CHAPTER 3

# REIGNITING GROWTH IN LOW-INCOME AND EMERGING MARKET ECONOMIES: WHAT ROLE CAN STRUCTURAL REFORMS PLAY?

*The pace of structural reforms in emerging market and developing economies was strong during the 1990s, but it has slowed since the early 2000s. Using a newly constructed database on structural reforms, this chapter finds that a reform push in such areas as governance, domestic and external finance, trade, and labor and product markets could deliver sizable output gains in the medium term. A major and comprehensive reform package might double the speed of convergence of the average emerging market and developing economy to the living standards of advanced economies, raising annual GDP growth by about 1 percentage point for some time. At the same time, reforms take several years to deliver, and some of them—easing job protection regulation and liberalizing domestic finance—may entail greater short-term costs when carried out in bad times; these are best implemented under favorable economic conditions and early in authorities' electoral mandate. Reform gains also tend to be larger when governance and access to credit—two binding constraints on growth—are strong, and where labor market informality is higher—because reforms help reduce it. These findings underscore the importance of carefully tailoring reforms to country circumstances to maximize their benefits.*

## Introduction

Emerging market and developing economies have enjoyed good growth over the past two decades. Living standards have been converging toward those in advanced economies at a fast pace in the aggregate. However, for many countries, the speed of income convergence remains modest. The typical (median) emerging market has been closing its (purchasing-power-parity-adjusted) income per capita gap with the United States by about 1.3 percent a year since the 2008 financial crisis, while the equivalent speed for a typical low-income developing country is 0.7 percent (Figure 3.1). At these rates, it would take more than 50 years for a typical emerging market economy, and 90 years for a typical low-income developing country, to close half of their current gaps in living standards. Furthermore, convergence has been highly heterogeneous; while some countries have been converging fast (mostly Asian economies and, during the 2000s, some commodity producers), others have stagnated or—in the case of almost a quarter of economies—even diverged. For the latter, disasters (crises, wars, disease outbreaks, extreme climatic events) played a role in some cases, but there is also broader concern about weak underlying trends in income per capita growth.

Subdued and uneven growth, concerns about policies and growth prospects in advanced economies—a key driver of growth in emerging market and developing economies (April 2017 *World Economic Outlook* (WEO)), waning chances of a new commodity price boom, and shrinking macroeconomic—primarily fiscal policy (April 2019 *Fiscal Monitor*)—space have revived emerging market and developing economy policymakers' interest in structural reforms. There is also a sense that reform efforts waned after the liberalization wave that followed the economic crises of the 1990s, leaving much scope for improving the functioning of (financial, labor, product) markets and for improving the quality of other government-influenced drivers of economic growth—such as education, health care, and infrastructure. In some areas, such as, for example, labor markets, automation and globalization put existing regulations that protect jobs rather than workers under pressure, further strengthening the case for reform.

At the same time, broad uncertainty surrounds the potential scope for, and gains to be reaped from, structural reforms in emerging market and developing economies. Individual countries' experience with reforms have been mixed.[1] Some prominent reformers over one

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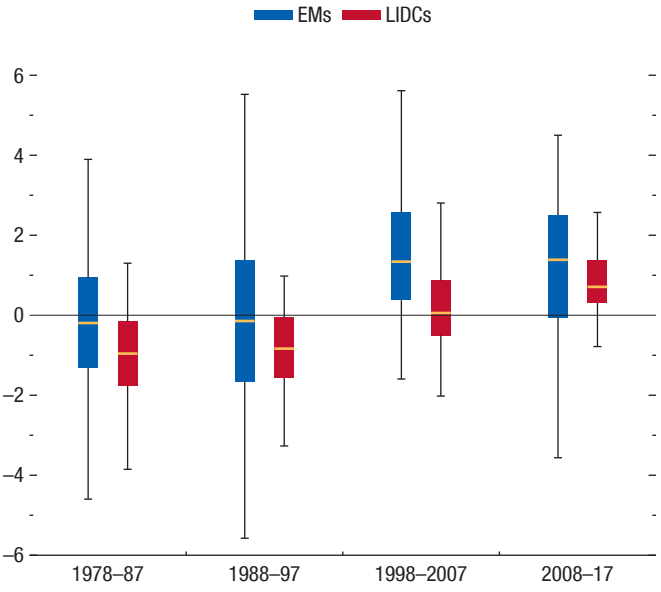
[1]Zettelmeyer (2006) provides an overview of reform experiences in Latin America and a comprehensive discussion of existing explanations for why gains may have undershot expectations.

## Figure 3.1. Speed of Income-per-Capita Convergence in Emerging Markets and Low-Income Developing Countries
*(Percent)*

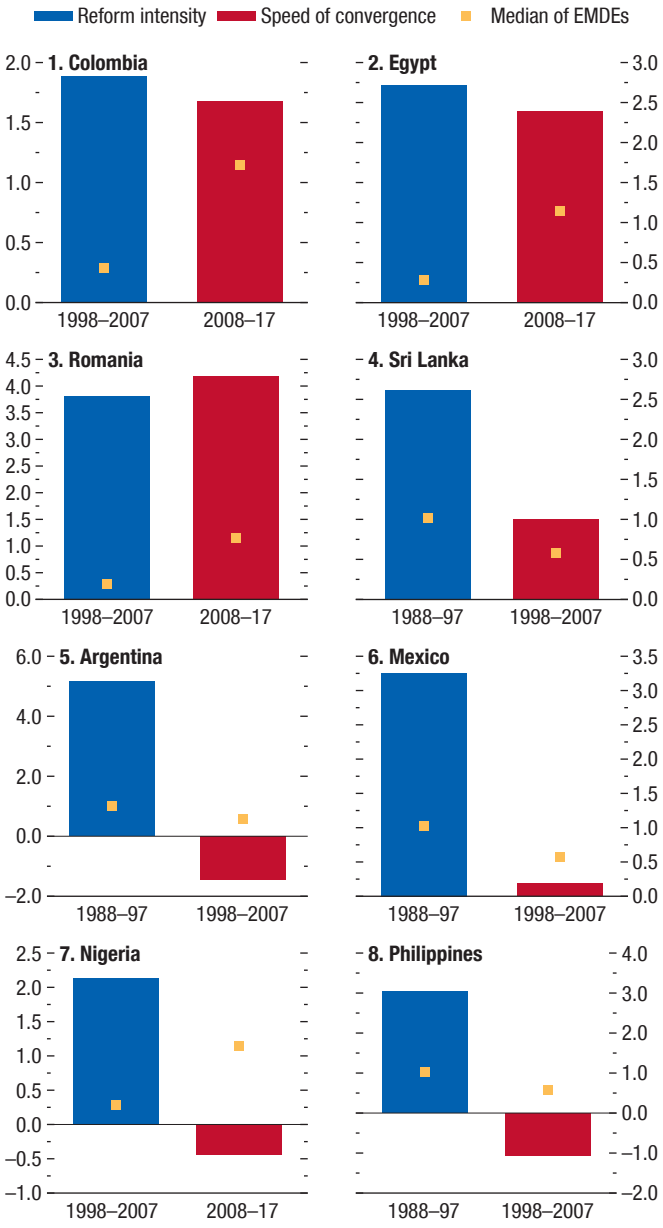
The average speed of convergence to living standards in advanced economies has been rather modest among EMDEs.




Sources: Penn World Tables; and IMF staff calculations.
Note: For each country, the speed of convergence for each decade is computed as the ratio between average annual real per capita GDP growth relative to the United States and the percent difference between the US real per capita GDP and that of each country at the beginning of each decade at purchasing power parity. The horizontal line inside each box represents the median; the upper and lower edges of each box show the top and bottom quartiles, respectively; and the top and bottom markers denote the maximum and the minimum, respectively.
EMs = emerging markets; EMDEs = emerging market and developing economies; LIDCs = low-income developing countries.

## Figure 3.2. Reform Intensity and Speed of Income-per-Capita Convergence in Selected Economies
*(Percent)*

Some top reformers have enjoyed strong subsequent income growth and convergence while others have not.




Sources: Alesina and others (forthcoming); Penn World Tables; and IMF staff calculations.
Note: For each country, the speed of convergence for each decade is computed as the ratio between average annual real per capita purchasing power parity GDP growth relative to the United States and the percent difference between the US real per capita GDP and that of each country at the beginning of each decade. Reform intensity is computed as the average annual change in each decade (multiplied by 100) of the average reform index. The average reform index is computed as the arithmetic average of indicators capturing liberalizations in five areas: domestic finance, external finance, trade, product market, and labor market. The index ranges from 0 to 1, with higher values denoting greater liberalization. EMDEs = emerging market and developing economies.

particular decade, such as Sri Lanka during 1988–97, or Colombia, Egypt, and Romania during 1998–2007, have seen their per capita incomes converge fast toward that of the United States (and other advanced economies) during the subsequent decade (Figure 3.2). But other major reformers, such as Argentina, Mexico, and the Philippines during 1988–97, and Nigeria during 1998–2007, failed to converge over the subsequent decade. In some cases, such as Mexico, this could reflect disappointing payoffs from reforms because of pervasive microeconomic distortions that have encouraged informality (Levy 2018). In other cases, it may be that reform gains were negated by adverse events, such as macroeconomic shocks or misguided policies. Examples include the exchange rate overvaluation and the collapse of the currency board in the

early 2000s in Argentina—which also led to a reversal of earlier reforms; the 2016 recession driven by the decline in global oil prices, delayed policy adjustment and oil production disruptions in Nigeria; and the hit from the 1997 Asian crisis in the Philippines, which then recovered quickly and grew rapidly beginning in the early 2000s. Macroeconomic shocks can entail persistent or even permanent income losses (Cerra and Saxena 2008), especially when their impact is amplified by specific macroeconomic and structural vulnerabilities (for example, high public debt mostly denominated in foreign currency, or an unsustainable exchange rate peg). This underscores the importance—and difficulty—of disentangling the effects of reforms from those of other drivers of economic growth, such as macroeconomic shocks and policies.

Mixed experience with past reforms could also reflect a given reform's different effects across countries, depending on their specific characteristics. In particular, reforms may pay off only if strong core institutions are in place (Acemoglu, Johnson, and Robinson 2005). Key among these may be laws and institutions that deliver strong governance; for example, reducing border or behind-the-border barriers to competition may not lead to much new firm entry, innovation, and productivity growth if property rights are not well defined and enforced or incumbent domestic firms continue to benefit from tacit government support. More broadly, given the many market imperfections in most emerging market and developing economies, addressing one may not necessarily help the economy if other market distortions are not remedied (Hausmann, Rodrik, and Velasco 2005). For example, opening up the capital account may trigger fickle and poorly allocated capital inflows if the domestic financial system is insufficiently developed, regulated, and supervised to mediate these inflows safely, and so weakens the benefits from capital flow liberalization. Likewise, raising female labor supply through support for childcare or stronger legal protections against discrimination may not fully translate into formal employment gains if labor market institutions, such as stringent job protection legislation for formal workers, make firms less willing to hire. This points to the need to uncover some of the important factors that may account for cross-country differences in the impact of reforms.

A more practical difficulty in assessing the case for structural reforms is the lack of recent comprehensive data and analysis. Although information on structural policies is up to date for selected areas (for example, governance or the cost of doing business, as assessed in Kaufmann, Kraay, and Mastruzzi 2010 and WB 2019), and for a broader range of areas for a few larger emerging market economies (for example, OECD 2018), comprehensive cross-country time-series information is lacking. Partly reflecting these data limitations, there has also been little recent cross-country evidence regarding the growth impact of past reforms, with some exceptions, including earlier IMF work based on indicators constructed in the late 2000s (Christiansen, Schindler, and Tressel 2013; Prati, Onorato, and Papageorgiou 2013).

To assess the macroeconomic effects of structural reforms, this chapter builds on a new IMF reform data set covering regulations for many emerging market economies and low-income developing countries during 1973–2014 in five areas (Alesina and others, forthcoming): trade (tariffs); domestic finance (credit and interest rate controls, entry barriers, public ownership, quality of supervision in the domestic financial system); external finance (capital account openness, encompassing regulations governing international transactions); labor market regulation (stringency of job protection legislation); and product market regulation (stringency of regulations and public ownership in two large network industries—namely, electricity and telecommunications). These new data are supplemented by the World Governance Indicators (Kaufmann, Kraay, and Mastruzzi 2010).[2] The growth impact of regulatory changes in each of the six areas is then explored through empirical analysis, supplemented by model-based analysis that provides alternative quantification of the impact of reforms and sheds light on the channels through which they affect the economy, including the role of informality. Specifically, the chapter tackles the following questions:

- How has structural reform progress evolved over the past couple of decades? Has the pace of reform slowed in emerging market and developing economies in recent years? What is the remaining scope for reform, and how does it vary across regulatory areas and countries?
- What are the short- to medium-term effects of reforms on economic activity? To what extent could such reforms speed up the convergence of emerging market economies and low-income developing countries to living standards in advanced economies?

[2]While the database covers 90 economies around the world, the analysis in this chapter excludes those classified as advanced economies at the beginning of the sample; as such, it covers the 41 current emerging markets, seven former emerging markets, and 20 low-income developing countries.

- What are the channels through which reforms affect the economy? For example, do reforms affect primarily productivity or employment? How do they affect informality, which is often associated with poor firm productivity?
- When should reforms be implemented? Do they pay off less, or more, in bad times?
- Do the effects of reforms vary across economies, and, if so, why? Are there particular reforms that could magnify the gains from others? More broadly, should reforms be implemented as packages, or should policymakers focus on the most binding constraint(s) to growth and, if so, which one(s)?

In addressing these questions, the chapter reaches the following conclusions:

- After the major liberalization waves of the late 1980s and the 1990s, reform in emerging market and developing economies slowed in the 2000s. Although this reflects in part gradual narrowing of the scope for further deregulation, there is still ample room for a renewed reform push, particularly in low-income developing countries—notably, across sub-Saharan Africa and, to a lesser extent, in the Middle East and North Africa and Asia and Pacific regions.
- Reforms can yield sizable payoffs in the medium term, even though gains vary across different types of regulations. For the average emerging market and developing economy, empirical analysis suggests that major simultaneous reforms across all six areas considered in this chapter could raise output by more than 7 percent over a six-year period. This would increase annual GDP growth by more than 1 percentage point and double the average current speed of income-per-capita convergence to advanced economy levels from about 1 percent to more than 2 percent. Model-based analysis points to output gains about twice as large in the longer term.
- Reducing informality, which helps boost firms' productivity and capital investment, is one important channel through which reforms raise output. Given that reforms facilitate formalization, they tend to pay off more in countries where informality is higher, all else equal to start with.
- However, reforms generally take time to deliver. It typically takes at least three years for significant positive effects on output to materialize, although some reforms—such as product market deregulation—pay off more quickly. Possibly reflecting this delay, the political cost of reform—in the executive power's electoral prospects—is lowest when measures are enacted early in the government's political mandate.
- The timing of reform matters—some reforms are best implemented in good times. In normal times, the reforms studied in this chapter are not found to entail short-term macroeconomic costs. However, when macroeconomic conditions are weak, easing job protection legislation or deregulating domestic finance does not pay off and may even lower employment and output in the short term, possibly because stimulating labor or credit supply fails to elicit much response when the demand for labor or credit is depressed.
- Getting reform packaging and sequencing right can also make a difference. Reforms typically deliver larger gains in countries where governance is stronger. This means that strengthening governance can support economic growth and income convergence, not just directly by incentivizing more productive formal firms to invest and recruit, but also indirectly by magnifying the payoff from reforms in other areas. Therefore, there are advantages to combining trade, financial, labor, and product market reforms with, or implementing them after, concrete actions to improve governance. Such concrete actions include streamlined and transparent public spending and tax administration procedures and stronger protection and enforcement of property and contractual rights, for example. Reforms that incentivize formal firms to grow—such as lower administrative burdens or easier labor regulations—also tend to work better when there is better access to credit, which makes it possible for firms to expand. This underscores the importance of domestic finance liberalization, supported by a strong regulatory and supervisory framework. More broadly, identifying binding constraints on growth and specific reform complementarities is key.

Three other important issues that go beyond the scope of this analysis should be borne in mind when considering, prioritizing, and designing reforms. First, this chapter considers reforms essentially aimed at improving the functioning of (financial, labor, product) markets. It ignores others that seek, instead, to directly facilitate the accumulation of productive factors—physical and human capital and labor. Key reforms in this regard involve improving education and health systems, public infrastructure spending

frameworks, and laws and regulations that obstruct women's participation in the labor force. Second, in the long term, reforms could entail larger gains than found here by (1) enabling economies to be not just more efficient but also more innovative, leading to more persistent effects on economic growth, and (2) enhancing the reforming economies' resilience to, and thereby alleviating permanent output losses from, economic and financial crises (Aiyar and others 2019). Third, policymakers should factor in and implement up-front complementary reforms to mitigate any adverse effects of reforms on income distribution. Absent any redistribution through the tax-benefit system, some of the reforms considered in this chapter might yield highly uneven gains across the population (Fabrizio and others 2017; Furceri, Loungani, and Ostry, forthcoming). Tackling inequality issues is an important policy objective, but it also matters for the ultimate impact of reform on economic growth (Ostry, Berg, and Kothari 2018). The poor have fewer opportunities for education and less financial access and therefore are less likely to reap the benefits of market reform. More fundamentally, reforms whose gains are captured only by a small fraction of society risk losing support and stalling, or being undone, down the road (Alesina and others, forthcoming).

The next section examines reform patterns in emerging market and developing economies over the past four decades. It also identifies remaining scope for reform and existing differences across geographic regions and countries. The subsequent section analyzes the effects of reforms on growth and the channels through which they materialize. After that, the investigation turns to the drivers of differences in the effects of reforms across countries and over time. In particular, it looks at whether the effects of reforms vary depending on business conditions and explores reform complementarities. The final section discusses the main takeaways and policy implications.

## Structural Policy and Reform Patterns in Emerging Market and Developing Economies

This chapter relies on a new IMF database on economic regulations that identifies structural policies and reforms in trade (tariffs), domestic finance (regulation and supervision), external finance (capital account openness), labor market regulation (job protection legislation), and product market regulation (in electricity and telecommunications, two large network industries) in 90 advanced and emerging market and developing economies—of which 48 are current and former emerging markets and 20 are low-income developing countries—during 1973–2014 (see Online Annex 3.1 for details about the indicators and country coverage). The database was compiled through a systematic reading and coding of policy actions documented in various sources, including national laws and regulations as well as in IMF staff reports (for more details see Alesina and others, forthcoming). While the indices capture the stringency of regulations in each area, they need not imply that all such regulations are unwarranted; indeed, whether full deregulation is optimal depends on individual countries' circumstances and the availability of alternative policy tools to meet governments' policy objectives—as discussed in IMF (2012) regarding capital account liberalization, for example. These data on market regulations and reforms are complemented by a composite indicator of the quality of governance (political stability, government effectiveness, strength of rule of law, control of corruption) based on the Worldwide Governance Indicators (WGIs).[3] All indices are normalized to vary continuously between 0 and 1, with 0 indicating the most restrictive regulations in a given policy area and 1 indicating the most unrestricted. For the governance indicator, higher scores denote stronger governance frameworks.

These indicators have several limitations. First, the new IMF data capture de jure regulations. As such, they may not always fully capture de facto changes in intended outcomes—even though indicator scores in domestic finance, external finance, and trade correlate rather well with related outcomes, such as the share of credit in GDP, financial openness, and trade openness (see Online Annex 3.1). Second, indicator scores are comparable across time and countries within each individual policy area, but they are not comparable across different policy areas.[4] Therefore, while useful to study broad reform trends, the overall reform index, constructed as a simple average of the five IMF indicators, should be interpreted with caution. Third, the WGIs

[3]The analysis in the chapter uses a composite governance indicator rather than all its individual components because the latter are highly correlated. Empirical analysis based on each indicator considered in isolation yields qualitatively similar findings.

[4]For instance, if a country has a higher score in the area of domestic finance than in product market regulation, it cannot be concluded that the country has a more liberalized financial than product market.

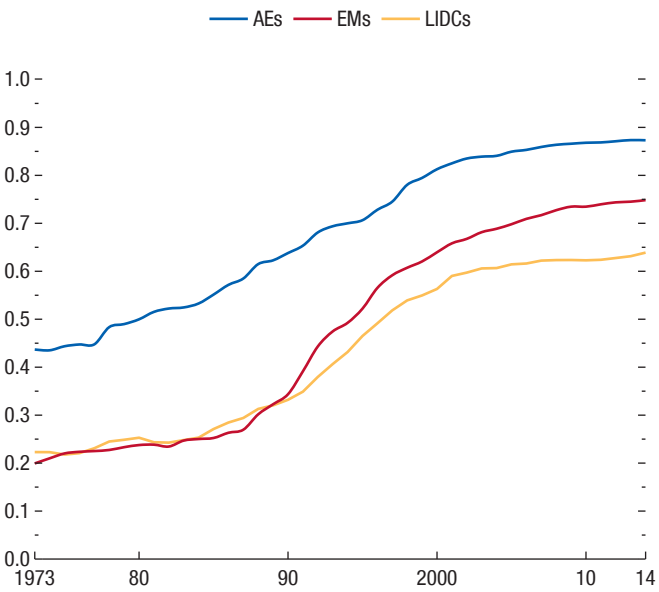
are perception indices summarizing the views of many businesses, citizens, and expert survey respondents on the quality of governance in a country; the quality of underlying data can vary across countries and data sources.[5] Therefore, individual country rankings based on these indicators should be avoided. Fourth, the scope of reforms studied in this chapter is limited to the six areas mentioned earlier, which relate mainly to the functioning of markets. There are, however, several other important reforms that could facilitate the accumulation of capital and labor, such as improving education and health care systems, strengthening public infrastructure spending frameworks, or changing laws and regulations that obstruct women's participation in the labor force. Finally, within each reform area, the scope of regulations covered by the corresponding indicator is also limited. For example, the indicator for product market regulations focuses on two important network industries—that is, electricity and telecommunications—but it does not cover other industries or broader administrative burdens on companies. Likewise, the domestic finance indicator captures regulations in the banking system, but does not cover nonbank financial institutions.

After the major liberalization waves in the late 1980s and—most important—the 1990s, the pace of structural reform slowed in emerging market and developing economies in the late 2000s, especially in low-income developing countries (Figure 3.3). This was the result of some stabilization of policy in (domestic and external) finance, trade, and product markets after the significant deregulation of the previous decades. Deregulation included phasing out of credit and interest rate controls in banking sectors; liberalization of foreign capital inflows and outflows; external tariff reductions, including from multilateral trade liberalization rounds; and reduced entry barriers as well as privatization in network industries (Figure 3.4). In turn, stabilization during the 2000s in part reflects a gradual narrowing of the scope for further reforms, but also waning reform efforts, notably in the sub-Saharan Africa and Middle East and North Africa regions. Labor market regulation differs from other areas: it has been far more stable for the average emerging market and developing economy, without any noticeable deregulation trend since the 1970s—and roughly in line with the experience in advanced economies (Chapter 3 of the April 2016 WEO). This may be because labor market regulations importantly aim to protect workers from the risk of income loss—even though this may be best pursued by shifting from stringent employment protection legislation, which is the dimension considered in this chapter, toward unemployment insurance (Duval and Loungani 2019). Finally, over the past two decades, there has been no noticeable improvement in governance in the average emerging market and developing economy.[6]

[5]WGIs do not reflect the official views of the World Bank and are not used by the World Bank Group to allocate resources.

**Figure 3.3. Overall Reform Trends**
*(Scale, 0–1; higher score indicates greater liberalization)*

Regulatory convergence has stalled in the past decade, especially in low-income developing economies.

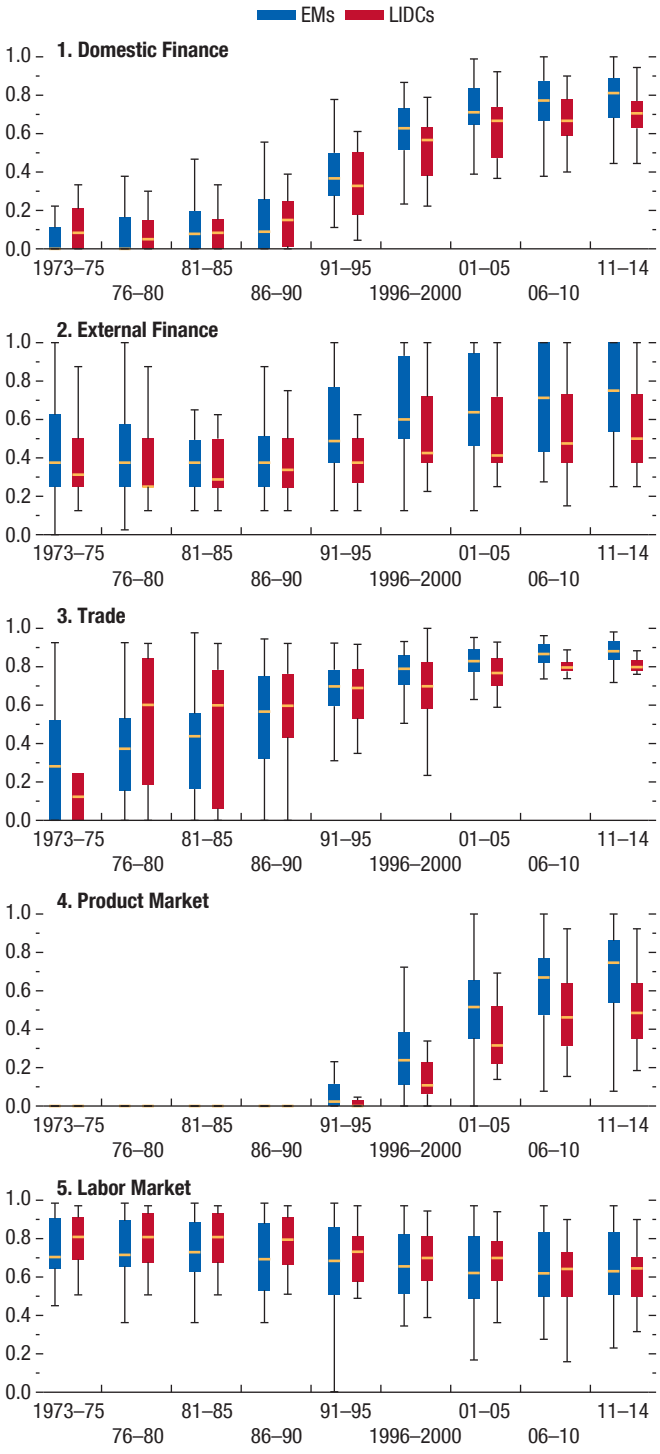



Sources: Alesina and others, forthcoming; and IMF staff calculations.
Note: The average reform index is computed as the arithmetic average of indicators capturing liberalizations in five areas: domestic finance, external finance, trade, product market, and labor market. It excludes the governance indicator due to its lower time coverage. The index ranges from 0 to 1, with higher values denoting greater liberalization. AEs = advanced economies; EMs = emerging markets; LIDCs = low-income developing countries.

[6]Figure 3.4 does not report the evolution of the governance indicator because the WGIs are not comparable across different time periods, given that they are normalized to keep the world average constant over time. However, based on the underlying data sources, there seems to be little evidence of a systematic improvement in governance over time (https://info.worldbank.org/governance/wgi/#home).

**Figure 3.4. Reform Trends, by Area**
*(Scale, 0–1; higher score indicates greater liberalization)*

Reform trends have been heterogenous across areas, with deregulation mostly taking place in trade, finance, and product markets.




Sources: Alesina and others (forthcoming); and IMF staff calculations.
Note: The horizontal line inside each box represents the median; the upper and lower edges of each box show the top and bottom quartiles, respectively; and the top and bottom markers denote the maximum and the minimum, respectively.
EMs = emerging markets; LIDCs = low-income developing countries.

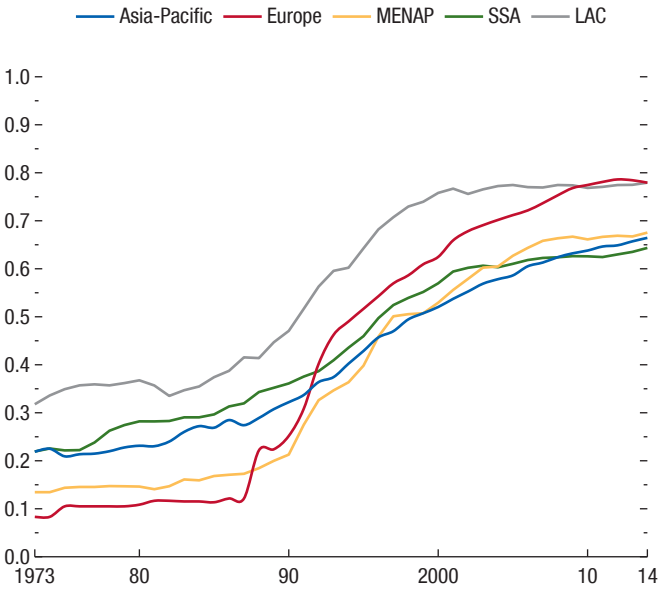
Reforms have been generally more far-reaching in emerging markets than in low-income developing countries over the past few decades. Exceptions include international trade—widespread international trade liberalization has led to tariff convergence toward low levels around the world—and labor laws—there is no evidence of a trend toward labor market deregulation and, in fact, there has even been tightening in recent years. In product markets and in domestic and external finance, regulation was strict for both the average emerging market economy and low-income developing country until the 1990s but, since then, liberalization has sped up, particularly in emerging markets. These average patterns mask considerable heterogeneity, however. Among both emerging markets and low-income developing countries, some economies have undergone far-reaching liberalization while others have maintained stringent restrictions, most strikingly on international capital flows (external finance). For example, since the early 1990s, emerging market economies that have substantially improved their structural indicator scores include, among others, Estonia and Latvia (domestic finance); Peru and Romania (external finance); Chile and Colombia (product markets); China and Egypt (labor markets); and South Africa and Uruguay (international trade). Among low-income countries, examples of major reformers over the same period include Madagascar and Tanzania (domestic finance); Kenya and Uganda (external finance); Nicaragua and Senegal (product markets); Cameroon and Côte d'Ivoire (labor markets); and Bolivia and Ghana (international trade). A few emerging market economies have achieved significant improvements in governance (Albania and Georgia, for example), as have some low-income developing countries (Cameroon and Ethiopia, for example).

Broad differences in reform trends have also been observed across and within regions. Overall, reform efforts have been greater among emerging market and developing economies in Europe and in the Latin America and Caribbean region than across sub-Saharan Africa and, to a lesser extent, the Middle East and North Africa and Asia and Pacific regions (Figure 3.5). The European integration process after the collapse of the Soviet Union played a key role for Europe, while for Latin American emerging market and developing economies the crises of the 1980s and 1990s were contributing factors. Again, there have been wide differences across countries in these reform trends. Within

### Figure 3.5. Overall Reform Trends across Different Geographical Regions

*(Scale, 0–1; higher score indicates greater liberalization)*

Reforms have been, on average, more far-reaching in Europe and the Latin America and the Caribbean region than they have been in the Middle East and North Africa, Asia-Pacific, and sub-Saharan Africa regions.

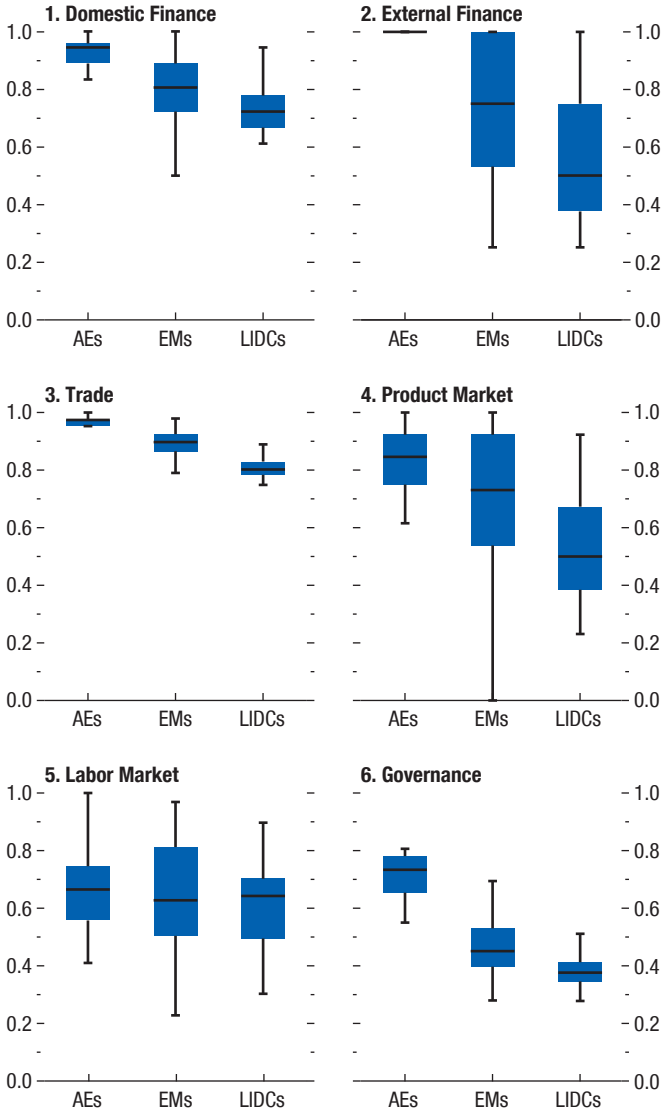



Sources: Alesina and others (forthcoming); and IMF staff calculations.
Note: Each region includes only EMDEs. The average reform index is computed as the arithmetic average of indicators capturing liberalizations in five areas: domestic finance, external finance, trade, product market, and labor market. It excludes the governance indicator due to its lower time coverage.
EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MENAP = Middle East, North Africa, Afghanistan, and Pakistan; SSA = sub-Saharan Africa.

### Figure 3.6. Regulatory Indices, by Country Income Groups

*(Scale, 0–1; higher score indicates greater liberalization)*

There remains ample scope for further reforms in most areas across emerging market and low-income developing economies.




Sources: Alesina and others (forthcoming); and IMF staff calculations.
Note: Bars represent the 2014 value of each index (2013 for the governance index). The horizontal line inside each box represents the median; the upper and lower edges of each box show the top and bottom quartiles, respectively; and the top and bottom markers denote the maximum and the minimum, respectively.
AEs = advanced economies; EMs = emerging markets; LIDCs = low-income developing countries.

each broad geographic region, significant reformers across the five market regulation areas over the past decades have included, among others, China and the Philippines (Asia), Bulgaria and Hungary (Europe), Argentina and Peru (Latin America), Egypt and Jordan (Middle East and North Africa), and South Africa and Uganda (sub-Saharan Africa).

Past reforms have not exhausted the scope for deregulation, which remains sizable in most emerging market and developing economies, and particularly in low-income developing countries. Except for labor market regulation—an area in which many advanced economies also could benefit from employment protection legislation reform (Chapter 3 of the April 2016 WEO)—emerging market and developing economies retain significantly more restrictive market regulations than advanced economies; they also lag on governance (Figure 3.6). Regarding international

trade, over and above cutting remaining tariffs, much room exists for reducing nontariff barriers to trade, which are not captured by the indicator considered here.[7] Overall, the Middle East and North Africa, Asia and the Pacific, and, to a greater extent, sub-Saharan Africa, on average, have the most room for reforms, although there are broad differences across countries within each region (Figure 3.7).

## The Macroeconomic Effects of Reforms in Emerging Market and Developing Economies

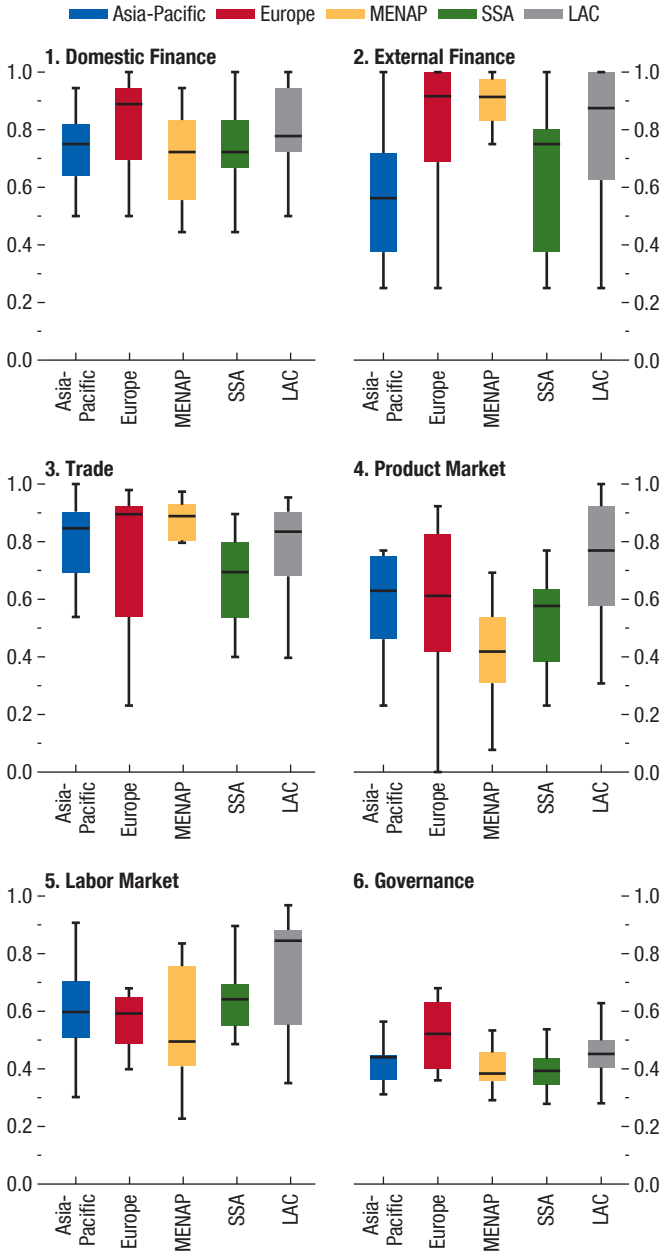
This section quantifies the macroeconomic effects of reforms, focusing on average effects in the average emerging market and developing economy. Three complementary approaches are followed. The first is country time-series empirical analysis of the short- to medium-term response of key macroeconomic outcomes—primarily output, but also investment and employment—to reforms in each of the six areas considered in the chapter. Special care is taken to control for other drivers of output growth that may obscure the actual impact of reforms (omitted variable bias) and to address the impact that expected growth may have on decisions to undertake reform itself (reverse causality).[8] Second, to provide additional insight into

[7]Although they can differ in nature, nontariff barriers to trade tend to be pervasive in both advanced and emerging market economies and in low-income developing countries (see, for example, Ederington and Ruta 2016).

[8]The statistical method follows the approach proposed by Jordà (2005). The baseline specifications control for past economic growth and past reforms, as well as country and time-fixed effects. A possible concern regarding the analysis is that the probability of structural reform is influenced not only by past economic growth and the occurrence of recessions, but also by contemporaneous economic developments and expectations of future growth. However, this is unlikely to be a major issue, given long lags associated with the implementation of structural reforms and that information about future growth is likely to be largely embedded in past economic activity. Most important, controlling for expectations of current and future growth delivers very similar results to, and not different with statistical significance from, those reported in this chapter. Similar results for the medium-term effects are also obtained when controlling for current economic growth. Another possible concern regarding the analysis is that the results may suffer from omitted variable bias, as reforms may occur across different areas at the same time or because they are undertaken within the context of broader macroeconomic stabilization packages. However, including all the reforms simultaneously in the estimated equation, and controlling for macroeconomic policies aimed at reducing inflation and public debt, does not substantially alter the magnitude and statistical significance of the results. See the discussion later in the chapter and in Online Annex 3.2 for details.

**Figure 3.7. Regulatory Indices, by Geographical Regions**
*(Scale, 0–1; higher score indicates greater liberalization)*

The scope for further reforms is largest in the Middle East and North Africa and sub-Saharan Africa regions, although there is also wide cross-country heterogeneity within each geographical region.




Sources: Alesina and others (forthcoming); and IMF staff calculations.
Note: Each region includes only EMDEs. Bars represent the 2014 value of each index (2013 for the governance index). The horizontal line inside each box represents the median; the upper and lower edges of each box show the top and bottom quartiles, respectively; and the top and bottom markers denote the maximum and the minimum, respectively. LAC = Latin America and the Caribbean; MENAP = Middle East, North Africa, Afghanistan, and Pakistan; SSA = sub-Saharan Africa.

the channels through which reforms affect economic activity, and to deal with some of the limitations of the country time-series approach, industry-level empirical analysis is carried out. This analysis exploits the fact that reforms benefit some industries more than others—for example, job protection reform that makes it easier for firms to hire and lay off workers is expected to offer more benefit for industries that typically need high job turnover. The third approach, adopted to analyze the effects of reforms and shed light on transmission channels—the role of informality, in particular—is to use a model that captures key regulations and other features of a "typical" emerging market and developing economy.

## Country-Level Results

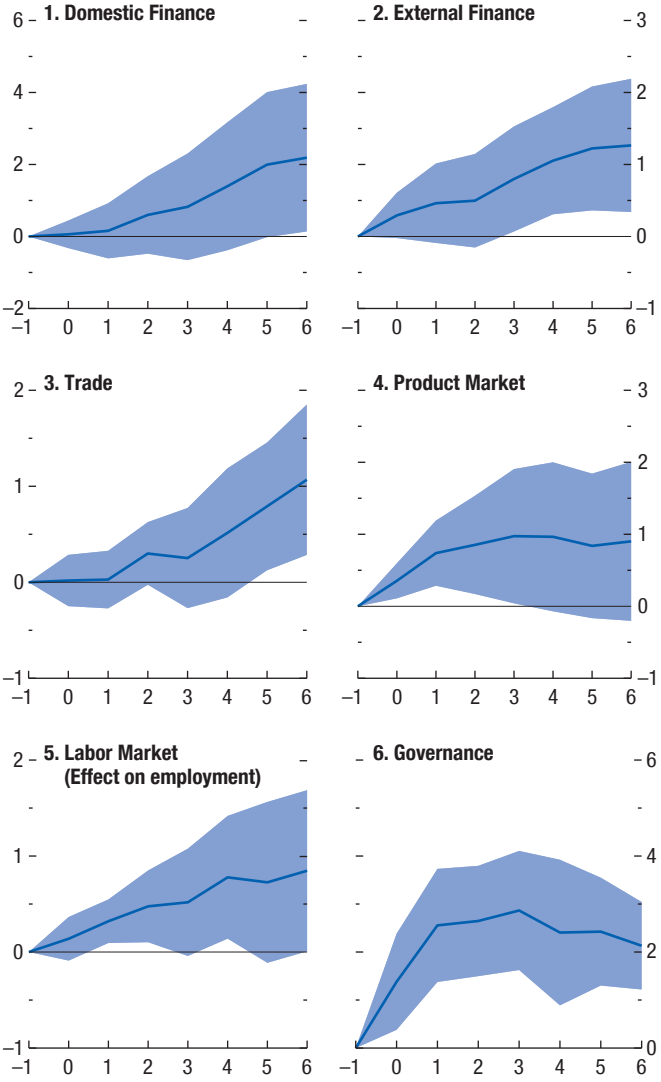
Major historical reforms have had sizable average positive effects on output over the medium term (Figure 3.8).[9] In normal times, the reforms studied in this chapter do not appear to entail short-term macroeconomic costs. However, with some exceptions, such as product market deregulation, which pays off rather quickly, it takes some time—typically at least three years—for reform gains to become economically and statistically significant. In addition, wide confidence bands around point estimates are indicative of significant cross-country differences in the effects of past reforms. Some important aspects of this heterogeneity are explored in the next section.

The quantitative effects vary across historical major reforms:[10]

- For *domestic finance* (Figure 3.8, panel 1), a major liberalization event—for example, a reform of the size that took place in Egypt in 1992—leads to a statistically significant increase in output of about 2 percent on average six years after reform implementation.[11] Estimates suggest that domestic finance liberalization also increases investment and employment, although to a smaller extent. The weak impact on investment is consistent with existing literature that fails to find an unambiguous positive relationship between domestic finance reforms and the quantity of savings and investment (for example, Bandiera and others 2000). In contrast, the main channel at play seems to be that of an improvement in the

**Figure 3.8. Average Effects of Reforms**
*(Percent; effect on output, unless noted otherwise)*

Empirical estimates point to sizable average effects of reforms that materialize only gradually.




Source: IMF staff calculations.
Note: *x*-axes in years; $t = 0$ is the year of the shock. The lines denote the response to a major historical reform (two standard deviations). The shaded areas denote 90 percent confidence bands.

[9]Major historical reforms correspond to those associated with a change in the relevant indicator above two standard deviations of the distribution (of annual changes in the relevant indicator across the whole sample).

[10]As stressed earlier, the magnitudes of historical reforms are not comparable across different policy areas.

[11]The reform in Egypt involved easing bank entry restrictions and improving banking supervision and regulation.

allocative efficiency of financial markets (see, for example, Abiad, Oomes, and Ueda 2008).[12]

- For *external finance* (Figure 3.8, panel 2), a major liberalization—of the type carried out by Romania in 2003, for example—is found to lead to a statistically significant increase in the output level of more than 1 percent six years after the reform.[13] Estimates also suggest that one of the channels underpinning this increase is higher investment. In contrast, external finance reforms do not have a large or statistically significant effect on employment (see, for example, Furceri, Loungani, and Ostry, forthcoming). This implies that the positive output impact of liberalization largely reflects increases in labor productivity.[14]
- For *international trade* (Figure 3.8, panel 3), a large tariff cut—for example, similar to that in Kenya in 1994—is estimated to increase output by an average of about 1 percent six years later. Labor productivity, which rises by about 1.4 percent after six years, is the key transmission channel, in line with extensive literature on the productivity gains from trade liberalization (for example, Ahn and others 2019 and references therein). These aggregate effects on real activity bolster the traditional view against protectionism (Furceri and others 2018).
- In *product markets* (Figure 3.8, panel 4), major deregulation—such as, for example, the adoption of the Law on Regulators of Public Utilities in Latvia in 2001—leads to a statistically significant increase in output of about 1 percent three years after the reform. This is a remarkable effect considering that the analysis is restricted to deregulation in only two key network industries, namely electricity and telecommunications. The gains from broader reforms across a wider range of protected industries would therefore be expected to be larger. Further estimates suggest that product market deregulation increases employment and investment as well as productivity, in the medium term.
- In *labor markets* (Figure 3.8, panel 5), a major easing of job protection legislation—along the lines of the labor code revisions in Kazakhstan in 2000, which facilitated dismissal procedures and lowered severance pay—is found to increase employment by almost 1 percent, on average, in the medium term. Also, investment is positively impacted, possibly reflecting higher (marginal) returns on capital as employment rises and profitability increases. However, the short- to medium-term output and productivity effects of job protection deregulation are not found to be statistically significant at conventional levels (Duval and Furceri 2018 has a similar finding for advanced economies).
- As regards *governance* (Figure 3.8, panel 6), an improvement of a magnitude similar to that achieved by Ghana when it adopted its anti-corruption laws in 2006, for example, increases output by about 2 percent after six years.[15] The main transmission channel is investment (IMF 2018), although the reform also has a (smaller) positive and statistically significant effect on employment and labor productivity.

Summarizing, the results of the empirical analysis suggest that a very ambitious and comprehensive reform agenda involving simultaneous major reforms across all six areas considered—that is, summing up the effects of each individual reform, and abstracting from possible complementarities between them, which are explored in the next section—might raise output in the average emerging market and developing economy by more than 7 percent over a six-year period.[16] This would raise annual GDP growth more than 1 percentage point and double the current speed of income-per-capita convergence to advanced economy levels from about 1 percent to more than 2 percent. An even larger increase in annual GDP growth, exceeding 1.25 and 2 percentage points in the average emerging market economy and low-income developing country, respectively, would be possible under an even more ambitious scenario in

[12]Furthermore, the increase in output is larger than the increase in employment, which implies an increase in labor productivity. At a six-year horizon, the productivity increase amounts to 1.4 percent and the effect is statistically significant.

[13]The reform in Romania included the liberalization of capital movements related to the performance of insurance contracts and other capital flows with significant influence on the real economy, such as lifting restrictions concerning the access of nonresidents to bank deposits.

[14]This is in line with recent cross-country studies finding that financial openness affects growth primarily through higher productivity (Bonfiglioli 2008; Bekaert and others 2011).

[15]The index is computed as the arithmetic average of six WGIs (see Online Annex 3.1 for details).

[16]Summing up the effects of each individual reform implicitly assumes that reforms do not entail major complementarity—which would imply a larger gain from a package than from the sum of each individual reform undertaken in isolation—or substitutability. As discussed in detail in the next section, while not all reforms are complementary, some of them are. As a result, the potential gain from a comprehensive reform package may be even larger than reported here.

which all emerging market and developing economies align their policies in each area with those of the currently most liberalized emerging market economies.

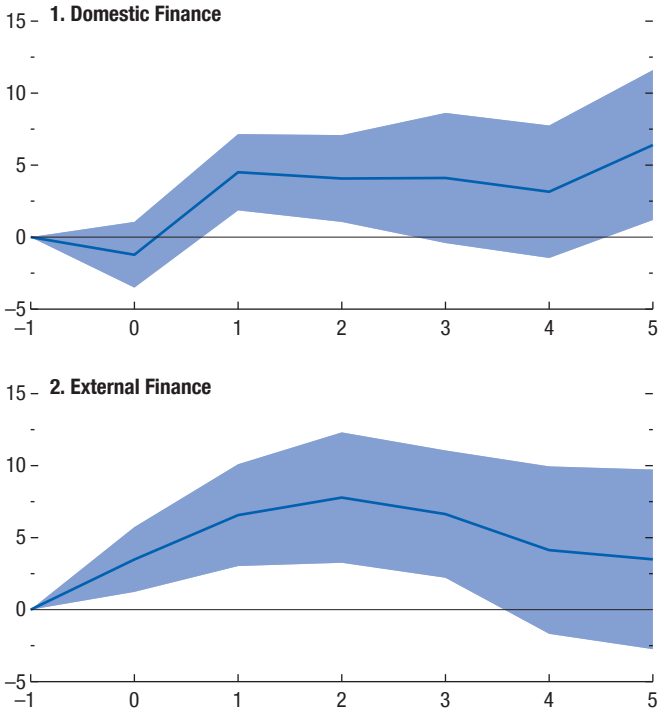
## Sector-Level Results

As a robustness check for the economy-wide results, and to shed further light on transmission channels, country-industry-level analysis explores how reforms affect within-country differences in the response of output between industries.[17] For domestic and external finance, the empirical approach follows the methodology proposed by Rajan and Zingales (1998), which assesses the long-term effect of financial depth on industry growth according to differences in external finance dependence across industries.[18] For labor market reforms, the approach follows Duval, Furceri, and Jalles (2019), which examines the effect of job protection deregulation on industry-level employment in advanced economies depending on differences in "natural" layoff rates across industries—that is, the natural propensity of firms in a given industry to adjust their workforce to idiosyncratic shocks.[19]

The industry-level analysis confirms the findings of the aggregate country-level analysis for domestic and external finance reforms. The difference in medium-term output effects of major domestic finance liberalization between industries with high and low dependence on external finance (at the 75th and 25th percentiles of the cross-industry distribution of external financial dependence) is estimated to be about 6 percentage points (Figure 3.9, panel 1). Comparable results are obtained for external finance reforms (Figure 3.9, panel 2)—even though the magnitude and the precision of the point estimates decline in the medium term. For labor market reforms, the analysis does not find a statistically significant difference, on average, in the impact of deregulation between industries with high turnover and low turnover. However, as discussed in the next section, this insignificant effect masks considerable heterogeneity depending on whether the reform was undertaken in good or bad times.

**Figure 3.9. Industry-Level Effect of Domestic and External Finance Reforms on Output**
*(Percent)*

Financial reforms have stronger effects in industries with greater dependence on external sources of financing.




Source: IMF staff calculations.
Note: *x*-axes in years; $t = 0$ is the year of the shock. The shock represents a major historical reform (two standard deviations); the lines denote the differential impact in percent between the sector at the 75th percentile of the degree of dependence on external finance versus the sector at the 25th percentile; the shaded areas denote 90 percent confidence bands. External finance dependence in each industry is measured as the median across all US firms, in each industry, of the ratio of total capital expenditures minus the current cash flow to total capital expenditure.

[17]The analysis focuses on the manufacturing sector and explores the differential effects of reforms across different industries using an unbalanced panel of 19 manufacturing industries at the 2-digit level in 66 emerging market and developing economies from 1973 to 2014. Like the country-level analysis, the industry-level analysis also relies on the local projection method, but reforms are identified at the industry level by interacting the (country-level) reform variable with relevant industry-specific characteristics that capture each industry's exposure to reform. The main advantage of this approach is that it is less prone to endogeneity concerns and thereby to enhance the causal interpretation of the chapter's findings (see Online Annex 3.2 for technical details).

[18]Following Rajan and Zingales (1998), the degree of dependence on external finance in each industry is measured as the median across all US firms, in each industry, of the ratio of total capital expenditures minus current cash flows to total capital expenditures.

[19]The measure of "natural" industry-specific layoff rates is the ratio of the number of workers dismissed for business reasons to total employment in the United States, following the methodology proposed by Micco and Pagés (2006) and Bassanini, Nunziata, and Venn (2009). Data on laid-off workers and employed individuals come from the US Current Population Survey covering 2003–07. Because of the quasi absence of employment protection legislation, the United States provides the closest empirical example of a frictionless labor market and, as a result, its industries can be seen as exhibiting "natural" layoff rates.

## Model-Based Results

The empirical estimates are complemented by use of a structural general equilibrium model that brings three key benefits for assessments of reform impacts.[20] First, it allows for quantification of reform gains over a longer horizon than considered in the empirical analysis—the medium to long term, once the effects of reforms on the economy fully play out. Second, while the effects of historical reforms may have varied, depending on the quality of their implementation and other prevailing circumstances that might not be fully controlled for in the empirical setup, model-based analysis is, by design, free of such limitations. Third, it sheds light on the transmission channels of reforms. This is because the model captures several key features of many emerging market and developing economies—their large informal sectors (La Porta and Shleifer 2008, 2014), financial constraints on firm growth (Midrigan and Xu 2014), large sunk costs of registering in the formal sector (Djankov and others 2002), employment protection laws that raise formal sector labor costs (Alesina and others, forthcoming), and weak governance that acts as a tax on the output of formal sector firms (Mauro 1995; IMF 2018).[21] Another important model feature is that the formal sector is both more capital intensive and more productive than the informal sector, and only firms in the formal sector have access to external finance (La Porta and Shleifer 2008, 2014).

The model-based analysis points to three key channels through which reforms can increase output: they facilitate entry from the informal sector to the formal sector, incentivize formal firms to invest and grow, and can reduce misallocation of resources between formal firms.[22] In particular, product market and financial market reforms make it easier for informal firms to enter the formal sector—the former by reducing entry costs and the latter by enabling firms to finance such costs. Formalization, in turn, leads to capital deepening, higher aggregate productivity, and increased output.[23] Improving governance or easing job protection legislation increases the profitability of formal sector firms directly; this encourages them to grow, increasing investment and reallocating resources from the less productive informal sector. Domestic finance reforms have qualitatively similar effects, given that they relax credit constraints on formal sector firms and so enable them to grow rapidly to their optimal size.[24]

The reforms are found to yield larger—twice as large, on average—output gains in the long term than those estimated in the empirical analysis for the medium term (Figure 3.10).[25] Two key factors help explain the higher long-term gains predicted by the model. First, firm formalization and capital accumulation typically take place over a longer horizon than is considered in the empirical analysis. Second, the model represents an ideal reform scenario, while average empirical estimates also reflect cases of imperfect reform implementation. These effects are those for an average emerging market and developing economy, given that the model is calibrated to match a large set of average microeconomic and macroeconomic characteristics across a large sample of emerging market and developing economies.

[20]The model is an extension of Midrigan and Xu (2014). Online Annex 3.3 provides a technical description of the model.

[21]It is important to note that data limitations mean that the costs of governance are simply modeled as a fraction of formal sector output that is lost (potentially due to corruption and weak rule of law). The model therefore abstracts from many other channels through which governance can affect GDP, including through informal firms (see Online Annex 3.3 for further discussion).

[22]The model is calibrated to account for the distortions created by regulations studied in the empirical analysis, such as productivity differentials between sectors and financial market distortions, based on the observed values of key variables such as the private sector debt-to-GDP ratio and the share of employment in the informal sector, across a large set of emerging market and developing economies between 2013 and 2018. The size of reforms considered in the analysis is designed to be as comparable as possible to the size of reforms presented in the empirical analysis. The results are qualitatively robust to, and quantitatively stable across, alternative calibrations (see Online Annex 3.3 for further details).

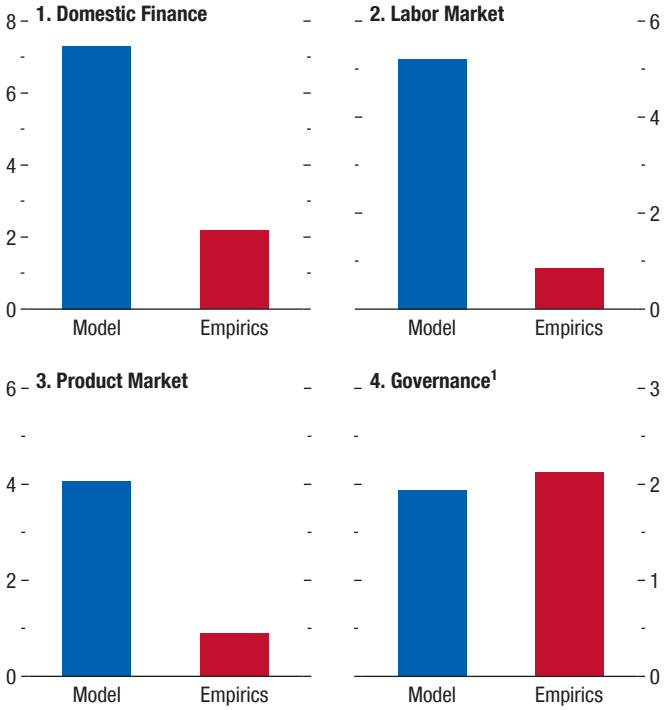
[23]The productivity gain from doing business in the formal sector is consistent with the large gap in value added per worker between informal and formal firms reported in La Porta and Shleifer (2008, 2014). Drivers of this gap may include, among others, better access to intermediate inputs (Amiti and Konings 2007), access to export markets (De Loecker 2007), and higher-skilled workers (Ulyssea 2018). Aggregate capital deepening follows from the formal sector's greater access to credit markets and capital intensity. Martin, Nataraj, and Harrison (2017) finds that product market deregulation in India between 2000 and 2007 led to increases in district-level capital, as well as in output and employment.

[24]By contrast, resource misallocation across formal firms does not constitute an important source of output gains from these reforms in the model, compared with the gains from formalization and increased investment. This is partly because restricted access to credit is the only regulation that affects different formal firms differently—and therefore the only one that generates misallocation—in this version of the model (see Online Annex 3.3 for details).

[25]Reforms simulated with the model are designed to be comparable in magnitude to those considered in the empirical section (see Online Annex 3.3 for details). These are large reforms in practice; for example, the size of the domestic finance reform considered in Figure 3.10 would enable Mexican firms to increase their leverage, raising the corporate sector debt-to-GDP ratio to the level observed in Poland.

**Figure 3.10. Output Gains from Major Historical Reforms: Model-Based versus Empirical Estimates**
*(Percent of GDP)*

Model-based analysis generally predicts larger output gains in the long term than those found in the empirical analysis for the medium term.




Source: IMF staff calculations.
Note: Bars represent the percent increase in aggregate output from a reduction in the corresponding friction at the benchmark calibration. The size of the reforms is designed to be in line with a major reform in the reform indices ($\Delta$ *Reform:* $\Delta$ *Targeted Moment* = $(2\sigma_{\Delta \text{Reform Index}}/\sigma_{\text{Reform Index}}) \cdot \sigma_{\text{Targeted Moment}}$). For example, in the case of domestic finance reform, the parameter representing the financial friction is changed such that the credit-to-GDP ratio shifts across the distribution (of the credit-to-GDP ratios across countries) the same way the domestic finance regulation indicator does across the distribution (of this indicator across countries) after a major reform in the empirical analysis.
[1]"Governance" is modeled as a reduction in an implicit tax on formal firms' revenue. While conventional, this modeling choice ignores other potential gains from strengthening governance, such as lower costs of doing business in the informal sector, lower operational uncertainty, and reduced misallocation across firms in the formal sector—to the extent that these might suffer to different degrees from poor governance.

## Accounting for Differences across Countries

While past reforms have delivered sizable average gains, wide confidence intervals around these estimated impacts point to substantial differences across countries. So do the mixed experiences of past reformers, even within given regions. For example, reforms in Latin American economies during the 1980s and 1990s were followed by growth spurts in some cases (such as Chile), but not in others (such as Argentina or Mexico). Likewise, while most reforming countries in central and eastern Europe converged fast to advanced economies' living standards after the collapse of the Soviet Union in the early 1990s, most reforming economies of the Commonwealth of Independent States did not.

This section investigates some of the drivers of that heterogeneity by asking the following question: Which country characteristics tend to be associated with larger gains from reforms? In doing so, it highlights the influence of business conditions at the time of reform and—focusing more on longer-term effects—the importance of informality and interactions across reform areas.[26]

### Role of Business Conditions

Prevailing business conditions may affect an economy's short- to medium-term response to reforms in certain areas. For example, liberalizing credit supply may not elicit much credit and output growth when demand for credit is weak, as would be the case in a depressed economy. Likewise, easing job protection legislation in a recession may not induce firms to recruit but, instead, incentivize them to lay off workers, so further reducing aggregate employment and output in the short term (Cacciatore and others 2016). The role of business conditions is explored empirically using state-dependent regressions in which the state of the economy at the time of reform is captured by a smooth-transition function of the GDP growth rate (Auerbach and Gorodnichenko 2012) or, alternatively, by a dummy variable for crisis.[27]

Although the effects of most reforms do not appear to differ significantly, whether passed in good or bad times, domestic finance liberalization appears to pay off far more when implemented in an expansionary

[26]Another open question is whether reform priorities should differ according to the level of development, including between emerging market economies and low-income developing countries. While there is generally a strong case for tailoring reform priorities along these lines, no evidence could be found that the effects of reforms considered in this chapter vary systematically depending on the level of income per capita or across country income groups. Likewise, a comprehensive analysis of interactions across reforms, performed by conditioning the impact of reform in one area on the regulatory stance in other areas, did not provide systematic evidence of complementarity (or substitutability) between reforms. One exception is the importance of strong governance for other reforms' payoffs, which is discussed below.
[27]For technical details, see Online Annex 3.2.

phase of the business cycle (Figure 3.11, panels 1 and 2). Under very strong business conditions, the estimated impact of reform on output is found to be three times larger than it would be in normal times, consistent with a stronger response of credit demand to credit supply deregulation during an economic boom. By contrast, point estimates suggest that financial liberalization can be contractionary if passed when economic conditions are weak, although this negative effect is not statistically distinguishable from zero. One interpretation of this result is that increasing competition in the financial sector at a time of weak credit demand may push certain financial intermediaries out of business, further weakening the economy.

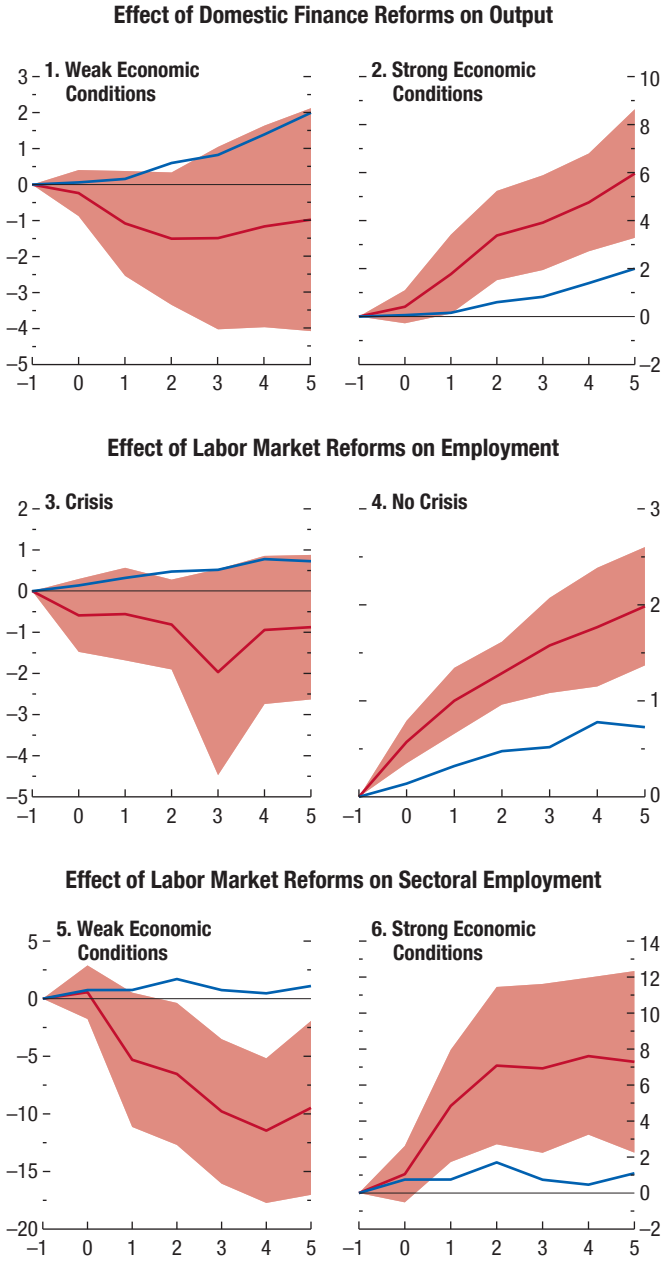
Likewise, job protection deregulation appears to deliver short-term gains in good times, but not in bad times (Figure 3.11, panels 3 and 4). This is in line with previous IMF evidence for advanced economies (Duval and Furceri 2018; Duval, Furceri, and Jalles 2019) and reflects the fact that when it is easier to hire and fire workers, firms tend to increase primarily hires when they face strong demand for their goods and services—while they tend to increase primarily layoffs when facing weak demand. Job protection deregulation, when implemented during strong economic conditions, is estimated to raise employment three times as much as when enacted in normal times. If undertaken during a financial crisis, it may even be contractionary, although the estimated negative effect is not statistically distinguishable from zero. Industry-level results are consistent with these country-level estimates (Figure 3.11, panels 5 and 6). When the labor market is liberalized in good times, employment rises significantly in industries with high natural layoff rates—that is, those where stringent job protection legislation is likely to be more binding—relative to those with low layoff rates. The reverse holds when the reform is implemented during bad times: employment in industries with high layoff rates falls more than in industries with low layoff rates. These results suggest that accompanying macroeconomic policies that boost aggregate demand could magnify the effects of certain structural reforms.[28]

[28]For example, further analysis not reported here suggests that labor market reforms are more effective at raising output when implemented together with expansionary fiscal policy. This is in line with previous IMF analysis for advanced economies (Chapter 3 of the April 2016 WEO; Duval, Furceri, and Jalles 2019).

## Figure 3.11. Effects of Reforms: The Role of Macroeconomic Conditions

*(Percent)*

Some reforms do not pay off when undertaken in bad times.




Source: IMF staff calculations.
Note: *x*-axes in years; $t = 0$ is the year of the shock. Red lines denote the percent response to a major historical reform (two standard deviations). Shaded areas denote 90 percent confidence bands. Blue lines represent the unconditional result.

## Role of Informality

The role of individual country characteristics for the impact of reform is investigated using both empirical and model-based analyses. On the empirical side, the chapter uses a flexible approach to explore sources of parameter heterogeneity across units (countries): the Bayesian hierarchical empirical model along the lines of Boz, Gopinath, and Plagborg-Møller (2017). This method makes it possible to estimate flexibly the country-specific impact of each reform conditional on observed individual country characteristics such as the weight of the informal sector in the economy (see Online Annex 3.2 for technical details).[29] On the model side, the impact of a given reform is simulated under alternative sets of regulations and characteristics, such as under low versus high barriers to entry in the formal sector—that is, under high versus low informality.[30]

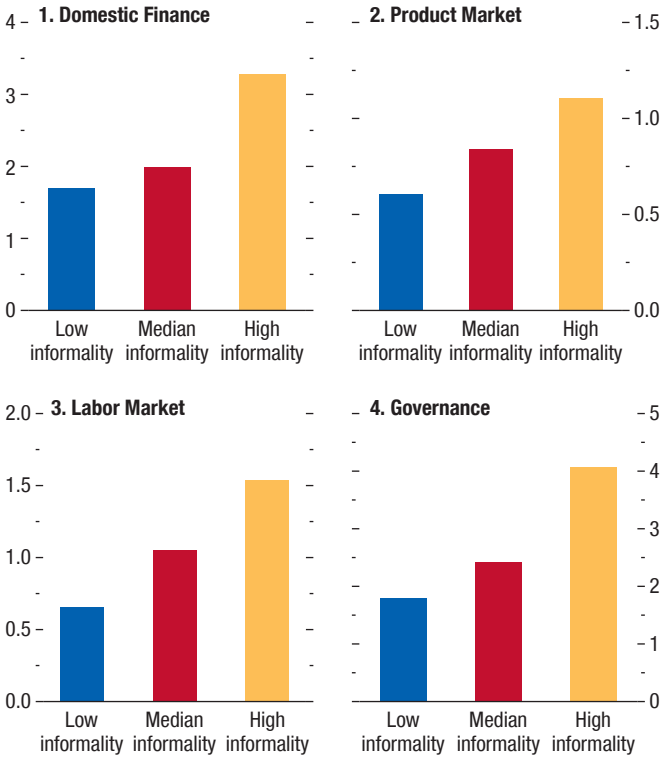
Among the many possible country characteristics that could shape the impact of reforms, informality appears particularly important. Empirical findings suggest that, in most areas (domestic finance, product and labor market regulations, governance), reforms have larger effects when informality is high (Figure 3.12, panels 1–4). At a five-year horizon, the gain from reform is typically twice as large in a country with a high degree of informality (at the 75th percentile of the cross-country distribution of informality rates) as in a country with low informality (at the 25th percentile of the distribution). Model-based analysis also points to larger reform gains in an economy with a higher initial level of informality (such as India) than in one with lower informality (such as South Africa or Panama), as shown in Figure 3.13.

Reforms tend to pay off more when informality is higher because one of the effects of reforms is precisely to reduce informality, which in turn benefits the economy. This channel is generally more powerful when informality is high to start with. For example, cutting barriers to entry in the formal sector, or explicit (labor) and implicit (corruption) taxes on formal firms, induces some informal firms to become formal. In turn, formalization boosts output by increasing productivity and capital accumulation; for example, becoming formal can help firms invest by enhancing their access to credit and improve their productivity by giving them access to better intermediate inputs or export markets. Empirical analysis confirms that this formalization channel is important. Applying the local projection method to study the impact on informality of a change in the average regulation indicator (across the areas studied in this chapter) suggests

### Figure 3.12. Effects of Reforms on Output: The Role of Informality

*(Percent)*

Gains from past reforms have been larger in economies with higher informality.




Source: IMF staff calculations.
Note: Bars denote the five-year-ahead output response to a major historical reform (two standard deviations). Low (high) informality refers to a level of informality equal to the 25th (75th) percentile of the distribution of the informality index.

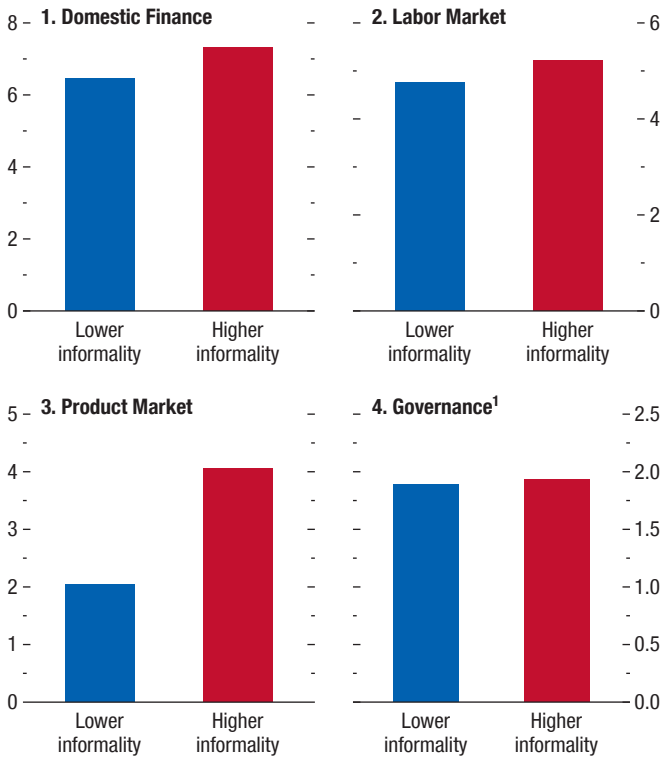
[29]The main advantage of this approach over the more conventional use of multiplicative interactions is that it does not impose any functional form on the interaction between the country characteristic of interest (for example, the level of informality) and the reform coefficient, but instead uses a nonparametric specification for the distribution of the coefficient conditional on the country characteristic.

[30]In the model, the size of the informal sector is determined by all the structural features of the economy, including regulations. Here, the lower-informality economy is one in which entry costs into the formal sector are lower than in the baseline case—they are set equal to the 25th percentile of the cross-country distribution of entry costs. The higher-informality economy is the baseline economy.

## Figure 3.13. Model-Implied Gains from Reforms: The Role of Informality

*(Percent)*

Model simulations imply that economies with larger informal sectors benefit somewhat more from reforms.

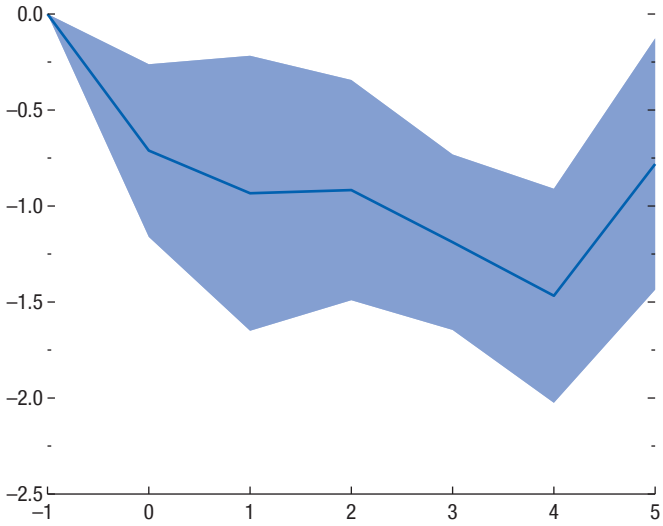



Source: IMF staff calculations.
Note: Bars represent the percent increase in aggregate output from a reduction in the corresponding friction at either the lower informality or higher informality benchmark calibration. The higher informality calibration is the benchmark calibration for the median economy. The lower informality calibration is constructed by reducing the entry regulation friction to its 25th percentile in the data. The size of the reforms is designed to be in line with a two-standard-deviation change in the reform indices.
[1]"Governance" is modeled as a reduction in an implicit tax on formal firms' revenue. While conventional, this modeling choice ignores other potential gains from strengthening governance, such as lower costs of doing business in the informal sector, lower operational uncertainty, and reduced misallocation across firms in the formal sector—to the extent that these might suffer to different degrees from poor governance.

## Figure 3.14. Effect of Reforms on Informality

*(Percent)*

A major reform across the areas covered in the empirical analysis is associated with a subsequent reduction in informality.



Source: IMF staff calculations.
Note: *x*-axis in years; $t = 0$ is the year of the shock. The lines denote the response of the informality indicator to an average reform of size two standard deviations. The shaded areas denote 90 percent confidence bands.

that a major broad-based reform is associated with a statistically significant decrease in informality of about 1 percentage point at a five-year horizon (Figure 3.14). This is consistent with evidence reported in microeconomic studies.[31]

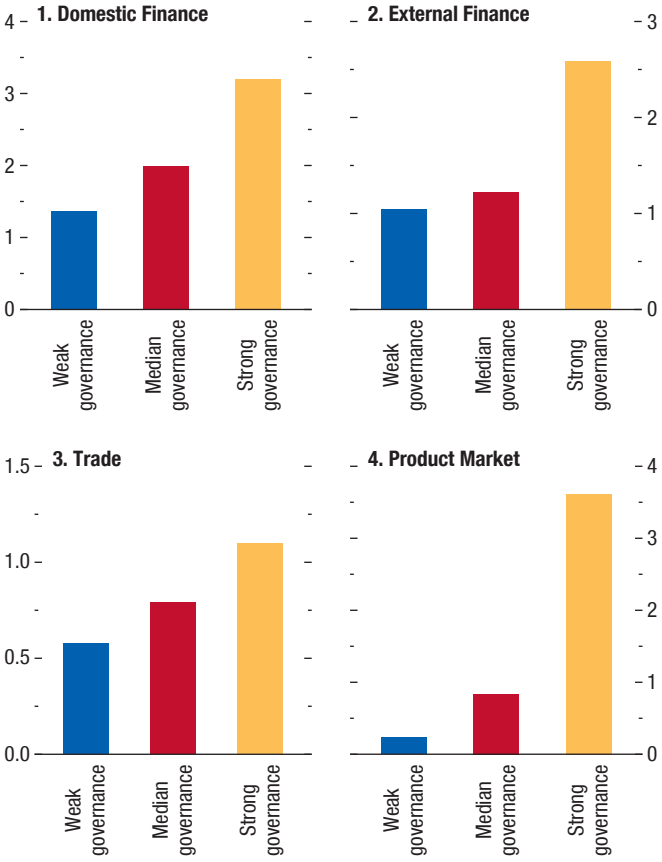
[31]See McCaig and Pavcnik (2018) for the effects of liberalizations in Vietnam; Martin, Nataraj, and Harrison (2017) for the same in India; and Paz (2014) for the same in Brazil. Benhassine and others (2018) provides experimental evidence on the impact of formalization reforms in Benin. Kaplan, Piedra, and Seira (2011) and Bruhn (2011) study the impact of deregulation on firms' market entry in Mexico. However, Mexico's experience highlights the variation in the response of informality across reform areas and its dependence on reform design. Despite major macroeconomic reforms during the 1990s, informality has since risen considerably (Levy 2018), coinciding with slow productivity growth. Levy (2008) argues that this increase in informality resulted from the introduction of new policies (such as changes in the relative benefits provided by contributory and noncontributory social insurance programs, among others) in the early 2000s that disincentivized firms and workers to formalize.

### Reform Complementarities

Reforms do not always entail complementarity (or substitutability), in the sense that a package combining multiple reforms does not necessarily yield a larger (or smaller) gain than the sum of the effects of each reform taken in isolation. This is confirmed by rather inconclusive empirical analysis (using the Bayesian procedure mentioned earlier) of whether countries reaped larger gains from a given reform when they had already deregulated other areas; in general, reforms are not found to have widely different effects across different countries with different regulations. Model analysis confirms that reforms need not always be complementary, and it also explains why. For example, as reforms

**Figure 3.15. Effects of Reforms on Output: The Role of Governance**
*(Percent)*

Stronger governance magnifies the impact of reforms.




Sources: IMF reform data set; and IMF staff calculations.
Note: Bars denote the five-year-ahead output response to a major historical reform (two standard deviations). Weak (strong) governance refers to a level of governance equal to the 25th (75th) percentile of the distribution of the governance index.

are implemented, informality falls, reducing the scope for further declines in informality and thereby dampening potential gains from other reforms.

However, policymakers can exploit specific reform complementarities, notably by prioritizing improvements in governance. This may in part help explain the success in income convergence of some eastern European countries, such as Estonia, Latvia, and Romania, that joined the European Union and have carried out major reforms alongside improvements in governance since the 1990s. Bearing in mind the limitations of governance indicators mentioned above, the empirical analysis indicates that the impact of past reforms was most often larger in countries where the quality of governance was higher, while reforms yielded considerably smaller gains where governance was weaker (Figure 3.15, panel 4). The quality of governance matters particularly for the impact of product market deregulation; such reforms failed to pay off where governance was poor, but delivered larger gains where governance was strong. This is consistent with the view that reduced entry barriers in product markets foster new firm entry and push incumbent firms to be more efficient and innovative only if all firms are treated equally, which is easier to achieve when the rule of law is strong and property rights are strictly enforced. By the same token, strong governance can magnify the gains from other pro-competition reforms in finance or international trade.

Complementarities also exist between reforms that incentivize firms to grow and reforms that enable them to do so. Key among the growth-enabling reforms is domestic finance liberalization, which, by improving access to credit, can magnify the gains from reforms in other areas. As an illustration, model-based analysis highlights the complementarity between reforms that liberalize labor markets and financial markets simultaneously—as, for example, Bolivia did in 1985.[32] Labor market reform improves the profitability of the formal sector, inducing formal firms to expand and informal ones to formalize. Given that entrepreneurs need to finance their entry into the formal sector and their capital investment, improving access to credit through liberalization of domestic finance—alongside strengthened financial sector supervision[33]—amplifies the investment and output effects of labor market reform (Figure 3.16).[34]

## Summary and Policy Implications

Key findings of this chapter make a strong case for a renewed structural reform push in emerging market and developing economies for two main reasons. First, even after the major liberalization wave of the 1990s, much scope generally remains for further reforms in

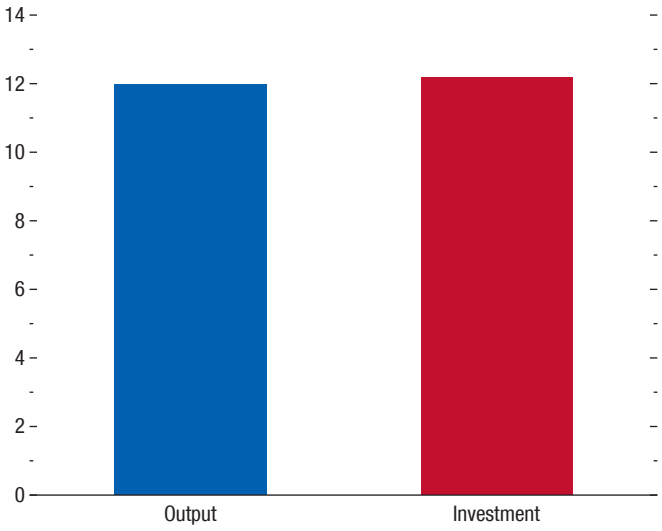
[32]In 1985 Bolivia removed directed credit by the government and liberalized interest rate controls. In addition, Supreme Decrees 7072, 9190, and 17610 were repealed, reestablishing the right of employers to dismiss workers according to previously existing provisions.

[33]While not captured by the model used here, sound supervision is key to alleviating risks of a buildup in financial sector vulnerabilities following domestic finance liberalization (Johnston and Sundararajan 1999).

[34]See Online Annex 3.3 for further technical details.

**Figure 3.16. Gain from Packaging Domestic Finance and Labor Market Reforms**
*(Additional percent gain from packaging reforms)*

Packaging labor market reform with domestic finance deregulation entails complementarities and amplifies aggregate output gains.




Source: IMF staff calculations.
Note: Bars represent the difference between the impact from a package combining both reforms and the sum of the impacts from each reform in isolation, in percent.

the areas covered in this chapter: domestic and external finance, international trade, labor and product market regulations, and governance. This holds true particularly for low-income developing countries—notably across sub-Saharan Africa and, to a lesser extent, in the Middle East and North Africa and Asia and Pacific regions. Second, the reforms studied in this chapter are not found to entail short-term macroeconomic costs—except for some of them when implemented in bad times—and they can yield sizable output and employment gains in the medium to long term: for a typical emerging market and developing economy, major simultaneous reforms across the areas listed above could raise annual economic growth by about 1 percentage point over five to 10 years, doubling the current speed of income-per-capita convergence to advanced economy levels over the next decade. In countries where informality is comparatively high, reform gains could be even larger, all else equal. In addition, these estimates do not factor in further potential gains from other growth-oriented policies not covered in this chapter, such as improving education and health care systems, public infrastructure spending frameworks, and laws and regulations that impede women's labor force participation.

At the same time, reform in one area has different effects across economies, depending on their existing regulations in other areas and prevailing business conditions at the time of reform. This suggests that getting reform packaging, sequencing, and prioritizing right is key to maximizing payoffs. Concrete actions to improve governance and facilitate access to credit by firms are often an important step to remove binding constraints on growth and amplify reform gains. In countries where economic conditions are weak, priority should also be given to reforms—such as cutting barriers to international trade or firm entry in domestic nonmanufacturing industries—whose gains do not depend on prevailing economic conditions. Reforms, such as easing job protection legislation and deregulating the domestic financial sector, that do not pay off in bad times, would be best enacted with a credible provision that they will take effect later, when economic conditions are stronger. If it is not possible to delay when they take effect (for labor market reforms), reforms can be grandfathered—that is, new rules would apply only to new beneficiaries—although this comes at the cost of delaying the full gains from reform. In addition, job protection deregulation should be accompanied by some strengthening of social safety nets (Duval and Loungani 2019). In countries with credible medium-term fiscal frameworks and available fiscal space, countercyclical fiscal policy could also alleviate short-term costs of reforms.

Reform strategies should also internalize political economy considerations. Even if reforms deliver a net gain for society as a whole, they often produce hard-to-perceive gains that are spread broadly across the population, while losses are more visible and concentrated on small but sometimes powerful population groups (Olson 1971). Experience with past reforms highlights the need for careful design and prioritization, ownership, good communication, and transparency to ensure broad-based support.

There are also three more specific lessons from the past. First, given that reforms take time to deliver, government should act swiftly following an electoral victory to implement them during their political "honeymoon" period. This strategy will mitigate potential political costs (Box 3.1). Second, reforms are best implemented when economic conditions are

favorable—that is, governments should "fix the roof while the sun is shining." In bad times, because voters are often unable to disentangle the effect of reform from that of poor economic conditions, reforms tend to be electorally costly. During recessions, macroeconomic policy support—where feasible—may reduce the political costs of reform. Third, policymakers should factor in, and implement up-front, complementary reforms to mitigate any adverse effects of reforms on income distribution. Strong social safety nets and active labor market programs that help workers move across jobs can help in this regard, given that reforms often lead simultaneously to new job creation and destruction. Reforms whose gains are captured only by a small fraction of society risk losing support and could stall, or be undone, down the road.

## Box 3.1. The Political Effects of Structural Reforms

While the evidence presented in this chapter speaks strongly in favor of the economic benefits of structural reforms, their political benefits are much less clear, which has long been perceived as an obstacle to reform. One problem is that even if reforms deliver a net gain for society as whole, they often produce hard-to-perceive gains spread broadly across the population, and more visible losses that are concentrated on small but sometimes powerful population groups (Olson 1971). For example, cutting barriers to entry in a network industry—such as electricity or telecommunications, both of which are considered in this chapter—typically yields diffuse gains to consumers in the form of lower prices or better products, while incumbent firms and workers may lose much from the entry of new competitors and reduced profits. In these circumstances, politicians may hold back on reforms for fear they will be penalized at the ballot box by vocal losers from reform.

This box examines empirically whether fears of a political cost of reform are supported by historical experience. Specifically, it asks whether structural reforms lead to electoral losses or gains, and whether the timing of reform in the electoral cycle and the state of the economy matter for subsequent electoral outcomes.

To examine these issues, the analysis maps a new data set on electoral outcomes with the new reform data set presented in the chapter and estimates the effect of reforms on the change in the vote share of the incumbent party or coalition in the following election.[1] This dependent variable is especially useful in assessing the magnitude of electoral penalties or gains from reforms. A leader of the executive might remain in office, but with a much-reduced majority, or might be forced into a coalition government.

The key independent variable used in the analysis is the unweighted average of all the reform indices.[2]

The results of the analysis suggest that reforms entail electoral costs only when implemented in the year before an election; in this case, a major broad-based reform (defined in the rest of the chapter as a major change across all regulatory areas simultaneously) is associated with a decrease in the vote share of the coalition of about 3 percentage points. This effect is economically significant and is roughly equivalent to a 17 percentage point reduction in the likelihood of the incumbent leader of the coalition being reelected (Figure 3.1.1). In contrast, reforms earlier in an incumbent's term do not appear to affect election prospects. These results are suggestive of myopic behavior of the electorate and are also consistent with empirical evidence in this chapter that the economic gains from reforms take time to materialize.

These average results mask considerable differences across reformers, depending on whether measures were implemented in good or bad times (Figure 3.1.2). Reforms are not found to entail political costs when undertaken under strong economic conditions, but they tend to be politically costly when enacted in periods of weak economic activity, possibly because they lead to larger distributional costs (Alesina and others, forthcoming) and voters fail to disentangle the effects of reform from those of poor economic conditions. Because reforms have been predominantly undertaken under weak economic conditions (Box 3.2), their average impact on the vote share is also estimated to be negative (Figure 3.1.2).

These results hint at two ways reform strategies can helpfully internalize political-economy considerations and maximize chances of political success. First, because reforms take time to deliver, governments should act swiftly following an electoral victory to implement reforms during their political "honeymoon" period. Second, reforms are best implemented when economies are performing well.

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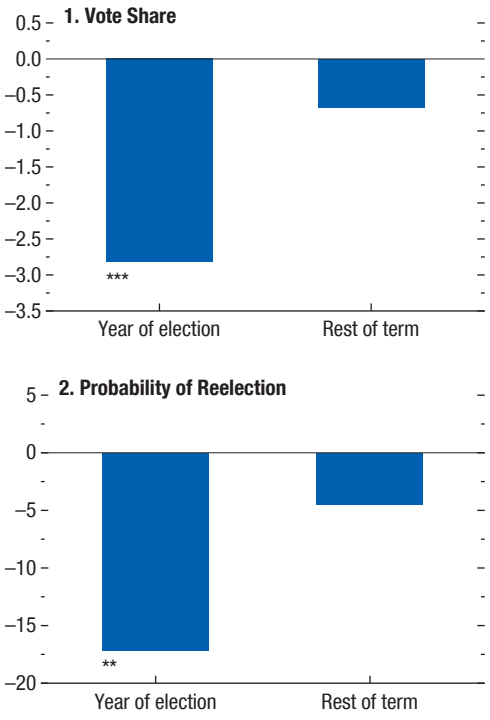
This box was prepared by Davide Furceri and largely draws from Ciminelli and others (forthcoming) and Alesina and others (forthcoming).

[1]The electoral database in this study covers an unbalanced sample of democratic elections from 1973 (or the first year in which the country is characterized as a democratic regime) to 2014 for 66 advanced and developing economies.

[2]See Alesina and others (forthcoming) for additional details, including estimates for each individual reform indicator separately. The baseline specification includes the following set of control variables: (1) average GDP growth during the electoral term, (2) a developed country dummy (taking value 1 for continuous Organisation for Economic Co-operation and Development membership since 1963 and 0 otherwise), (3) a dummy variable for new democracies (taking value 1 for the first four elections after a year in which the country considered gets a negative Polity score on the –10 to 10 scale and 0 otherwise), (4) a dummy variable for a majoritarian political system (taking value 1 for countries with an electoral system that awards seats in winner-takes-all fashion in geographically based districts according to the Database of Political Institutions and 0 otherwise), (5) the initial average level of regulation across the areas considered, and (6) the level of the vote share in the previous election. See Online Annex 3.3 for further details on the empirical methodology.

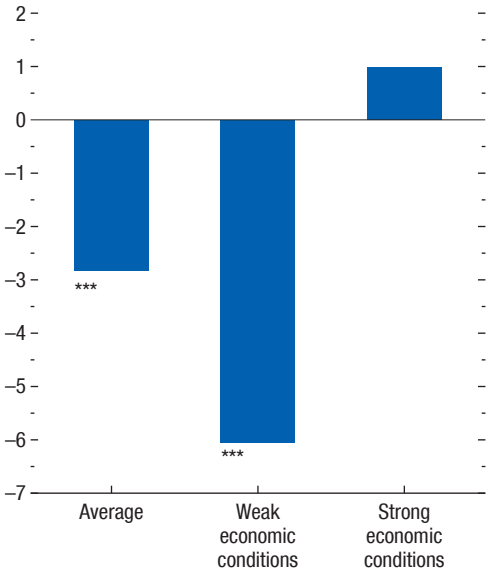
## Box 3.1 *(continued)*

### Figure 3.1.1. The Effect of Reform on Electoral Outcomes
*(Percentage points)*




Source: IMF staff calculations.
Note: The bars denote the effect of a major reform event—defined as a change in the broad regulation indicator of two standard deviations (of the sample distribution of annual changes in the regulation indicator)—on electoral outcomes. ** and *** denote statistical significance at the 5 percent and 1 percent confidence levels, respectively.

### Figure 3.1.2. The Effect of Reform on Vote Share: The Role of Economic Conditions
*(Percentage points)*




Source: IMF staff calculations.
Note: The bars denote the effect of a major reform event—defined as a change in the broad regulation indicator of two standard deviations (of the sample distribution of annual changes in the regulation indicator)—on electoral outcomes. *** denotes statistical significance at the 1 percent confidence level.

## Box 3.2. The Impact of Crises on Structural Reforms

A broad range of political and economic factors can explain why and when reforms (do not) happen; one of these, which is particularly significant, is the presence of a crisis. Political factors may include government ideology, the type of political system (presidential versus parliamentary), the degree of political fragmentation, and the strength of democratic institutions (Ciminelli and others, forthcoming, and references therein). Economic factors may include prevailing business conditions, in particular. Crises can act as turning points and catalyze popular support for reform by increasing the cost of, and the support of incumbent workers and firms ("insiders") for, maintaining the status quo. At the same time, crises may lead to increased parliamentary fragmentation, which could weaken reform efforts (Mian, Sufi, and Trebbi 2014).

The relationship between crisis and reform may depend on whether the crisis is economic or financial, and it may also differ across regulatory areas. A collapse in domestic demand may lower opposition to trade liberalization from industries that usually rely on domestic demand (Lora and Olivera 2005). Similarly, periods of high unemployment may increase pressure on governments to enact reforms that ease labor market regulation in the hope of boosting employment (Duval, Furceri, and Miethe 2018). By contrast, a financial crisis after a period of deregulation could lead governments to reregulate the financial sector and the economy (Mian, Sufi, and Trebbi 2014; Gokmen and others 2017).

This box examines empirically the role of crises in fostering reforms using a vector autoregression (VAR) framework. This approach has two main advantages over a static framework. First, it allows investigation of the possibility that crises lead to reforms with long lags, an issue neglected in the empirical literature. Second, it makes it possible to account for feedback effects between changes in regulation in different areas. The set of structural reforms considered in the analysis is the same as in the rest of the chapter. As for crises, both economic recessions (defined as periods of negative real GDP growth) and systemic banking crises (defined in Laeven and Valencia 2008, 2012) are investigated.

Two VARs (one for each—economic or financial—type of crisis) are estimated according to the following model:

$$X_{i,t} = A^0 + \sum_{l=1}^{4} A^l X_{i,t-l} + \tau_t + \gamma_i + \varepsilon_{i,t}, \qquad (3.2.1)$$

in which the subscripts $i$ and $t$ refer to country and time. $X_{i,t}$ is a seven-variable vector containing the crisis dummy considered and the six structural reform indicators (in first differences); $A^0$ is a vector of constant terms; $A^l$ is the vector of parameters to be estimated; $\tau_t$ and $\gamma_i$ refer, respectively, to time- and country-fixed effects; and $\varepsilon_{it}$ is the error term. Four lags of the dependent variables are included. The responses of reforms to crises are obtained using a Cholesky decomposition, with the crisis dummy ordered first; the implicit assumption is that the occurrence of a crisis in year $t$ does not depend on reforms implemented in the same year.[1]

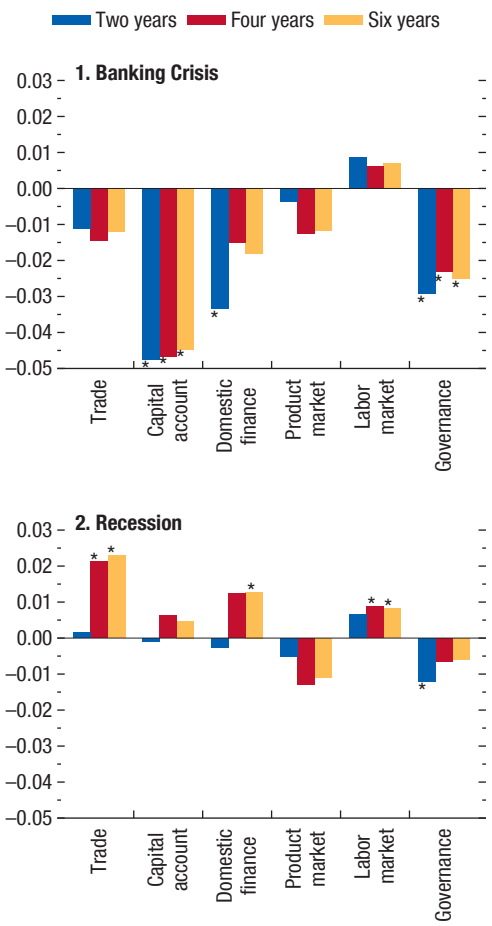
The results suggest that economic and banking crises have different effects on structural reforms (Figure 3.2.1). Economic recessions foster trade liberalization and, to a lesser extent, labor market and financial deregulation over the medium term. These results are supportive of the "crisis-induces-reform" hypothesis and consistent with the findings of Lora and Olivera (2004) and Duval, Furceri, and Miethe (2018). They suggest that governments respond to weaker external demand and higher unemployment by opening up to trade and liberalizing the labor market to foster employment. By contrast, banking crises are found to foster tighter regulation in the domestic finance and capital account areas. These effects are rather large and can be interpreted as an attempt by governments to control or mitigate perceived sources of financial instability.

This box was prepared by Gabriele Ciminelli and draws largely from Ciminelli and others (forthcoming).

[1]The ordering of the (reform) variables "below" the crisis dummy does not alter the results (for a formal derivation, see Christiano, Eichenbaum, and Evans 1999).

## Box 3.2 *(continued)*

### Figure 3.2.1. The Effect of Crises on Structural Reforms
*(Reform indicator units)*




Source: IMF staff calculations.
Note: The figure reports the effects of banking crises (panel 1) and economic recessions (panel 2) on structural reforms over two-, four-, and six-year horizons. Each indicator ranges from 0 to 1. Bars with * denote statistical significance at least at 10 percent. Bars without * denote statistically insignificant results. Standard errors are computed via Monte Carlo simulations with 1,000 repetitions.

## References


Abiad, Abdul, Enrica Detragiache, and Thierry Tressel. 2010. "A New Database of Financial Reforms." IMF Working Paper 08/266, International Monetary Fund, Washington, DC.

Abiad, Abdul, Nienke Oomes, and Kenichi Ueda. 2008. "The Quality Effect: Does Financial Liberalization Improve the Allocation of Capital?" *Journal of Development Economics* 87 (2): 270–82.

Acemoglu, Daron, Simon Johnson, and James Robinson. 2005. "Institutions as a Fundamental Cause of Long-Run Growth." In *Handbook of Economic Growth* 1A, edited by Philippe Aghion and Steven Durlauf. Amsterdam: Elsevier.

Ahn, Jaebin, Era Dabla-Norris, Romain Duval, Bingjie Hu, and Lamin Njie, 2019. "Reassessing the Productivity Gains from Trade Liberalization." *Review of International Economics* 27 (1): 130–54.

Aiyar, Shekhar, John Bluedorn, Romain Duval, Davide Furceri, Daniel Garcia-Macia, Yi Ji, Davide Malacrino, Haonan Qu, Jesse Siminitz, and Aleksandra. Zdzienicka. 2019. "Strengthening the Euro Area: The Role of National Reforms in Enhancing Resilience." IMF Staff Discussion Note 19/05, International Monetary Fund, Washington, DC.

Alesina, Alberto, Davide Furceri, Jonathan Ostry, Chris Papageorgiou, and Dennis Quinn. Forthcoming. "Structural Reforms and Electoral Outcomes: Evidence from a New Database of Regulatory Stances and Policy Changes." IMF Working Paper, International Monetary Fund, Washington, DC.

Amiti, Mary, and Jozef Konings. 2007. "Trade Liberalization, Intermediate Inputs, and Productivity." *American Economic Review* 97 (5): 1611–38.

Atkeson, Andrew, and Patrick J. Kehoe. 2007. "Modeling the Transition to a New Economy: Lessons from Two Technological Revolutions." *American Economic Review* 97 (1): 64–88.

Auerbach, Alan, and Youri Gorodnichenko. 2012. "Measuring the Output Responses to Fiscal Policy." *American Economic Journal: Economic Policy* 4 (2): 1–27.

Bandiera, Oriana, Gerard Caprio, Patrick Honohan, and Fabio Schiantarelli. 2000. "Does Financial Reform Raise or Reduce Saving?" *Review of Economics and Statistics* 82 (2): 239–63.

Bassanini, Andrea, Luca Nunziata, and Danielle Venn. 2009. "Job Protection Legislation and Productivity Growth in OECD Countries." *Economic Policy* 24 (58): 349–402.

Basu, Susanto, and John G. Fernald. 1997. "Returns to Scale in US Production: Estimates and Implications." *Journal of Political Economy* 105 (2): 249–83.

Bekaert, Geert, Campbell Harvey, Christian Lundblad, and Stephan Siegel. 2011 "What Segments Equity Markets?" *Review of Financial Studies* 24 (12): 3841–90.

Benhassine, Najy, David McKenzie, Victor Pouliquen, and Massimiliano Santini. 2018. "Does Inducing Informal Firms to Formalize Make Sense? Experimental Evidence from Benin." *Journal of Public Economics* 157: 1–14.

Bonfiglioli, Alessandra. 2008. "Financial Integration, Productivity and Capital Accumulation." *Journal of International Economics* 76 (2): 337–55.

Botero, Juan C., Simeon Djankov, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer. 2004 "The Regulation of Labor." *Quarterly Journal of Economics* 119 (4): 1339–82.

Boz, Emine, Gita Gopinath, and Mikkel Plagborg-Møller. 2017. "Global Trade and the Dollar." IMF Working Paper 17/239. International Monetary Fund, Washington, DC.

Bruhn, Miriam. 2011. "License to Sell: The Effect of Business Registration Reform on Entrepreneurial Activity in Mexico." *Review of Economics and Statistics* 93 (1): 382–86.

Buera, Francisco J., and Yongseok Shin. 2017. "Productivity Growth and Capital Flows: The Dynamics of Reforms." *American Economic Journal: Macroeconomics* 9 (3): 147–85.

Cacciatore, Matteo, Romain Duval, Giuseppe Fiori, and Fabio Ghironi. 2016. "Market Reforms in the Time of Imbalance." *Journal of Economic Dynamics and Control* 72: 69–93.

Cerra, Valerie, and Sweta Saxena. 2008. "Growth Dynamics: The Myth of Economic Recovery." *American Economic Review* 102 (7): 3774–77.

Christiano, Lawrence J., Martin Eichenbaum, and Charles L. Evans. 1999. "Monetary Policy Shocks: What Have We Learned and to What End?" In *Handbook of Macroeconomics* 1 (1), edited by John. B. Taylor and Michael Woodford, 65–148. Amsterdam: Elsevier.

Christiansen, Lone, Martin Schindler, and Thierry Tressel. 2013. "Growth and Structural Reforms: A New Assessment." *Journal of International Economics* 89 (2): 347–56.

Ciminelli, Gabriele, Davide Furceri, Jun Ge, Jonathan D. Ostry, and Chris Papageorgiou. Forthcoming. "The Political Costs of Reforms: Fear or Reality?" IMF Staff Discussion Note. International Monetary Fund, Washington, DC.

De Loecker, Jan. 2007. "Do Exports Generate Higher Productivity? Evidence from Slovenia." *Journal of International Economics* 73 (1): 69–98.

Djankov, Simeon, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer. 2002. "The Regulation of Entry." *Quarterly Journal of Economics* 117 (1): 1–37.

Duval, Romain, and Davide Furceri. 2018. "The Effects of Labor and Product Market Reforms: The Role of Macroeconomic Conditions and Policies." *IMF Economic Review* 66 (1): 31–69.

Duval, Romain, Davide Furceri, and Joao Jalles. 2019. "Job Protection Deregulation in Good and Bad Times." *Oxford Economic Papers* (July 21).

Duval, Romain, Davide Furceri, and Jakob Miethe. 2018. "The Needle in the Haystack: What Drives Labor and Product Market Reforms in Advanced Countries?" IMF Working Paper 18/101, International Monetary Fund, Washington, DC.

Duval, Romain, and Prakash Loungani. 2019. "Designing Labor Market Institutions in Emerging Market and Developing

Economies: Evidence and Policy Options." IMF Staff Discussion Note 19/04, International Monetary Fund, Washington, DC.

Ebell, Monique, and Christian Haefke. 2009. "Product Market Deregulation and the US Employment Miracle." *Review of Economic Dynamics* 12 (3): 479–504.

Ederington, Josh, and Michele Ruta. 2016. "Non-Tariff Measures and the World Trading System." World Bank Policy Research Paper 7661, World Bank, Washington, DC.

Fabrizio, Stefania, Davide Furceri, Rodrigo Garcia-Verdu, Bin G. Li, Sandra V. Lizarazo Ruiz, Marina Mendes Tavares, Futoshi Narita, and Adrian Peralta-Alva. 2017. "Macro-Structural Policies and Income Inequality in Low-Income Developing Countries." IMF Staff Discussion Note 17/01, International Monetary Fund, Washington, DC.

Furceri, Davide, Swarnali Hannan, Jonathan Ostry, and Andrew Rose. 2018. "Macroeconomic Consequences of Tariffs." NBER Working Paper 25402, National Bureau of Economic Research, Cambridge, MA.

Furceri, Davide, Prakash Loungani, and Jonanthan Ostry. Forthcoming. "The Aggregate and Distributional Effects of Financial Globalization: Evidence from Macro and Sectoral Data." *Journal of Money, Credit and Banking*.

Gokmen, Gunes, Massimiliano G. Onorato, Tommaso Nannicini, and Chris Papageorgiou. 2017. "Policies in Hard Times: Assessing the Impact of Financial Crises on Structural Reforms." IGIER Working Paper 605, Innocenzo Gasparini Institute for Economic Research, Bocconi University, Milan.

Granger, Clive, and Timo Teräsvirta. 1993. *Modelling Nonlinear Economic Relationships*. New York: Oxford University Press.

Hausmann, Ricardo, Dani Rodrik, and Andres Velasco. 2005. "Growth Diagnostics." John F. Kennedy School of Government, Harvard University, Cambridge, MA.

Hsieh, Chang-Tai, and Peter J. Klenow. 2009. "Misallocation and Manufacturing TFP in China and India." *Quarterly Journal of Economics* 124 (4): 1403–48.

International Monetary Fund (IMF). 2012. "The Liberalization of Management of Capital Flows: An Institutional View." IMF Policy Paper, Washington, DC.

———. 2018. "Review of 1997 Guidance Note on Governance—A Proposed Framework for Enhanced Fund Engagement." IMF Policy Paper 18/142, Washington, DC.

Johnston, R. Barry, and V. Sundararajan. 1999. *Sequencing Financial Sector Reforms*. Washington, DC: International Monetary Fund.

Jordà, Òscar. 2005. "Estimation and Inference of Impulse Responses by Local Projections." *American Economic Review* 95 (1): 161–82.

Kaplan, David S., Eduardo Piedra, and Enrique Seira. 2011. "Entry Regulation and Business Start-Ups: Evidence from Mexico." *Journal of Public Economics* 95 (11–12): 1501–15.

Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. 2010. "The Worldwide Governance Indicators: Methodology and Analytical Issues." World Bank Policy Research Working Paper 5430, World Bank, Washington, DC.

Laeven, Luc, and Fabian Valencia. 2008. "Systemic Banking Crises; A New Database." IMF Working Paper 08/224, International Monetary Fund, Washington, DC.

———. 2012. "Systemic Banking Crises: An Update." IMF Working Paper 12/163, International Monetary Fund, Washington, DC.

La Porta, Rafael, and Andrei Shleifer. 2008. "The Unofficial Economy and Economic Development." NBER Working Paper 1452, National Bureau of Economic Research, Cambridge, MA.

———. 2014. "Informality and Development." *Journal of Economic Perspectives* 28 (3): 109–26.

Levy, Santiago. 2008. *Good Intentions, Bad Outcomes*. Washington, DC: Brookings Institution.

———. 2018. *Unrewarded Efforts: The Elusive Quest for Prosperity in Mexico*. Washington, DC: Inter-American Development Bank.

Lora, Eduardo, and Mauricio Olivera. 2004. "What Makes Reforms Likely: Political Economy Determinants of Reforms in Latin America." *Journal of Applied Economics* 7 (1): 99–135.

———. 2005. "The Electoral Consequences of the Washington Consensus." *Economía* 5 (2): 1–61.

Martin, Leslie A., Shanthi Nataraj, and Ann E. Harrison. 2017. "In with the Big, Out with the Small: Removing Small-Scale Reservations in India." *American Economic Review* 107 (2): 354–86.

Mauro, Paulo. 1995. "Corruption and Growth." *Quarterly Journal of Economics* 110 (3): 681–712.

McCaig, Brian, and Nina Pavcnik. 2018. "Export Markets and Labor Allocation in a Low-Income Country." *American Economic Review* 108 (7): 1899–941.

Mian, Atif, Amir Sufi, and Francesco Trebbi. 2014. "Resolving Debt Overhang: Political Constraints in the Aftermath of Financial Crises." *American Economic Journal: Macroeconomics* 6 (2): 1–28.

Micco, Alejandro, and Carmen Pagés. 2006. "The Economic Effects of Employment Protection: Evidence from International Industry-Level Data." IZA Discussion Paper 2433, Institute of Labor Economics, Bonn.

Midrigan, Virgiliu, and Daniel Yi Xu. 2014. "Finance and Misallocation: Evidence from Plant-Level Data." *American Economic Review* 104 (2): 422–58.

Olson, Mancur. 1971. *The Logic of Collective Action: Public Goods and the Theory of Groups.* Cambridge, MA: Harvard University Press.

Organisation for Economic Co-operation and Development (OECD). 2018. *Economic Policy Reforms: Going for Growth*. Paris.

Ostry, Jonathan, Andrew Berg, and Siddharth Kothari. 2018. "Growth Equity Trade-Offs in Structural Reforms." IMF Working Paper 18/5, International Monetary Fund, Washington, DC.

Ostry, Jonathan David, Alessandro Prati, and Antonio Spilimbergo. 2009. "Structural Reforms and Economic Performance

in Advanced and Developing Countries." IMF Occasional Paper 268, International Monetary Fund, Washington, DC.

Paz, Lourenço S. 2014. "The Impacts of Trade Liberalization on Informal Labor Markets: A Theoretical and Empirical Evaluation of the Brazilian Case." *Journal of International Economics* 92 (2): 330–48.

Prati, Alessandro, Massimiliano Gaetano Onorato, and Chris Papageorgiou. 2013. "Which Reforms Work and under Which Institutional Environment? Evidence from a New Data Set on Structural Reforms." *Review of Economics and Statistics* 95 (3): 946–68.

Quinn, Dennis. 1997. "The Correlates of Change in International Financial Regulation." *American Political Science Review* 91 (3): 531–51.

Quinn, Dennis P., and A. Maria Toyoda. 2008. "Does Capital Account Liberalization Lead to Economic Growth?" *Review of Financial Studies* 21 (3): 1403–49.

Rajan, Raghuram, and Luigi Zingales. 1998. "Financial Dependence and Growth." *American Economic Review* 88 (3): 559–86.

Ulyssea, Gabriel. 2018. "Firms, Informality and Development: Theory and Evidence from Brazil." *American Economic Review* 108 (8): 2015–47.

World Bank (WB). 2019. *Doing Business: Training for Reform*. Washington, DC: World Bank.

Zettelmeyer, Jeromin. 2006. "Growth and Reforms in Latin America: A Survey of Facts and Arguments." IMF Working Paper 06/210, International Monetary Fund, Washington, DC.