Reforms in the transition region have stalled since the mid-2000s, and in some countries reversals have occurred in specific market sectors. Long-term growth projections suggest that unless reforms are revived, living standards in most transition economies will remain below those in mature market economies, or at best converge very slowly. However, reforms face political, social and human capital constraints. This Transition Report examines how these constraints can be relaxed or circumvented.

**FACTS AT A GLANCE**

- **2%**
  - Projected growth of the transition region in 2013, the lowest rate in 15 years (with the exception of the 2009 recession).

- **AROUND 2005**
  - The year by which most transition countries had closed the productivity gap, compared to other countries at similar income levels.

- **IN 15 COUNTRIES**
  - Support for markets declined after the crisis.

- **1%**
  - Estimated average boost to long-run annual growth of GDP per worker in non-EU transition countries resulting from institutional reform.
**Income convergence at risk**

The transition region is experiencing a fifth consecutive year of substandard growth. Since the collapse of Lehman Brothers in 2008, central Europe and the Baltic states (CEB), south-eastern Europe (SEE) and eastern Europe and the Caucasus (EEC) have not once managed to reach their pre-crisis rates of expansion (see Chart 1.1). Growth rates have remained low, not only compared with the boom period of 2004-08, when output in the transition region as a whole expanded by 6.6 per cent a year, but also compared with the five-year period preceding the boom. In 2013 the transition region as a whole is projected to grow at an annual rate of 2 per cent, the lowest rate in 15 years (with the exception of the 2009 recession).

This low growth largely reflects the difficult external environment in the short term. As this gradually improves – and barring a resurgence of the eurozone crisis – modest growth of up to about 2.8 per cent is expected in the region in 2014 (see the “Macroeconomic development and outlook” section of this Transition Report). However, this does not dispel concerns about the long term. Some of the problems that have constrained growth in the eurozone are of a longer-term nature. And even if their major trading partners were to fully recover, it is still not clear whether the transition countries would emerge from the crisis with satisfactory long-term growth prospects.

Two decades ago per capita income in a range of countries in the transition region (excluding the least developed countries in EEC and Central Asia and the Western Balkans) was between about 15 and 45 per cent of the EU-15 average in purchasing power terms. Relative incomes in most of these countries have since risen by about 20 percentage points to stand at between 35 and 65 per cent of the EU-15 average – an impressive achievement.

This chapter looks at whether convergence can continue at a sufficient pace to push average per capita income in most of these countries above 60 per cent of the EU-15 average (and above 80 per cent in a few cases) by about 2035. It concludes that the transition region does indeed face a serious long-term growth problem and that, given the current policies, convergence with Western living standards as defined above will not be achieved in most countries. Even if convergence is eventually achieved, progress will be very slow.

What can the region do to invigorate its long-term development, both to increase growth and to make it more inclusive? The answer depends on the diagnosis of the problem. This chapter maintains that although the reduction in long-term growth prospects has coincided with the crisis, its causes are only partly related to that crisis.

The slow-down is due in part to the intrinsically temporary nature of the “productivity catch-up” that followed the initial dismantling of communism and the countries’ subsequent integration into the global economy. This cannot be remedied and can only be offset by finding new and permanent sources of growth – with continued improvements in political and economic institutions and sector-level frameworks.

However, efforts in this respect have stalled in most transition countries. This largely pre-dated the crisis and occurred before satisfactory levels of institutional development had been achieved. The crisis has made things worse by undermining support for market-oriented reform, particularly in CEB and SEE countries.

Restoring long-term growth in transition economies requires an understanding of how political and social constraints on reform can be influenced or circumvented. This question lies at the heart of the remaining chapters in this Transition Report.

**POTENTIAL CAUSES OF LOWER LONG-TERM GROWTH**

It is often argued that the crisis might have damaged long-term growth prospects in transition countries because it may imply permanently lower levels of external financing. Pre-crisis growth in many countries in the transition region was boosted by large and ultimately unsustainable inflows of debt and foreign direct investment (FDI). The crisis triggered a sharp reduction in FDI and portfolio flows, which have not recovered and are forecast to remain below those earlier levels in the medium term (see Chart 1.2). Similarly, there has been a sizeable decline in the cross-border exposures of foreign banks. Coupled with a rise in local deposits, this signals a shift away from the foreign-financed banking model that has prevailed until now in many countries in the transition region.

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1 EU-15 refers to the 15 Member States of the European Union prior to its enlargement in 2004.

2 The Czech Republic and Slovenia are above this range, with GDP per capita above 70 per cent of the EU-15 average. However, Ukraine is below this range. Having suffered a particularly protracted post-transitional recession and a 15 per cent decline in output in 2008-09, its per capita income is further from EU-15 levels than it was in 1993 (Source: Penn World Tables).

3 See EBRD (2009), Becker et al. (2010) and World Bank (2012).
The capital inflows seen in the mid-2000s are not, however, a relevant comparator when analysing long-run growth potential. In Chart 1.2 the projections for future years look low by contrast with the 2004-07 boom, but are comparable to the levels seen in the late 1990s and early 2000s (a period when many CEB countries grew vigorously). It would therefore be wrong to argue that the crisis has plunged transition countries into an unprecedented era of weaker capital flows which is likely to constrain growth.

While concerns about weaker capital inflows may be overblown, there are other – more fundamental – reasons to expect a long-term slow-down. These relate to the nature of the catch-up in productivity that followed the recessions in countries in the transition region in the early 1990s, the slowing of structural reform since the mid-2000s, and the political and social repercussions of the crisis and the low growth seen since 2008.

**THE END OF PRODUCTIVITY CATCH-UP**

After the recession in the early 1990s most countries in the transition region saw their convergence towards Western income levels accelerate, but in a way that differed fundamentally from that of other fast-growing emerging markets. Physical capital growth was initially constrained by the depreciation of obsolete Soviet-era means of production. Also, saving rates had historically been low, particularly compared with Asian countries, making foreign capital an important source of investment. And unlike most emerging economies, countries in the transition region already had comparatively old populations at the start of their transition process, so they did not benefit from significant growth in the labour force. Indeed, unfavourable demographics and declining participation rates mean that, 20 years on, some countries in the region have smaller labour forces than they did in 1993. Educational attainment was also relatively high at the start of the transition process, comparable to the levels seen in advanced countries, which initially limited the scope for growth in human capital.

In short, the substantial factor accumulation which fuelled growth in many developing countries was not feasible in the transition economies. Instead, their high growth rates primarily reflected a rapid catch-up in productivity (see Chart 1.3, which shows the contribution of total factor productivity, or TFP).

Compared with other countries with similar levels of GDP per capita, transition countries were relatively unproductive in the early 1990s (see Chart 1.4a). This reflected their inherited capital-intensive economies and the fact that many goods produced by Soviet-era capital stocks held little appeal for domestic consumers or foreign importers. However, following the liberalisation of prices and the reorientation of trade patterns, some of the old capital stocks became obsolete and production shifted towards new activities and technologies. The result was sustained productivity growth.

By the mid-2000s, however, productivity was comparable to that of other emerging economies with similar income levels.
(see Chart 1.4b), and it has remained at that level, in relative terms, since then. This is not surprising: the price liberalisation and opening-up to the outside world were one-off effects in all but the least developed of the transition economies.\(^4\) Once the economies had adapted to those new conditions over that 10 to 15-year period, the transition-related catching-up process came to an end. Having successfully closed the gap, economies in the region are likely to grow more slowly in future – unless there are additional, productivity-enhancing reforms.

**REFORM STAGNATION**

In the early 1990s countries in the transition region faced sizeable productivity gaps due to inherited capital and production structures, but also inadequate and ineffective institutions supporting economic activity. Structural reforms, as measured by the average of the EBRD’s six country-level transition indicators (see the section of this Transition Report entitled “Progress in transition: structural reforms”), advanced rapidly until the end of the decade. Thereafter the reform process began to lose momentum, and by the mid-2000s it was stagnating in most EBRD countries of operations (see Chart 1.5a).

In part, the slowing of reforms simply reflected the fact that transition economies were catching up with advanced market economies. Price liberalisation, small-scale privatisation and the opening-up of trade and foreign exchange markets, which trigger large “upgrades” on the EBRD’s transition indicator scale, were mostly complete by the end of the 1990s. However, Chart 1.5b shows that reforms slowed even in areas such as governance, enterprise reform and competition policy, which remain substantially below the standard of advanced economies in virtually all countries in the transition region. Furthermore, reform stagnation set in, particularly in the EEC countries, Russia and Central Asia, where market structures and institutions lag far behind those in advanced economies. Most of the countries that have stalled at particular transition levels since the mid-2000s cannot remain there without compromising their long-term growth prospects.\(^5\)

What are the chances that they will recover their momentum? At this point it is useful to consider the striking correlation between the transition indicators and the quality of political institutions – specifically, the degree to which societies are democratically organised, as gauged by a widely used database, the Polity IV dataset (see Chart 1.6). Without exception, those countries which score highly on an index of democratisation have achieved at least reasonable progress towards market-oriented economic institutions.\(^\circ\)
The correlation shown in the chart may not necessarily reflect a causal relationship between political institutions and economic reform. However, a body of influential literature in the fields of economics and political science (which is discussed in more detail in Chapters 2 and 3 of this Transition Report) asserts that there may be such a relationship, and that it may work in both directions. In particular, political regimes in the transition region can have an effect on the type and quality of economic institutions.

A simple way to see this is to examine the consequences of political regime change for economic reform. For the most part, the political systems in the countries featured in Chart 1.6 came about soon after the end of communism in the late 1980s and early 1990s, but there were some important exceptions. In the early 1990s Croatia, the Kyrgyz Republic, Montenegro and Serbia (the last two being part of the same country at the time) had negative values on the Polity scale (see Chart 1.7), but they eventually became democracies. Belarus, on the other hand, had a level of democracy that was broadly comparable to a number of CEB and SEE countries following its independence in 1992, but its political institutions took a sharp turn for the worse in the mid-1990s. These political transitions – which were driven largely by factors unrelated to contemporaneous economic developments, such as geography, internal struggles and external military intervention – seem to predict the subsequent level of success (or the lack of it) as regards economic reform.

Chart 1.8 compares economic reforms in Belarus with a comparator group of transition countries that had similar political ratings in 1993 (that is to say, countries with Polity scores of between 5 and 9). All the comparators except Armenia maintained or improved their democracy scores between 1993 and 2013. In contrast, Belarus’ score declined from 7 between 1991 and 1994 to 0 in 1995 and -7 in 1996, and has remained at that level ever since. The chart shows that by 2013 Belarus had achieved an economic transition score of just over 2 (on a scale ranging from 1 to 4+), while all comparator countries had exceeded 3 (see right-hand bars for each country in Chart 1.8). This does not only reflect a lack of reform following its democratic reversal, as Belarus was already lagging behind most comparator countries by that point. Nevertheless, most of the difference between the 2013 transition scores for Belarus and the other countries seems to be attributable to its political institutions, which have prevented economic reform from progressing.

Chart 1.9 shows the result of countries moving in the opposite direction. In 1993 Croatia, the Kyrgyz Republic, Montenegro and Serbia were all assigned negative values under the Polity index (with scores ranging from -7 in the federation comprising Serbia and Montenegro under Slobodan Milošević to -3 in the other two countries). They all subsequently became full multi-party democracies: Croatia, Montenegro and Serbia in 2000, and the Kyrgyz Republic in two steps, in 2005 and 2011. In the chart the reform trajectories of these four countries are compared with those of other countries in the transition region.
whose Polity scores have remained negative over the last 20 years – Turkmenistan and Uzbekistan (both assigned scores of -9 in 1993), as well as Tajikistan (-6), Azerbaijan (-3) and Kazakhstan (-3).

Chart 1.9 shows that the four countries which eventually became multi-party democracies have carried reform further than those that have made less political progress, eventually achieving transition scores in excess of 3. Reforms carried out in Serbia and Montenegro after the end of the Milošević era were particularly impressive. As in the case of Belarus, there is a sense that economic reforms in these countries were affected by political institutions.

But Chart 1.9 also suggests that political regimes are not the whole story when it comes to explaining differences in reform trajectories. Although Azerbaijan and Kazakhstan have never had an average transition score of more than 3, they have managed to implement significant reforms in spite of their Polity classifications. In the Kyrgyz Republic democracy does not seem to have helped to improve economic institutions, a puzzle to which we return in Chapter 3.

While democracy appears to be neither a necessary nor a sufficient condition for successful economic reform, more democratic systems of government have tended to take reforms further than other political systems in the transition region. With only two exceptions – Croatia and the Kyrgyz Republic in the 1990s, both of which had relatively pluralistic regimes, even though Polity did not consider them democracies at the time – no country with a negative Polity2 rating has been able to push reforms beyond a transition rating of 3 (on a scale ranging from 1 to 4+). The stagnation of reform in these countries could be taken to imply that the reform process has reached the limits of what is feasible within the constraints of prevailing political institutions.

REFORM REVERSALS
It is tempting to conclude from the analysis above that transition countries which are stable democracies – the new Member States of the European Union, for example – should have no problem completing their transition and developing market institutions in line with advanced market economies. However, there may be reasons for concern even for this group.

First, while there is a strong correlation between democratisation and economic reform in the transition region, Chart 1.6 shows that there is considerable variation in economic reform among full democracies (that is to say, countries with Polity2 scores of 8 or above). Transition indicator averages for these countries range from slightly above 3 to above 4 (close to the theoretical maximum of 4+). In the case of Serbia and Montenegro this may be due to the reform process starting late. In other cases the causes are not immediately clear.

Second, for the new members of the EU, the prospect of EU accession is no longer available as a driver of reform or an anchor against reform reversals. It is noteworthy that the region where reforms appear to have stagnated the least – in the sense that there continues to be an upward trend – is south-eastern Europe (see Chart 1.5a). This region mostly comprises countries which were either EU candidates or EU aspirants at the time in question. This is consistent with the notion that the goal of EU membership is a powerful driver of reform. However, this effect may weaken after accession countries pass specific membership hurdles, and it stops once countries become members. Indeed, Chapter 3 shows that the pace of reform peaked in the years preceding accession.

Lastly, the 2008-09 crisis – and perhaps also the period of slow growth and austerity since then – has prompted decline in public support for market reform and democracy, particularly in the more advanced countries (see Chart 1.10). This reversal was apparent in the EBRD’s 2010 Life in Transition Survey (LiTS).
and seemed to reflect the depth of the crisis, which was much worse for the EU countries than for those further east, as well as being worse than the crises of the 1990s. The proportion of survey respondents who stated that the crisis had affected their household “a great deal” or “a fair amount” was particularly high in EU countries such as Bulgaria, Hungary, Latvia and Romania. In addition, in many countries the crisis seems to have been blamed on the political and economic system in place at the time – democracy and free markets in the case of the EU countries.\(^6\)

This shift in sentiment appears to have had palpable effects on economic reform. While reforms have continued in some countries – in some cases, in the context of EU and IMF-supported programmes initiated during the crisis – there have been 11 downgrades in EBRD country-level transition indicators since 2010, six of which relate to the EU countries of Hungary, the Slovak Republic and Slovenia.\(^7\) This compares with seven upgrades in EU countries – in Latvia, Lithuania, Poland, Romania and the Slovak Republic. Five of the six downgrades were in 2013 – the first year since the collapse of communism in which downgrades have outnumbered upgrades across the entire transition region (see the “Progress in transition: structural reforms” section of this Transition Report for details). Most downgrades in EU countries are arguably related to policies reflecting the same anti-market sentiment that is detectable in the LITS data.\(^8\)

At the sector level, the overall picture is more hopeful. Based on a new set of sector-level EBRD transition indicators introduced in 2010 (see Chart 1.11) upgrades have continued to exceed downgrades by about two to one. However, it is remarkable that of the total of 25 downgrades relating to sector-level market structures or market-supporting institutions, the majority took place in EU countries, even though these make up less than one-third of the countries tracked by the Transition Report.\(^9\)

The downgrades mainly reflect populist measures involving increases in government subsidies and/or state control in areas such as energy, transport and pensions. For example, Hungary was downgraded: (i) in 2010 for new legislation introducing price caps for electricity to households, (ii) in 2011 for the establishment of a National Transport Holding Company (which was expected to weaken competition), for an increase in subsidies in the transport sector and for a reversal in the pension system resulting in the virtual elimination of the private pillar, (iii) in 2012 for a significant decline in private investment in the electric power and natural resources sectors (which was attributable to a tax on energy groups and state interference with the regulator in the gas sector), and (iv) in 2013 for related reasons (see the “Progress in transition: structural reforms” section of this Transition Report for details).

Bulgaria and Romania were downgraded in 2012 for their failure to implement previous commitments to liberalise their energy sectors. There was then a further downgrade for Bulgaria following government intervention discouraging investment in renewable energy. In addition, Estonia has been downgraded in

\(^6\) See EBRD (2011a and 2011b) and Grosjean et al. (2011).

\(^7\) The remainder relate to Armenia, Belarus, Kazakhstan and Uzbekistan, and concern price and/or trade and exchange restrictions.

\(^8\) The one exception is the Slovenian downgrade in 2012, which was in the area of competition policy. For a description of the 2013 downgrades, see the “Progress in transition: structural reforms” section of this Transition Report. Earlier downgrades in 2010 were a reaction to Hungary’s decision to introduce disproportionate levies on the banking system and a reaction to changes to the Slovak pension system which made the operating environment for private pensions more uncertain.

\(^8\) Until 2011 the sector-level assessments covered 29 countries in Europe and Central Asia. As of 2013 they also cover Egypt, Jordan, Kosovo, Morocco and Tunisia. All of the new Member States of the EU are covered, with the exception of the Czech Republic, which “graduated” from EBRD operations at the end of 2007.
the urban transport sector in 2013 for offering travel without user charges to all residents of the capital, Tallinn.

To sum up, there are causes for concern regarding long-term growth in transition economies. Temporary sources of total factor productivity growth associated with initial transition steps are likely to have abated, and reforms had stagnated even before the crisis began. The long period of austerity since 2008 has led not only to more reform fatigue, but also to reform reversals. The next section considers the likely quantitative impact of these developments on growth and convergence in transition economies.

LONG-TERM GROWTH PROSPECTS

In order to analyse the long-term growth prospects in transition economies, an empirical analysis was undertaken that relates investment, savings and productivity growth to countries’ institutional quality, levels of human capital, population structures, geography and openness to trade and finance (see Box 1.1). Political institutions enter the analysis through a variable that measures constraints on the executive, while economic institutions are proxied by an index that captures the rule of law. The analysis was used to generate forecasts for countries in the transition region and for western European comparator countries that predict the likely rate of income convergence over the next 20 years, based on different assumptions about political and economic reform. The baseline scenario assesses growth prospects in the event of continued reform stagnation. Political and economic institutions are assumed to remain at their current levels, with no anticipated reversals, but also no progress.

Chart 1.12 shows the predicted rate of convergence of GDP per worker for a group of relatively advanced transition economies. Assuming an absence of reform, most countries would continue converging, but far more slowly than over the past decade (something that is also true for countries not shown in the chart). In 20 years’ time only the CEB countries would have incomes per working member of the population that were in excess of 60 per cent of the EU-15 average. This is not very impressive given that all CEB countries except Latvia already exceed the 60 per cent threshold. Only the Czech and Slovak Republics are projected to have incomes in excess of 80 per cent of the EU-15 average in the baseline scenario.

In some countries, including Croatia, Slovenia and Russia, the model predicts stagnation in income growth to roughly the same or slightly lower rates than the EU-15 average over the next decade or so. This means that, in the baseline scenario (which assumes an absence of reform), convergence is projected to stop entirely in these countries. In the case of Russia this would occur at a relative income level of just 55 per cent of the EU-15 average.

In order to gauge how political and economic reform might impact on growth in the transition region, we can look at an alternative scenario in which openness to trade, financial openness and political and economic institutions are assumed to converge to the highest level currently prevailing among advanced EU countries by 2035 (the end of the last forecasting period). Charts 1.13 and 1.14 illustrate the impact on growth and convergence respectively. In new EU members this reform scenario would lead to increases of about 0.2 to 0.5 percentage points in the annual growth rate of output per worker in the most distant forecasting period (see Chart 1.13). This may seem modest, but it would be sufficient to restore convergence in all countries and propel several additional CEB countries (including Croatia, Estonia, Hungary and Slovenia) to income levels per worker of around 80 per cent of the EU-15 average in about 20 years (see Chart 1.14).

Note: The chart shows projected growth, based on the methodology in Box 1.1, under the baseline scenario and the reform scenario described in the text.

**Chart 1.13.** Reforms would have a large impact on growth in countries with weaker institutions

**Chart 1.14.** Restoring convergence requires decisive reform

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10 “Executive constraints” is a subcomponent of the Polity IV project’s democratisation variable that is commonly used in the literature on growth and institutions. It captures checks and balances on those in power, and as such is also seen as a measure of the strength of property rights (see for example Acemoglu and Johnson (2005)).

11 The analysis was based on a large sample of countries including those in the transition region and in the rest of the world. This precluded the use of the EBRD transition indicators as a measure of reform or market institutions.
CONCLUSION

Economic reform has stagnated across most of the transition region since the mid-2000s, with the marked exception of the Western Balkans (where reform has been supported by the EU approximation process). In less advanced transition economies improvements in economic institutions have been stunted by weak political institutions. In more advanced economies, particularly the new members of the EU, the crisis and austerity have led to a sharp decline in support for market-oriented reform, and reform reversals have been observed in a number of countries.

As a consequence – and without the benefit of the initial productivity boost associated with the global integration and liberalisation seen in the 1990s and early 2000s – growth in potential output per worker is projected to be modest in the next 10 years (around 2 to 4 per cent on average) and to decline further in the following decade. At that rate convergence will stall in some countries and slow to a crawl in many others. On the basis of current policies only the CEB countries are projected to reach or exceed 60 per cent of the average per capita income of the EU-15 over the next 20 years, with most transition countries remaining far below this threshold.

How can countries escape from this growth trap? This is not a new question and has been considered in several recent studies. These studies have focused on identifying key areas of reform that could help to invigorate growth, such as improving the business environment, fostering competition, reducing non-tariff trade barriers and developing local sources of finance.

For the most part, such policy recommendations are not controversial. The question is why transition countries will not necessarily embrace them. What can be done to promote not just growth, but reforms that may lead to growth? That issue is central to this Transition Report. The remaining chapters address it from four angles.

First, analysis suggests that political institutions are a key determinant of economic reform in transition countries. They also appear to influence growth directly – as implied by the long-term forecasting model presented in Box 1.1 and by academic literature. Chapter 2 examines political change in the transition region, particularly the question of whether progress towards democracy becomes more likely as a result of economic development.

Second, what determines economic reform and the quality of market-supporting institutions in the transition region? Political institutions are an important factor, but clearly not the only one. Some countries with few constraints on the executive, or with imperfect democracies, have made significant progress with reforming their economies. Others have stalled reform almost entirely. Chapter 3 looks at what, if anything, can be done to encourage the development of better economic institutions in less-than-perfect political environments and why there is significant variation in the quality of economic institutions, even among stable democracies.

Third, Chapter 4 analyses the development of human capital in the transition region and its links to economic institutions. Like political institutions, human capital benefits growth directly (see Box 1.1). It might also interact with economic reform. Better economic environments may influence the returns to education and hence the incentives that determine a country’s human capital stock. Conversely, better education may increase the chances of successful reform. Furthermore, reforms to education are achievable and have been attempted even in environments with weaker political institutions.

Lastly, Chapter 5 considers the extent to which countries in the transition region are inclusive in terms of broad access to economic opportunities. Economic inclusion is a likely reason why some market-based systems have been more successful than others, both in generating growth and in making reforms work. This is correlated with the extent to which countries are democratically organised, and with the quality of economic institutions and education, but merits separate study. This chapter represents the first attempt, to our knowledge, to measure economic inclusion in the transition region using a consistent dataset, assessing the inclusiveness of institutions and education systems in the region.

In short, this Transition Report takes the view that it is not enough to debate which reforms are the most critical in order to revive long-term growth in transition countries. It is also important to understand the political, social and human capital constraints that stand in the way of these reforms. Only then can one hope to find policy levers that might eventually help to relax or circumvent these constraints.
The “productivity catch-up” phase associated with opening up to the outside world and international integration has ended in most transition economies. Much work remains to be done to bring their institutions and market structures up to the level of mature market economies. However, the way in which growth relates to capital stocks, human capital and institutions in the transition region should no longer be very different from other market economies.

It is therefore possible to analyse the long-term growth potential of transition economies in a standard growth accounting framework using a large sample of advanced, emerging and transition countries. Growth, physical capital, total factor productivity, the saving rate and foreign direct investment are determined inside the model, whereas geography, demographic variables, institutions and human capital are treated as exogenous.

The following assumptions are made.

- TFP growth depends on human capital, FDI, the distance from major economic centres and the quality of political institutions (measured by constraints on the executive), as well as initial levels of TFP.
- The saving rate depends on demographic variables, natural resources and financial openness.
- Growth in the physical capital stock (investment) depends on the saving rate, FDI, the quality of political institutions and the initial level of capital.
- Finally, FDI depends on trade and financial openness, law and order (as a proxy for economic institutions), the shares of services and manufacturing in GDP, and the initial level of GDP.

The fact that growth in physical capital and TFP are functions of their initial levels implies that the model allows for “factor-specific convergence” — that is to say, the possibility that capital and TFP growth may slow as their levels rise. The results suggest that this is indeed the case.

This system of four equations is estimated by three-stage least squares using a world sample of 88 countries over the period 1982 to 2011. The panel consists of five six-year intervals with period averages for all contemporaneous variables and the values of the final year of the preceding period for all initial conditions. Not all data are available for all countries over the entire period — data for transition countries typically start around 1990 — resulting in an unbalanced sample of 361 observations.

The results support the contention that political and economic institutions play a crucial role in determining the prospects for growth. Variables related to policies (trade openness and financial openness) or institutions (constraints on the executive, and law and order) are significant in all four equations (see Table 1.1.1). For example, countries with stronger constraints on the executive are found to have a higher rate of TFP growth and faster accumulation of physical capital, while more open trade policies are associated with greater FDI inflows.

In addition, the levels of human capital and FDI are found to be important determinants of productivity growth. The negative coefficient for economic remoteness suggests that being close to global centres of economic activity promotes productivity catch-up. This is in line with the experiences of CEB and SEE countries, whose proximity to western Europe is widely viewed as having helped them to catch up.

The model is used to predict long-term growth rates based on specific assumptions about developments in the exogenous variables. In order to evaluate what the continued stagnation of reforms would imply for the growth prospects of transition countries, the baseline forecasts assume that institutions and openness will remain at their current levels, while human capital continues to grow at its current rate. The remaining variables are held constant, with the exception of demographic characteristics, which evolve in accordance with United Nations projections.

In this scenario the model predicts that transition countries will not sustain their pre-crisis growth rates in the long term. Chart 1.1.1 shows that in virtually all countries the average growth rate of output per worker is projected to be lower over the next two forecasting periods (that is to say, from 2012 to 2023) than it was between 2000 and 2011. In absolute terms, growth in output per worker is projected to be modest in most countries between 2012 and 2023 — between 2 and 4 per cent — and to decline further, by about one to two percentage points, between 2024 and 2035. The initial slow-down occurs despite the fact that the preceding period includes the deep recessions of 2008-09. The drop in growth rates is primarily due to diminishing TFP growth. For most economies shown, the slowdown in output per worker will be compounded by a stagnation or decline in employment as populations age. The exceptions here are the SEMED countries and Turkey, where the growth rate of GDP will remain significantly above that of output per worker as a large number of young people join the workforce.

The main finding of this analysis — the fact that, under their current policies, most transition economies can expect a significant slow-down in long-term growth relative to the past — is robust to variations in how exactly “current policies” are defined. For example, modest improvements in political institutions (such as a 1-point improvement on a 10-point scale) will not change the main result, and neither will a slow continuation of financial opening. To make a difference, large improvements in political and economic institutions are needed, as described in the main text.

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15 The analysis assumes a human capital-augmented Cobb-Douglas production function in which output is a function of TFP (denoted by $\Delta$), physical capital (K), human capital (H) and labour (L):

\[
Y_t = A_t K_{t-1}^\alpha H_{t-1}^{\frac{1}{1-\alpha}} L_{t-1}^{1-\alpha} + \delta
\]

where $Y_t$ is output per worker, $K_t$ is capital per worker, $\Delta$ is growth, $\alpha$ is the elasticity of output with respect to capital, and $\delta$ is an error term.

16 This approach draws on recent literature on long-term conditional growth projections; see Lee and Hong (2010) and Chen et al. (2012). Data sources include the Penn World Tables (for capital, TFP, human capital, labour shares and growth data), the World Bank (for natural resource rents and sector shares), UNCTAD (for gross FDI), the Chinn-Ito index database (for financial openness), KRG historical data (for law and order) and the Polity database (for executive constraints). Openness to trade is structurally adjusted using the adjusted trade intensity approach employed by Pritchett (1996). For further details, see Lehne and Zettelmeyer (2013).
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19 Hungary and Slovenia are two exceptions. They experienced particularly weak growth between 2000 and 2011, which the model expects will be partly corrected in the next period.

20 Eighteen transition countries are expected to see their working age populations decline by the mid-2020s.

17 Dropping the measure of law and order allows a larger sample (455 observations), with a longer time horizon (1976-2011) and more countries (99). Estimating the model on the basis of this sample does not change the results for the other variables in the system. Neither does dropping the observations for the transition economies prior to 2005, a period when (as argued in the text) they may have been undergoing a unique catch-up process that made them structurally different, in terms of the model coefficients, from other countries. Further robustness checks are conducted in Bergl/cyrodieresisf, Lehne and Zettelmeyer (2013).

18 Separate forecasts are generated for each six-year interval from 2012 to 2035.

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Table 1.1.1
Estimation results

<table>
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<tr>
<th></th>
<th>TFP growth</th>
<th>Saving rate</th>
<th>Growth rate of K/L</th>
<th>FDI</th>
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<tbody>
<tr>
<td>Log of initial TFP</td>
<td>-2.032***</td>
<td>1.12***</td>
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<tr>
<td>FDI</td>
<td>0.258***</td>
<td>0.202***</td>
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<td>Constraints on the executive</td>
<td>0.171**</td>
<td>0.158**</td>
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<tr>
<td>Human capital</td>
<td>0.936**</td>
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<tr>
<td>Economic remoteness</td>
<td>-2.382**</td>
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<tr>
<td>Log of life expectancy</td>
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<tr>
<td>Old age dependency ratio</td>
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<tr>
<td>Youth dependency ratio</td>
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<tr>
<td>Natural resource rents/GDP</td>
<td>0.004***</td>
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<tr>
<td>Financial openness</td>
<td>0.01**</td>
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<tr>
<td>Log of initial capital per worker</td>
<td>-1.35***</td>
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<tr>
<td>Saving rate</td>
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<tr>
<td>Trade openness</td>
<td>1.4***</td>
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<td>Law and order</td>
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<tr>
<td>Manufacturing/GDP</td>
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<tr>
<td>Services/GDP</td>
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<td>Log of initial GDP</td>
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<td>Regional and time-fixed effects</td>
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<td>Constant</td>
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<tr>
<td>Observations</td>
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</table>

Source: EBRD, based on data sources cited in footnote 12.

Note: The table shows regression coefficients for the three-stage least squares estimation. The four columns correspond to the four equations in the system (TFP, saving rate, growth of capital per worker and FDI). Z ratios are shown in parentheses.

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Chart 1.1.1. Under current policies growth is expected to slow in transition countries, driven by TFP

Source: See footnote 12.

Note: The chart shows actual (2000-11) and projected (2012-23 and 2024-35) average annual growth of GDP per worker and the contributions of TFP, human capital and physical capital, assuming an absence of reform.
References


