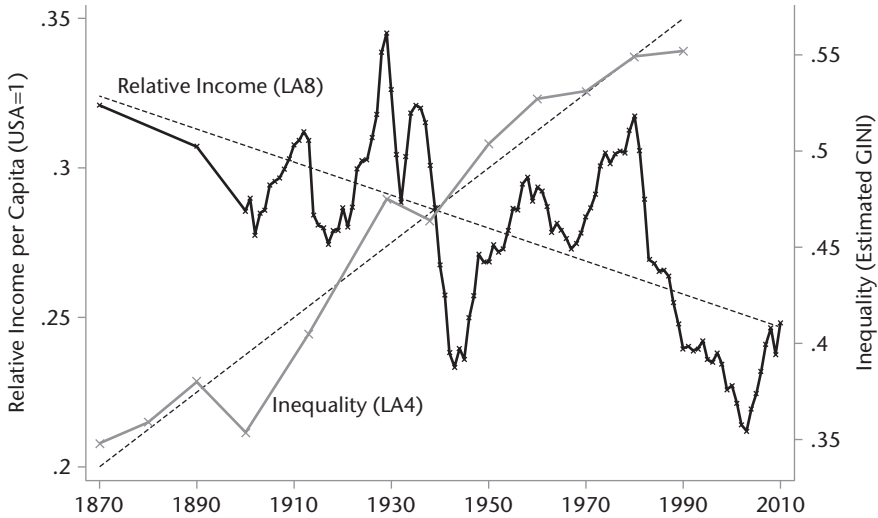
FIGURE 26.1 Divergent and unequal development in Latin America (1870–2010)
Note: LA8: Simple Average of Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, and Venezuela. LA4: Population-weighted average of Argentina, Brazil, Chile and Uruguay
Source: Author's calculations using data on per-capita income from Bolt and Van Zanden (2013). Data on inequality are from Prados de la Escosura (2007, Table 12.1).

internal struggles (e.g., revolutions and social conflicts) and external shocks (e.g., sudden changes in commodity prices, interest rates and capital flows). Finally, as suggested by Figure 26.1, they also shared similar economic and social fates. The analysis of this chapter recognizes these structural differences, but its main focus aims to identify regional patterns. This approach is consistent with the existing literature on regional development of Latin America from a historical perspective (Bertola & Ocampo, 2012; Bulmer-Thomas, 2003; Edwards, 2010; Engerman & Sokoloff, 2000; Robinson, 2008).

This chapter first reviews proximate and fundamental causes of the Latin American performance in light of the recent findings of the growth and development literature (Caselli, 2005; Acemoglu, Johnson, & Robinson, 2005). Next, it points to four economic and social challenges in relation to which further policy action is needed to foster economic growth and reduce inequality in the twenty-first century.

26.2 Proximate causes

Standard growth frameworks, such as Solow (1957), decompose the rate of growth of output of one country into factor accumulation and productivity growth rates. Similarly, it is also possible to decompose the output gap between a country and a benchmark country in terms of factor accumulation and productivity gaps. Following the methods suggested by Klenow and Rodríguez-Clare (1997) and Hall and Jones (1999), this section decomposes the output gap of Latin America

(relative to the United States) into a productivity gap, capital-output gap, and human capital gap.

Consider a cross-section of countries evaluated at time t. Let the production process of each country i be summarized by a Cobb–Douglas function

$$Y_{it} = A_{it} K_{it}^{\alpha} H_{it}^{1-\alpha}, \tag{1}$$

where Y is total output (GDP); A is total factor productivity (TFP); K is physical capital; and H is human capital. Using lower-case letters to represent per worker variables and omitting the time index, Eq. [1] can be expressed as:

$$y_{it} = A_i k_i^{\alpha} h_i^{1-\alpha}. \tag{2}$$

Neoclassical growth theory shows that in steady state, the capital-output ratio should be constant. To capture this feature, we can divide each side of Eq. [2] by y^{α} and end up with:

$$y_i = A_i^{1/(1-\alpha)} \left(\frac{k_i}{y_i}\right)^{\alpha/(1-\alpha)} h_j. \tag{3}$$

Now we can express the output per-worker gap between country i and j as

$$\frac{y_i}{y_j} = \left(\frac{A_i}{A_j}\right)^{1/(1-\alpha)} \left(\frac{k_i/y_i}{k_j/y_j}\right)^{\alpha/(1-\alpha)} \frac{h_i}{h_j}, \tag{4}$$

where the country j represents a technological leader. The right-hand side of Eq. [4] shows that, in a proximate sense, the output gap between two countries is the product of their productivity gap, capital-output ratio gap, and human capital gap. Other fundamental determinants suggested by the empirical literature such as trade, institutions, macroeconomic policy, and conflict, among others, should affect output through these channels.

Both measurement and interpretation of Eq. [4] are similar to the original Solow decomposition, but the unit of measurement is based on differences across countries rather than differences over time. To construct the physical capital and human capital series I follow the methods and parameters suggested in Jones (1997). Physical capital is estimated using the perpetual inventory method:

$$K_{t+1} = I_t + (1 - \delta)K_t, \tag{5}$$

where K is the capital stock;[3] I is gross investment; and δ is the depreciation rate. Human capital is estimated using the average returns per year of schooling and the labor force:

$$H_t = e^{\phi S} L_t, \tag{6}$$

where ϕ is the Mincerian rate of return to schooling; S is the average number of years of schooling; and L is the labor force. Data on output, investment, and labor force are from the Penn World Tables V7.1, an update of Heston and Summers (1991), and data on years of schooling are from Barro and Lee (2013).

The results of the decomposition exercise show that the main determinant of the output gap is total factor productivity (TFP). In 2010 the average output per worker[4] of Latin America[5] was 20% of that in the United States. Close to this value, 50% of the countries had an output per worker less than 19% (Figure 26.2). For all the countries in the sample, Mexico (34%), Chile (33%) and Argentina (31%) reported the largest relative output within Latin America. In terms of the determinants of this output gap, the largest difference appeared for TFP (0.68 percentage points), followed by human capital (0.39 percentage points), and the capital–output ratio (0.06 percentage points). For all the countries in the sample, Dominican Republic (56%), Argentina (46%), and Mexico (44%) reported the largest TFP within the region. Finally, TFP is not only the main determinant of the output gap, but also the one with the largest variation across countries. The differences in TFP are larger than differences in output.

Figure 26.2 illustrates the magnitude of hypothetical improvements in TFP compared to factor accumulation. If Latin America were able to close its productivity (TFP) gap, the median country would increase its relative output from 19% to 57%. Moreover, the effect of productivity convergence is large and broadly similar for both rich and poor countries in the region. Convergence in factor accumulation, on the other hand, has a smaller and asymmetric effect on rich and
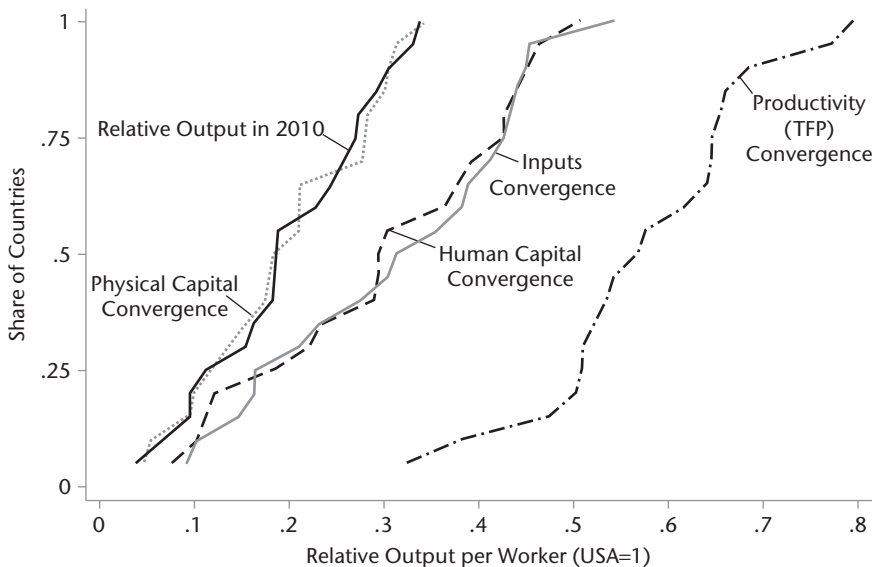

FIGURE 26.2   Closing the output gap in Latin America
Source: Author's calculations using data from Penn World Tables V.7.1 and Barro and Lee (2013).

poor countries. The median country would increase its relative output up to 34%, and relatively poor countries (the bottom 1%) would increase their relative output from 4% to 9%.

The output decomposition exercise for Latin America shows that the effect of productivity convergence for the medium country is 1.67 times the effect of input convergence. Although this result, which highlights the primacy of TFP over input accumulation, is consistent with the established evidence coming from a larger sample of countries (Hall & Jones 1999; Klenow & Rodríguez-Clare 1997), there are important caveats in the measurement of aggregate productivity. Similar to the original Solow decomposition, measurement errors in inputs can overestimate the contribution of TFP. This is particularly the case for human capital. Although systematic measures of the quality of human capital are not available for a large sample of countries, the available evidence[6] suggests that the quality of education is much below that of developed countries. Quality-adjusted human capital may play a larger role than the one suggested in Figure 26.2; nevertheless, among the few studies that try to control for this effect, Caselli (2005) shows that in a global sample of countries the relative contribution of TFP is at least as large as the joint contribution of physical and human capital.

To conclude this section, Latin America could largely improve its economic performance by closing its productivity gap. From an aggregate perspective, productivity is better understood as a composite of technology and allocative efficiency. Although both components have been traditionally studied in different strands of the economics literature, there has been a resurgence in the study of allocative efficiency and its implications for growth and development. This recent interest has been motivated by new quantitative methodologies and data (Banerjee & Duflo 2005; Hsieh & Klenow 2009; Restuccia & Rogerson 2008). Although Latin America is lagging behind in both technology and allocative efficiency, recent studies highlight the pervasive evidence on allocative efficiency (Busso, Madrigal, & Pagés 2012; Pagés 2010, 2012).

26.3 Fundamental causes

At a proximate level, the study of factor accumulation and productivity provides useful insights for thinking about the *mechanics* of comparative growth and development. Yet at a deeper level, factor accumulation and productivity are endogenous responses to development. This lack of more fundamental determinants of growth in standard macroeconomic models has encouraged economists to extend their analysis and include further elements from sociological, natural, and political sciences. Based on these extensions, three deeper determinants are commonly suggested: culture, geography, and institutions.

In this deeper context, the systematic economic and social divergence of Latin America (Figure 26.1) provides a useful case study for testing the explanatory power of cultural, geographical, and institutional theories. To complement the previous facts, Figure 26.3 summarizes five specific divergence experiences in the
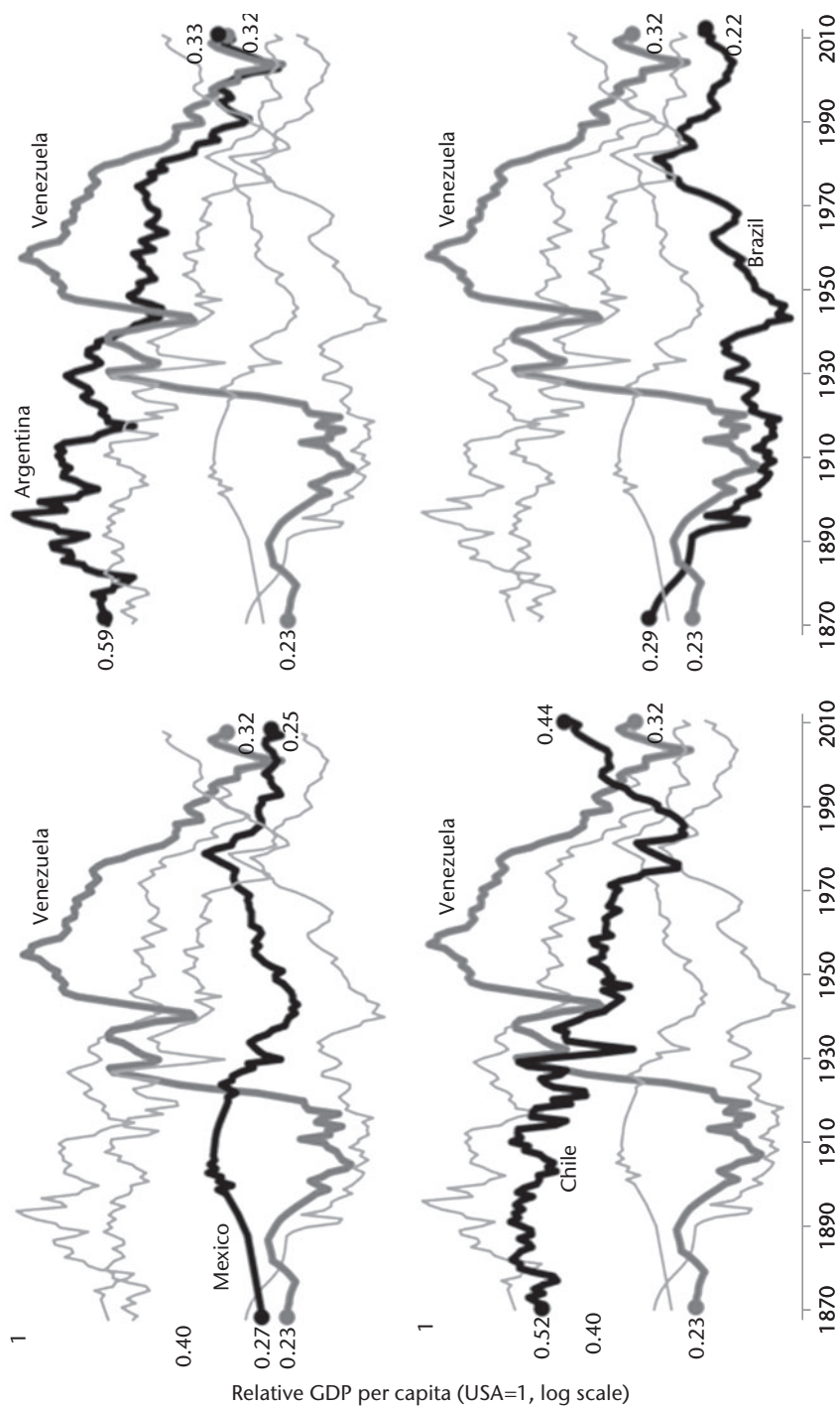
FIGURE 26.3 Divergence patterns in Latin America (1870–2010)

Source: Author's calculations using data from Bolt and Van Zanden (2013).

region. Any fundamental explanation of development should be able to account for these historical patterns.

26.3.1 Culture

Theories of development that emphasize the role of culture start their argument pointing out that countries have different values, shared experiences, and religions. All these factors affect the preferences and beliefs of economic agents, which in turn affect economic performance. Probably the most well-known argument in favor of cultural beliefs is that of Max Weber. In Weber's view, Protestant beliefs are more likely to promote industrialization through particular religious values such as thrift, hard work, wealth accumulation, and the notion that economic success should be interpreted as a signal of being chosen by God. Further, he noted that these values are in contrast with those of other religions such as Catholicism, the main religion of Latin America, which does not promote capitalism.

As argued by Landes (1998), a piece of historical evidence in favor of the culture hypothesis points to the different historical performance of European nations. Places with Protestant religions such as Britain and Holland were relatively more successful as compared to Catholic countries such as Spain, Portugal, and France. In turn, these cultural differences were transplanted to the Americas, where the north adopted the Protestant work ethic while Latin America adopted Catholic beliefs. As a result, similar to the European experience, regions such as the United States and Canada are more successful as compared to the Catholic region of Latin America.

Contrasting Weber's and Landes's argument on negative effects of religious legacies, culture could also play a positive role in Latin America, by facilitating technology adoption. For example, the Spanish language, a common cultural trait across most countries in the region, not only facilitates the exchange and diffusion of knowledge across the region, but also allows access to new technologies first available in more developed countries such as Spain, Portugal, and Italy.

Barro and McCleary (2003) empirically test the role of religion in economic growth. Although they provide evidence of a positive correlation between religious beliefs (in heaven and hell) and economic growth, this evidence is neither robust to changes in the specification of the model (Durlauf, Kourtellos, & Tan, 2012) nor does it show a causal effect, since religious beliefs are potentially endogenous to development and other fundamental sources of income differences. Other empirical studies such as Durlauf and Fafchamps (2003) evaluate the role of trust (a social capital measure) and also find a positive correlation between cultural values and economic growth. Yet given their econometric identification, it is not possible to draw a causal relationship.

The overall evidence of the role of culture on development is still inconclusive for both worldwide studies and the Latin American case. Empirically, it has been difficult to identify sources of exogenous variation in cultural traits for a

representative sample of countries. The endogeneity issues between culture and development make difficult the translation of correlation claims into causal ones. Conceptually, the direction of the effect is unclear, at least for Latin American countries. On the one hand, the lack of Protestant values suggests a negative relationship; on the other, a common language facilitates the diffusion of ideas.

26.3.2 Geography

Theories that emphasize the role of nature and geography on economic development typically point to three mechanisms for sustained underdevelopment. The first one dates back at least to the French philosopher Montesquieu, who argued that the heat of tropical climates reduces human strength and labor productivity. The second mechanism, popularly known as the Diamond hypothesis, suggests that the Neolithic revolution took pace in Eurasia because of its particularly high quality and diverse soil, vegetation, and animals. The geographic concentration of endowments allowed a much more rapid settlement that ultimately encouraged the development of powerful technologies, which would be used to conquer other parts of the world (Diamond, 1999). The third mechanism points to the burden of infectious tropical diseases such as malaria, yellow fever, and dengue fever, among others. For example, Bloom and Sachs (1998) claim that the prevalence of malaria in sub-Saharan Africa reduces the annual growth rate of this region by more than 1.3% a year.

From a regional perspective, the geography hypothesis (at least its third version) seems more consistent with the African experience and less suitable to explaining the divergence patterns of Latin America. Based on the behavior of the time series in Figure 26.3, tropical diseases are far from being a serious concern in Argentina and Chile, yet their relative incomes have been systematically diverging for more than a century. Similarly, large reductions in the prevalence of infectious diseases in more tropical countries such as Venezuela, Colombia, and Ecuador did not deflect them from their divergence paths.

In terms of empirical evidence, the direct effect of geography on economic growth was initially supported by the data. More recent studies, however, suggest that geography mainly has an indirect effect, acting through institutions. The first series of growth regressions reported highly significant coefficients for variables such as distance from the equator (Bloom and Sachs 1998). In addition, given the fixed nature of geography, endogeneity issues appear less concerning. More recent studies, however, have shown that the significance of geographic variables disappears when institutional variables are properly controlled[7] (Acemoglu & Robinson, 2000).

Weighing against the prevalence of geographic factors, historical data shows a reversal of fortune pattern: relatively rich countries in the year 1500 are relatively poor today (Acemoglu, Johnson, & Robinson, 2002). These initially rich countries had favorable geography and endowments, such as productive land, natural resources, high population densities, and hierarchically organized societies. Given

the profitability of these endowments and the potential settler mortality associated with climatic differences, European colonizers fostered more extractive institutions across Latin American countries. In contrast, places with less favorable geography, similar climate patterns, and sparsely settled populations developed more inclusive institutions which later allowed them to take advantage of industrialization opportunities during the late eighteenth and early nineteenth centuries.

26.3.3 Institutions

Institutional theories of comparative development emphasize that humans themselves decide how to organize their societies. Some types of societal organization encourage investment, education, innovation, risk taking, and tolerance to failure. Others simply do not. Although the importance of institutions has already been recognized, at least since the times of Adam Smith, Douglass North received a Novel Prize in economics in 1993 (conjointly with Robert Fogel) for renewing the research in economic history, institutional change, and economic outcomes. In his view, "Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction" (North, 1990, p. 3). As he notes later, the main implication of this definition is that institutions shape incentives for any type of exchange, whether political, economic, or social.

Building on North's work, Acemoglu and Robinson (2012) highlight both the hierarchy of institutions (how political institutions determine and support economic institutions), and an institutional typology:

- *Inclusive economic institutions* provide property rights, enforce the rule of law, support the functioning of markets, facilitate the entrance of new economic players, and guarantee access to education and opportunity for the majority of citizens.
- *Extractive economic institutions* create an uneven playing field with the purpose of extracting profitable rents from public and private resources for the benefit of a small, yet powerful, elite.
- *Inclusive political institutions* facilitate the entrance of new political players (pluralism), promote accountability and respect for the rule of law, and place constraints on politicians.[8] In addition, the state has enough political centralization and capacity to collect taxes, provide public goods, and utilize its legitimate monopoly of violence over a territory.
- *Extractive political institutions* concentrate political power in the hands of a small elite, which acts without constraints, accountability, and respect for the rule of law. In addition, the state has a lack of political centralization and state building capacity.

Empirical support for the institutional hypothesis appears more convincing and clear than that for other theories. The evidence is typically presented in three

grounds: case studies, macro-data studies, and micro-data studies. The cases of North Korea versus South Korea, or East Germany versus West Germany present themselves as historical natural experiments, where there is an exogenous source of institutional variation while keeping constant cultural and geographic variables. Among the macro-data studies, Acemoglu et al. (2001, 2002) uses historical data from the former European colonies to implement a two-stage instrumental regression and estimate the effect of economic institutions on economic performance. Economies, such as the Latin American colonies, where extractive institutions were imposed during the colonization period, systematically report lower levels of income per capita today. This cluster of extractive institutions and poor economic performance contrasts sharply with other former-western colonies such as Canada, United States, Australia, and New Zealand, which end up having both more inclusive institutions and economic prosperity.

The existence and persistence of extractive institutions in Latin America also appears in the micro data. Dell (2010) uses a regression discontinuity design to evaluate the persistent effects of a forced-labor system (the Mita), which was in effect in Peru and Bolivia between 1573 and 1812. Results show that districts that participated in the system consume 25% less and suffer from stunted growth in children by 6% compared with nonparticipant districts today.

One recurrent feature of the theoretical and empirical literature is the persistence of extractive institutions and poor economic performance. Thus, compared to other fundamental determinants of development, this vicious cycle or institutional trap seems more consistent with the divergence patterns of Latin America (Bertola 2010; Coatsworth 2005, 2008; Robinson, 2008). In addition, as noted by Acemoglu and Robinson (2000, 2006, 2008), understanding the mechanisms of institutional persistence goes beyond explanations based on the lock-in of initial conditions (i.e., the persistence of the original colonial institutions). Institutions often change in a path-dependent fashion, which implies that even in the existence of a new (*de jure*)[9] social arrangement, political losers attempt to replicate the functions of the old regime through *de facto*[10] political power. One of the best examples of this mechanism is the persistence of de facto political power in the southern United States after the civil war.[11] In Latin America, democracy cycles and other revolutions did not alter the distribution of de facto power, which has been reinforced by the historical inequality of the region (Bertola, Prados de la Escosura, & Williamson, 2010).

To sum up, the poor economic performance of Latin America is commonly attributed to its extractive economic institutions, whose origins trace back to the colonization period. Persistence of extractive institutions and poor economic performance is an equilibrium outcome that results from the distribution of power among political players. Figure 26.4 illustrates the dynamics of this endogenous institutional equilibrium. Engerman and Sokoloff (2000) argue that economic and political inequality defined the initial institutional structure of the region in colonial times. Given an unequal economic and political distribution (t), Acemoglu and Robinson (2005) argue that political actors have different institutional preferences
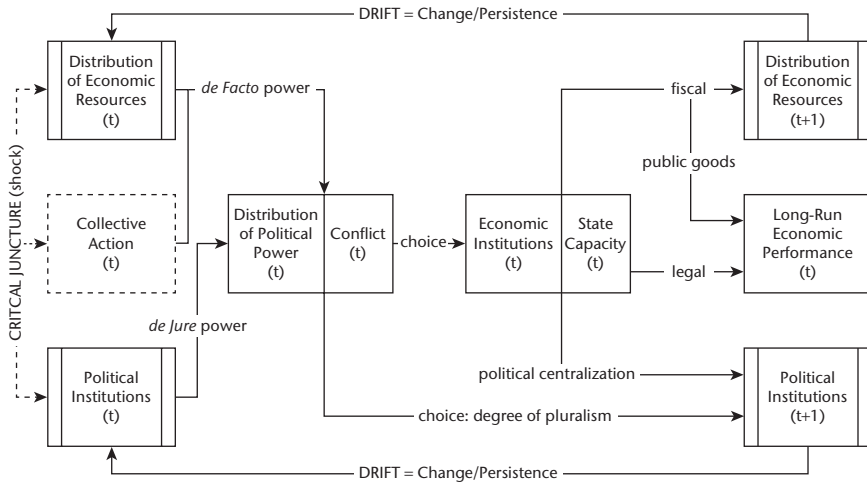
FIGURE 26.4 Institutions as an endogenous dynamic equilibrium
Source: Author's elaboration based on Acemoglu et al. (2005), Besley and Persson (2011), and Engerman and Sokoloff (2000).

because of their future (t + 1) distributional and political implications.[12] The choice of political and economic institutions depends both on the degree of conflicting interests and the distribution of power across political actors. In addition, the latter is also an endogenous outcome since it depends on both de facto and de jure power. Once these two choices are made, the state plays a crucial role not only in supporting the functioning of markets, through the provision of public goods and legal infrastructure, but also in the persistence (or change) of the current institutional regime, through taxation and the exercise of its legitimate monopoly of violence. On this last issue, Besley and Persson (2011) highlight the importance of the relationship between state capacity (fiscal and legal) and economic development. In their analysis, Latin America stands out for its relatively low fiscal capacity among middle-income countries. Thus, following the predictions of Figure 26.4, the lack of redistributive taxation may add to the persistence of both economic inequality and extractive institutions.

26.4 Policy challenges

26.4.1 Macro-stabilization policy: enhancing countercyclical capacity during crises

Historically, Latin America has been associated with a large variety of macroeconomic crises: debt crises, balance of payment crises, financial crises. Although, distortionary macroeconomic policies such as large budget deficits, high inflation, and misaligned exchange rates are typically at the center of these crises, they are just the symptoms of a deeper problem – extractive institutions. Recent empirical

evidence shows that the origins of macroeconomic volatility and economic crises are in the institutional structure of nations (Acemoglu et al., 2003; Calderón, Duncan, & Schmidt-Hebbel, 2012). In the last 15 years, Latin America has shown notable improvements in the design and implementation of monetary, fiscal, and exchange rate policies (Frankel, Vegh, & Vuletin, 2013; Vegh & Vuletin, 2012). In particular, the independence of the central bank has allowed most countries in the region to shift consistently from procyclical to countercyclical[13] interventions during crises.

Since its independence, economic performance in Latin America has been extremely sensitive to both variations in commodity prices and changes in international rates and capital flows. For example, the contractionary effects of external shocks such as the Great Depression of the 1930s, the United States stagflation of the 1970s, and the Asian crisis of the second part of the 1990s had greater persistence than in any other region, including the countries where these crises originated (De Gregorio & Alvarez, 2013). Typically, when such crises occurred the economies of Latin America had little fiscal and monetary capacity to implement countercyclical policies. On the one hand, high debt levels and lack of external credit constrained fiscal interventions; on the other, limited international reserves and fear of allowing the exchange rate to float restricted monetary alternatives.

Over the past 40 years, however, fiscal, monetary, and exchange rate responses to crises have evolved in Latin America. At least in some of the largest economies in the region, policy responses to crises have graduated from procyclicality (Frankel et al., 2013; Vegh & Vuletin, 2012). For example, Vegh and Vuletin (2013) document 31 crises[14] in a sample composed by the largest economies in the region[15] for the period 1970–2013. Using 1998 as a breaking point, the authors found that the frequency, duration, and intensity of crises in the last 15 years have been lower for most countries in the sample. In addition, Brazil, Mexico, and Chile shifted from a procyclical fiscal policy towards more countercyclical responses after 1998, while Argentina, Venezuela, Peru, and Uruguay still demonstrate procyclical behavior. On the monetary policy side, Brazil, Chile, Colombia, and Peru have implemented countercyclical measures. These authors also indicate that in terms of the overall effectiveness of the adjustment, countercyclical fiscal policy has helped to reduce the duration and intensity of crises, while countercyclical monetary policy has helped to reduce only their duration.

Of course, the duration and intensity of crises could have been the consequence of a more favorable external environment or weaker external shocks, or both, rather than better policy responses. To clarity this luck-versus-policy debate, a series of studies suggest that although high commodity prices and larger exports to China played a considerable role in the last decade, independent central banks, predictability and credibility of monetary policy (e.g., inflation targets), flexible exchange rates,[16] openness, emission of debt in local currency, and deeper financial systems allowed some Latin American countries to design and implement more effective countercyclical policies (Corbo & Schmidt-Hebbel, 2011; De Gregorio & Alvarez, 2013). However, substantial differences and risks still characterize the

region's performance, with particularly large economies like Argentina and Venezuela showing annual inflation rates in two digits. In this scenario, and from an institutional perspective, the independence of central banks seems to be an important first step; structural fiscal rules should be next.

26.4.2 Trade policy: promoting regional integration and reducing costs

Long cycles of openness and protectionism have characterized the Latin American approach to globalization. After independence, the young states embraced international trade and access to international financial markets as tools for development, yet most[17] saw their overall commodity production and exports stagnate until the 1870s. The reasons for this initial disappointment included: territorial conflicts, political instability, and fiscal crises (Bulmer-Thomas, 2003). In contrast, the period from 1870 to the end of the 1920s showed faster growth of exports due to increasing demand and investment from the United States (Conde, 1992). This expansionary period ended due to two international shocks. The First World War and later the Great Depression generated not only a large reduction in external demand and foreign direct investment, but also a collapse in the terms of trade, which affected the already weak fiscal capacity of the region.

Motivated by these shocks and the general protectionist policies that characterized the world after the Great Depression, Latin America implemented an import substitution industrialization strategy from the beginnings of the 1930s to the end of the 1970s. The intellectual foundation of this approach came to be summarized in the so-called dependency theory (Cardoso and Faletto, 1979), a framework in which the world is understood as a core–periphery structure where wealthy and powerful states (the core) enrich themselves at the expense of underdeveloped states (periphery). Prebisch (1950) and Singer (1950) first described the economic arguments of this framework and highlighted the existence of a secular deterioration in the terms of trade for commodity-exporting countries.[18] In light of these arguments, Latin American countries tried to accelerate their structural transformation through the protection of their infant industries. But, after some mixed results,[19] the debt crisis[20] of the 1980s ended all the protectionist strategies of the region. The need for internal and external adjustment started a new cycle towards trade liberalization.

There are at least two main lessons from the historical trade strategies of Latin America. First, regional output is extremely sensitive to changes in export prices and international financial conditions. Recall that both the transitions from the commodity-export period and the import-substitution period were largely driven by changes in these factors. To overcome such high sensitivity, a gradual diversification of both export products and markets is needed. An example demonstrating the latter is Chile, which found new markets for its main exports in Asia. Second, fiscal revenues are also negatively affected by these external shocks, and as a result, governments struggle to implement countercyclical policies to

compensate the decline in net exports. As mentioned in the previous subsection, the design of fiscal savings rules, which are based on both potential output and long-run export prices, can help to reduce these fluctuations.

Although the trade liberalization process that started in the 1990s increased exports and encouraged trade agreements within the region, Latin America still has low regional trade coefficients. De Gregorio (2005) highlights that the level of intraregional trade is low when compared to other regions. For example, in the 1960s trade among countries in South America represented 10% of their total trade. By 2003, this coefficient had risen to 24%. In contrast, regional trade in East Asia was already 26% in the 1960s, and more recently increased to 50%, which is similar to the intraregional trade coefficient of advanced economies. Regional integration not only represents access to larger markets and economies of scale, but also the opportunity to create regional value chains and facilitate technology transfer.

Early trade reforms of the 1990s reduced trade costs by cutting tariffs and eliminating non-tariff barriers. Logistic and facilitation costs, however, have remained high. Table 26.1 shows that the quality of services supporting trade in Latin America is not only below OECD and East Asia standards, but also below the world average. In particular, further improvements are needed in the efficiency of customs clearance, the quality of infrastructure, and the quality of logistics. If Latin American countries aim to be active participants of a dynamic global market and global value chains, they need to upgrade the quality and productivity of their trade-related services.

26.4.3 Productivity policy: reducing resource misallocation

As mentioned in the first section, recent studies in the literature of growth and development highlight the role of misallocation of resources as determinant of aggregate productivity. Misallocation occurs at different levels of economic exchange: across plants, across firms within an industry, and across broad sectors within the economy. McMillan and Rodrik (2011) focus on the latter and call it "structural change in reverse." They first note that productivity gaps across sectors are negatively correlated with the economy-wide productivity level. The basis for this relationship is that the overall productivity of a country is larger when resources (e.g., labor) are allocated to the more productive sectors. This view is consistent with the structural change and dual economy models à la Arthur Lewis, which conceptualize the development process as the movement of labor from relative low-productivity sectors (agriculture) towards high-productivity sectors (manufacturing). In light of these models and evidence, structural change in reverse, or misallocation at the sectorial level, is a common feature across Latin America that keeps down not only aggregate productivity, but also ultimately development prospects (Pagés, 2010).

A typical misallocation story in Latin America is the increasing number of people working in the informal sector. The current high rates of urbanization in the

TABLE 26.1 Trade facilitation in Latin America (2012)

	Efficiency of Customs Clearance	Quality of Trade Infrastructure	Competitively Priced Shipments	Competence and Quality of Logistics	Delivery within Expected Time	Average
Argentina	2.45	2.94	3.33	2.95	3.27	2.99
Bolivia	2.40	2.39	2.60	2.58	2.95	2.58
Brazil	2.51	3.07	3.12	3.12	3.55	3.07
Chile	3.11	3.18	3.06	3.00	3.47	3.16
Colombia	2.65	2.72	2.76	2.95	3.45	2.91
Costa Rica	2.47	2.60	2.85	2.53	3.19	2.73
Cuba	2.18	2.08	2.12	2.21	2.31	2.18
Dominican Rep.	2.53	2.61	2.83	2.74	2.97	2.74
Ecuador	2.36	2.62	2.86	2.65	3.42	2.78
Guatemala	2.62	2.59	2.82	2.78	3.19	2.80
Guyana	2.29	2.15	2.35	2.33	2.67	2.36
Honduras	2.39	2.35	2.70	2.44	2.90	2.56
Haiti	1.78	1.78	1.94	1.74	2.74	2.00
Jamaica	2.22	2.27	2.43	2.21	2.91	2.41
Mexico	2.63	3.03	3.07	3.02	3.47	3.04
Panama	2.56	2.94	2.76	2.84	3.47	2.91
Peru	2.68	2.73	2.87	2.91	3.40	2.92
Paraguay	2.36	2.41	2.31	2.49	2.74	2.46
El Salvador	2.28	2.46	2.57	2.60	3.08	2.60
Uruguay	2.99	2.87	2.91	2.98	3.16	2.98
Venezuela	2.10	2.17	2.54	2.33	3.18	2.46
LAC	2.47	2.58	2.71	2.64	3.11	2.70
OECD	3.46	3.68	3.44	3.64	3.93	3.63
EA	2.92	3.03	3.08	3.04	3.55	3.12
WORLD	2.66	2.77	2.83	2.82	3.26	2.87

Note: Scores 1 = low to 5 = high.
Source: World Bank, Doing Business Database 2012.

region represent the early migration of agricultural workers to the cities. Given the lack of sufficient manufacturing jobs, due to failed industrialization attempts, most workers ended up working in informal activities where the level of productivity is even lower than in agriculture (Edwards, 2009, 2010). Another reason for the rise of informal working and lower aggregate productivity has to do with the trade liberalization of the 1990s. Although trade reforms are associated with productivity gains in opening industries, these are just partial effects. If the industry's share of employment shrinks, the displaced workers may end up in activities with relatively lower productivity and reduce overall growth of productivity (McMillan & Rodrik, 2011).

The discussion above has identified two sources of aggregate performance: productivity growth within sectors and reallocation of labor across sectors. Formally, this classification can be expressed as

$$\underbrace{\Delta Y}_{Overall\ Growth} = \underbrace{\sum_{i=1}^{n} \ell_{i,t-s}\, \Delta \gamma_{i,t}}_{Within\ sector} + \underbrace{\sum_{i=1}^{n} \Delta \ell_{i,t} \gamma_{i,t}}_{Reallocation} \qquad [7]$$
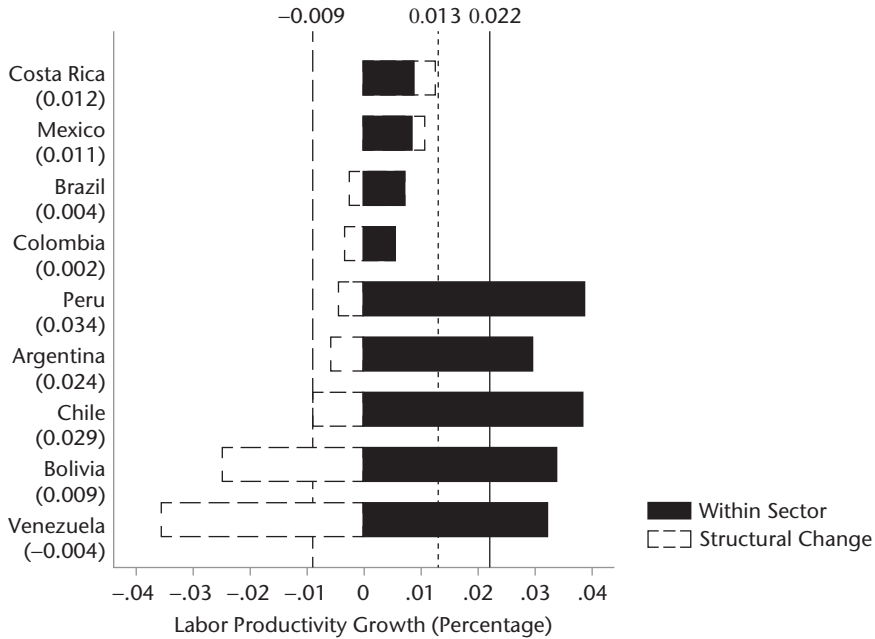
FIGURE 26.5   Decomposition of labor productivity growth in Latin America (1990–2005)
Note: Numbers in parenthesis are the compound annual growth rate of the economy-wide labor productivity.
Source: Author's adaptation for Latin America using data from McMillan and Rodrik (2011).

where Y and y are overall economy and industry labor productivity, respectively, ℓ is the share of employment in the industry i, Δ is a change operator, and i and t are industry and time indices. Figure 26.5 presents the results of this decomposition for a sample of Latin American countries. Between 1990 and 2005, countries in this sample experienced low within-sector productivity growth (0.022% per year). In addition, the reallocation of labor made a sizable negative contribution (−0.009% per year) and, as a result, the overall growth rate of labor productivity ended up being 0.013% per year.[21] Excluding Costa Rica and Mexico, misallocation of labor dragged down the already low productivity rates. It is worth noticing that some of the countries exhibiting great progress within sectors also exhibit the largest misallocation patterns. For example, in Venezuela, labor misallocation eliminated all the within-sector productivity gains. In Bolivia, large trade reforms might have helped increase the productivity in the mining and gas sectors in the 1990s. These gains, however, were drastically reduced when the employment share in these sectors shrank and the displaced workers ended up working in the largely informal retail sector.

Employment in Latin America is largely concentrated in the service sector. Firms in this sector, however, are too small and unproductive. Policy action should help only the most dynamic and productive firms to keep increasing both

their size and their productivity. Access to credit and improving the links between these firms and research centers can facilitate this process. At the same time, any type of intervention should avoid subsidies that foster the survival of the least productive firms. The distinction between productivity and social policies is crucial for this endeavor. Both are important, but each has its own value and there are no shortcuts.

26.4.4 Social policy: inequality really matters

Economic, political, and social inequality has characterized Latin America since colonial times (Engerman & Sokoloff, 2000; Sokoloff & Zolt, 2007; Williamson, 2010). Over time, progress in this dimension has been constrained not only by the prevalence of extractive institutions, but also by recurrent macroeconomic crises and volatility. The last decade, however, has been relatively favorable for Latin America, as documented by Vegh and Vuletin (2013), and the frequency and duration of output contractions have been reduced. Given this benign environment, higher social inclusion has been manifested mainly in terms of educational achievements[22] and poverty reduction. Inequality, however, remains a challenge and much more progress is still needed. Moreover, Gasparini, Cruces, and Tornarolli (2011) concluded their comprehensive study of Latin American inequality suggesting that the recent progress of the region is not consistent with strong fundamentals. It is more a reaction to favorable international prices.

Inequality matters in two ways. First, as argued in Section 26.3, the persistence of extractive political institutions depends to a large extent on the unequal distribution of economic resources. Based on this view, inequality acts as a means to an end, which is better institutions and ultimately broad-based welfare in a society. Second, inequality is, in itself, a component of welfare, which is typically not accounted for in standard measures of development. This omission largely overestimates the current welfare position of Latin America per-capita GDP is used as a measure of welfare.

Jones and Klenow (2011) suggest a theoretically sound welfare index that encompasses data on consumption, leisure, mortality, and inequality. Figure 26.6 reports the results for Latin America. As expected, once inequality is included, the development gap of the region is even larger than the one suggested by differences in per-capita GDP alone. In 2000, average GDP per capita of the sampled countries was 17% of that of the United States. For the same year, average welfare per capita was only 10.4%. With the exception of Costa Rica, relative welfare was lower than relative income in all the sampled countries.

Because inequality plays a dual role in the process of development, further policy action is needed. More focalized social programs, improvements in the quality of education, and labor market reforms are typical areas where progress is far from complete. The main challenge, however, is not the policy intervention, but its sustainability. The region should keep its social commitments and prepare for potentially unfavorable conditions in the international environment.
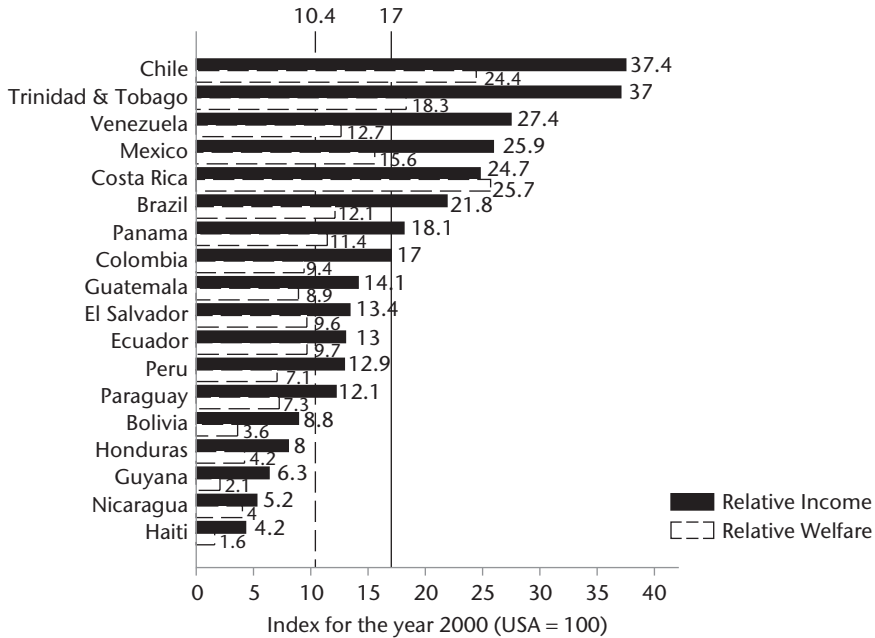
FIGURE 26.6 Relative income and relative welfare in Latin America (2000)
Source: Author's adaptation for Latin America using data from Jones and Klenow (2011).

Notes

1 These include countries from the Caribbean region.
2 It is worth noticing, however, that before 1900, income inequality in some countries was already higher than the regional average. In Brazil, for example, inequality reached 46.2 by 1850. Similarly, estimates for Chile suggest a Gini coefficient of 40.7 by 1860.
3 I estimate the initial capital stock as $K_0 = I_{1960} / (g_A + \delta)$, where, as in Mankiw, Romer, & Weil (1992), it is calibrated as 0.075.
4 It is an unweighted average for the Latin American countries. For every country potential output per worker is estimated using the Hodrik–Prescott filter with a smoothing parameter of 100.
5 Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.
6 For example, results of the Program for International Student Assessment (PISA) show that the few Latin American participants are systematically below the average of developed countries.
7 That is, adjusted for endogeneity using instrumental variables.
8 A well functioning democracy is a necessary condition, yet not sufficient for this type of political pluralism.
9 *De jure* political power is allocated by political institutions such as constitutions, laws, and the electoral system.
10 *De facto* political power is implemented by the collective action of groups or any other non-officially established means.
11 See Acemoglu and Robinson (2006) for a more detailed explanation and a formal model of the persistence of *de facto* power and institutions.

12 Political actors do not agree first on the maximization of outcomes and then the distribution or redistribution of gains because of commitment issues. This situation is in part similar to the prisoner's dilemma.

13 From the fiscal side, reforms such as structural fiscal rules have been successful in reducing the negative effects of variations in commodity prices. Fewer countries, however, have adopted this type of policy.

14 The authors define an output crisis as a drop in quarterly real GDP with respect to its four-quarter moving average. Although this definition of crisis seems too encompassing and it might identify mild recessions as crisis, this exercise is still informative for understanding business cycle frequencies and policy responses.

15 The combined GDP of Brazil, Mexico, Argentina, Colombia, Venezuela, Chile and Peru accounts for just over 90% of regional output. Combined total population is just under 80%.

16 Within the countries that adopted this regime, there was a lower exchange-rate pass-through to inflation in the last decade.

17 Chile was a notable exception. Its average annual growth, 1.5%, was close to that of the United States (Bertola & Ocampo, 2013).

18 Empirically, this secular decline was more notorious during the first part of the twentieth century. More recent and larger sample data sets do not find such systematic decline, yet large fluctuations characterize the terms of trade in Latin America (Harvey et al., 2010).

19 Social and economic indicators largely improved during the 1950–1970 period, yet only Brazil and Mexico showed progress in their industrial transformation.

20 The debt crisis had domestic and international roots. Domestically, governments made large investments in the promotion of infant industries. They also needed external funds to import intermediate inputs. Yet it was the combination of both higher international interest rates and lower export prices that ultimately triggered the Latin American debt crisis (Bulmer-Thomas, 2003).

21 These numbers are unweighted averages for the countries listed in Figure 26.5.

22 For instance, by 2011 the literacy rate of the 15–24-year-old population reached 97.1% and net enrollment in primary education reached 93.8%.

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