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Turmoil at Twenty

**Recession, Recovery, and
Reform in Central and
Eastern Europe and the
Former Soviet Union**

**Pradeep Mitra, Marcelo Selowsky,
and Juan Zaldueño**



THE WORLD BANK

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THE WORLD BANK

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1818 H Street NW
Washington, DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org
E-mail: feedback@worldbank.org

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Pradeep Mitra
Marcelo Selowsky
Juan Zalduendo

Overview

The countries in the World Bank's Europe and Central Asia (ECA) region, among all emerging and developing economy regions, are forecast to experience the deepest contraction as a result of the global economic recession of 2008–09. This is partly due to the region's deep integration into the global economy across many dimensions—trade, financial, and labor flows.¹

- Trade integration in the transition (formerly centrally planned) ECA countries—measured by the sum of merchandise exports and imports as a share of GDP in purchasing power parity—rose from 20 percent in 1994 to around 50 percent in 2008, about 10–15 percentage points higher than in developing East Asia and Latin America. Turkey saw an increase from 10 percent to 30 percent over the same period. The averages mask substantial variation across subregions—the ratio ranged from a median value of around 35 percent in the South Caucasus, Central Asia and Moldova, where exports are generally intensive in natural resources and unskilled labor, to nearly 85 percent in the new member states of the European Union and Croatia, where exports are intensive in capital and skilled labor.²
- Financial openness in ECA's transition countries, as measured by the sum of foreign exchange assets and liabilities as a share of GDP, was 30 percent in 2008—twice that for developing East Asia, with the ratio being as high as 45 percent in the new member states of the European Union and Croatia. Turkey's financial openness, at 18 percent of GDP, is closer to that of developing East Asia.

1. The International Monetary Fund's World Economic Outlook (October 2009) projects GDP in Central and Eastern Europe and in the Commonwealth of Independent States (the former Soviet Union excluding the Baltic States) to contract by 5 percent and 6.7 percent, respectively, in 2009. In this book, Central and Eastern Europe comprises Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Kosovo, Latvia, Lithuania, FYR Macedonia, Montenegro, Poland, Romania, Serbia, the Slovak Republic and Slovenia. Turkey is part of the World Bank's ECA region but is not a transition country; thus, it is added selectively to the discussion. The Commonwealth of Independent States (CIS) includes Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, the Kyrgyz Republic, Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. Georgia is not part of the CIS but is included in the group because its economy shares many features of the other countries.

2. The evolution of trade openness over time is measured using GDP in purchasing power parity because of volatility in market exchange rates in the early years of transition. Comparisons in 2008 across developing country regions are substantially unaffected by this choice.

- Labor and remittance flows have followed a broadly biaxial pattern, being dependent on the European Union for the countries of Central and Eastern Europe and on the resource-rich countries of the former Soviet Union for the South Caucasus and many of the Central Asian republics. Indeed, the ratio of remittances to GDP for the poorest countries in the region is among the highest in the world, ranging, for example, between 30 and 35 percent for Moldova and Tajikistan in 2008.

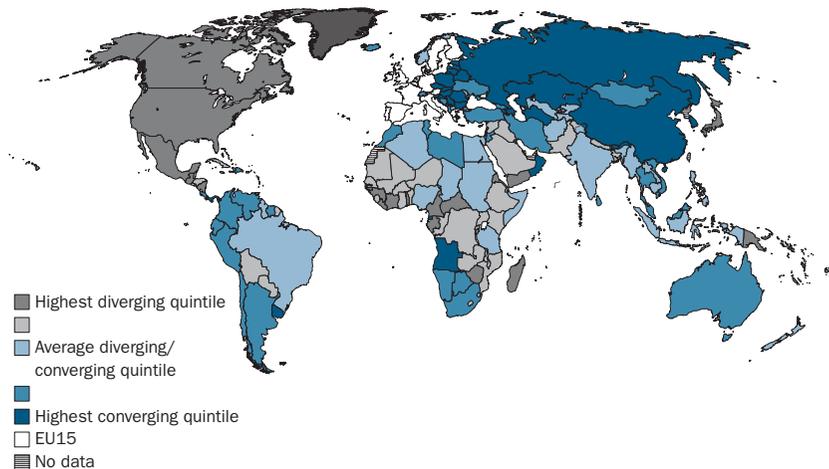
Helped by integration, GDP in the ECA region grew from 2000 to 2008 by two-thirds—an enviable growth rate averaging 6.5 percent a year. And the ECA region made remarkable progress in converging to Western European (EU15) income levels since the late 1990s. In fact, no other region converged as much as a group to the average income of EU15 countries even with the GDP declines currently projected for 2009 (map 1). The decade since the Russian Federation financial crisis saw 55 million people moving out of absolute poverty.³ Globalization lifted many boats, since developing East Asia grew at comparable rates; Latin America less so. Yet those regions have not been equally affected by the current global economic crisis. Interestingly, however, a number of advanced countries in Western Europe have been affected: for every Ukraine, Latvia, and Hungary (three of ECA's hardest hit countries), there is an Iceland, Ireland, and Spain.

Before analyzing crisis and recovery, however, it is worth noting how far the transition economies of Europe and Central Asia have come since the fall of the Berlin wall two decades ago. Price liberalization—together with the disruption of the organizational arrangements that governed production and trade under central planning—made many enterprises inherited from the command economy unviable. These factors also resulted in transition recessions everywhere but particularly deep and protracted ones in the countries of the former Soviet Union. Macroeconomic stabilization was needed to prevent price liberalization from converting the repressed inflation of centrally planned economies into hyperinflation. And budget constraints were hardened to restructure or close enterprises and make possible the transfer of assets and labor to viable enterprises. Private sector development was sought to be accomplished through privatization, an enforceable set of property rights, and the entry of new private firms. Economic and institutional transformation this major created a difficult first decade of transition.⁴ But processes were set that enabled inflation to fall to single digits in many countries by 2006 and raised the share of the private sector in GDP to 80 percent in Central Europe and the Baltic states. Progress was also made in

3. The absolute poverty line used is \$2.50 a day at 2005 Purchasing Power Parities.

4. These developments are reviewed in EBRD 1999, Havrylyshyn and Nsouli 2001, and World Bank 2002.

Income convergence to the EU15 average income, 2000–09 (projection as of October 2009)



Note: The map reflects the change in PPP per capita incomes as a share of the EU15 average between 2000 and 2009. Dark blue countries have converged the most to the EU15 average income per capita over the past decade; those in gray have diverged the most to the EU15 average income per capita or, for countries higher than the EU15 average, that the EU15 is catching up.

institutional reforms, whether measured by the EBRD transition indicators or by the World Bank's *Doing Business*, which has found Europe and Central Asia to be a leading reforming region. And further evidence of "institutional catch-up" comes from business surveys, which show that key elements of the business environment (such as competition and market structure, and finance and the structure of lending to firms) have converged toward those in developed market economies, particularly in the new member states of the European Union.⁵

This book, written on the eve of the 20th anniversary of the fall of the Berlin wall in 1989, addresses three questions that relate to recession, recovery, and reform, respectively, in ECA's transition countries.

- Did the transition from a command to a market economy and the period when it took place, plant the seeds of vulnerability that made transition countries (the region excluding Turkey) more prone to crisis than developing countries generally?
- Did choices made on the road from plan to market shape the ability of affected countries to recover from the crisis?

5. Mitra 2008.

- What structural reforms do transition countries need to undertake to address the most binding constraints to growth in a world where financial markets have become more discriminating and where capital flows to transition and developing countries are likely to be considerably lower than before the crisis?

Plan of the book

Chapter 1 of the book analyses how countries fell into recession and crisis, why not all of them were equally affected, and whether different policies could have positioned them better to face the crisis. Chapter 2 discusses rescue and stabilization and the role of international collective action. The next two chapters focus on policies for recovery—chapter 3 on restructuring bank, corporate and household debt and chapter 4 on scaling up social safety nets. Chapters 5 and 6 focus on reform, examining the binding constraints to growth and the policy agenda in the most important sectors identified by that analysis.

Recession

For the financially integrated countries, the crisis has hit them primarily through two channels.⁶

- There was global deleveraging, triggered mainly by distress in home country financial markets, which together with the unwinding of real estate booms in some host countries, reduced the willingness by creditors to finance current account deficits. These deficits were, as a percentage of GDP in 2008, in double digits in such countries as Bulgaria, Latvia, Lithuania, Romania, and Serbia and in the high single digits in Estonia, Hungary, and Ukraine.
- A recession-induced downturn in exports to Western Europe had a negative impact on output and employment in small open economies such as the Czech and Slovak Republics, Estonia, and Hungary where exports accounted for between 70 to 80 percent of GDP in 2008. To a somewhat less extent, this was also the case in larger economies such as Poland and Romania, where the corresponding share ranged between 30 and 40 percent.

For the low-income and lower middle-income countries of the former Soviet Union, such as Armenia, Georgia, Kyrgyz Republic, Moldova, and Tajikistan, the reversal in capital inflows has been less important, but they have been hurt by lower exports and lower remittance flows.

6. A financially integrated country is one where foreign claims of banks reporting to the Bank for International Settlements exceed 10 percent of the recipient country's GDP. For all but two of the financially integrated countries, this implies foreign claims well in excess of \$10 billion; for the two small economies for which this is not the case, however, foreign claims represent a very important share of their GDP. Details of the group are in chapter 1, and foreign claims are defined in chapter 2.

- The sharp contraction in the Russian Federation's GDP, estimated at more than 7 percent in 2009, has depressed export demand in Armenia, the Kyrgyz Republic, Moldova, and Tajikistan, for which it is the dominant export market. Furthermore, the marked deceleration in growth in Kazakhstan following the sudden stop in capital flows in 2007 has adversely affected the Kyrgyz Republic, which sends a significant share of its exports to that country. Export demand for Georgian goods, for which the CIS countries are not a major destination, is also projected to fall due to recessions in Turkey, the European Union, and the United States. Indeed, export earnings in Armenia, Georgia, and Tajikistan are projected to decline between one-quarter and one-third in 2009.
- As noted, the low-income former Soviet Union includes countries that are among the most remittance-dependent in the world. Preliminary estimates suggest that remittances fell sharply—by more than 30 percent in some countries—during the first quarter of 2009, and they are not expected to recover before 2010 at the earliest.

Transition shaped the nature of financial integration (and vulnerability) . . .

The reason transition countries were badly hit by the financial crisis, rather than developing countries more generally, can be sought in the nature of transition. The proximate reason for the crisis in the financially integrated countries was the extraordinary growth of credit to the private sector, made possible in some ECA countries by large external inflows intermediated by banks. The fastest credit growth rates between 2000 and 2008 was in the Baltic states, Bulgaria, Kazakhstan, Romania, the Russian Federation, and Ukraine, countries that could be characterized as experiencing *excessive credit growth* (with growth of credit to the private sector above that of all developing nations even allowing for their initially shallow financial sectors). They were all latecomers to the transition. Those in the former Soviet Union—the Baltic states, Kazakhstan, the Russian Federation, and Ukraine—started in the early 1990s but underwent deep and protracted recessions. Bulgaria and Romania experienced double transition recessions due to macroeconomic crises in the mid-1990s that led to a second dip in GDP. Both sets of countries were therefore rapidly catching up—indeed, except Estonia, their financial sectors were initially quite shallow. In contrast, other transition countries such as Croatia, the Czech and Slovak Republics, Poland, and Serbia witnessed private sector credit growth in line with the experience of other developing nations—they are described in this book as experiencing *convergent credit growth*.

... but vulnerability was also fed by unusually high global liquidity

The growth of credit during the catch-up was the result of both demand and supply factors. On the demand side, the fast consumption catch-up by households towards European living standards (particularly their adjustment in the stock of durable goods) drove the credit boom—from Hungary and Romania in the West through Lithuania and Ukraine and to the Russian Federation and Kazakhstan in the East. It was facilitated by their ability to borrow in foreign currency, which had lower interest rates and typically longer maturities than those in local currency. And on the supply side, 2003–06 was a period of historically high global liquidity, with fierce competition in international banking and abundant supplies of credit to emerging market economies.⁷ For some countries, external financing allowed loan-to-deposit ratios to become substantially greater than one, implying that external financing made up the difference between the credit extended by banks and what they were taking in from depositors.

The sources of this external funding were multiple. For Kazakhstan, the Russian Federation, and to lesser extent Ukraine, it was dominated by wholesale funding operations made possible by the appetite for private and public emerging market paper. For the Baltic states, Bulgaria, and Croatia, it originated in the Western European parent banks of host country subsidiaries that had decided to expand operations in a low-debt and potentially fast-growing region. Indeed, as will be seen, some of the seemingly debt-creating flows had foreign direct investment (FDI)-like features and were on-lent at long maturities.

Variability across the financially integrated ECA countries is more marked than is recognized

Not all ECA countries, even among the financially integrated, have been equally hit by the crisis—indeed, differences abound. The year-on-year fall in Latvia's GDP during 2009 is expected to be 18 percent, compared with the Czech Republic's 4 percent.⁸ Both are deeply integrated into the global trade and financial system—and both are highly dependent on economic developments in Western Europe. Fully 85 percent of the Czech banking sector is foreign-owned, compared with 65 percent of the Latvian banking sector. Acquiring those assets was a lucrative proposition for Western European banks: return to equity was higher for banks that had established a presence

7. This was a period when the annual growth of capital flows to emerging market economies exceeded the growth of the G7 economies by more than 10 percentage points.

8. The intent here is not so much to compare the Czech Republic and Latvia as to show them as emblematic of degrees of vulnerability.

in Central and Eastern Europe than for those with mainly domestic market exposure in their home country. And yet the loan-to-deposit ratio at end-2008 was 280 percent in Latvia compared with 80 percent in the Czech Republic, implying that an extraordinarily large proportion of loan growth in Latvia was funded from abroad.

Why did this not happen in the Czech Republic? Largely because early disinflation—and thus the credibility of monetary policy—and continued tight fiscal policy kept interest rates lower than those in the euro area. Despite real exchange rate appreciation due to productivity growth, borrowing in local currency was more attractive than borrowing internationally. This removed a source of potential instability.

And yet, an ounce of prevention would have helped—in particular, fiscal policy should have played a stabilizing role

Better policies in the boom years would have positioned countries better but not fully insulated them from the crisis. Countries with fixed exchange rates, such as Latvia, had limited scope for monetary policy. And their choice of exchange rate regimes (though perhaps justified when introduced) together with the prospect of euro adoption, might have increased risk-taking in foreign currency. The countries were not notably active in sterilizing foreign assets. That would have raised domestic interest rates, which, in a period of abundant global liquidity, would have stimulated even more capital inflows.

To limit the growth of foreign borrowing, countries introduced prudential measures, such as marginal reserve requirements on bank foreign borrowing, higher risk weights for housing loans in calculating capital adequacy ratios of banks, and, more generally, higher capital adequacy ratios across the board. The measures would eventually be circumvented, either by going offshore or to less regulated parts of the financial sector, given the strong incentives for borrowing on both the demand and supply side. But putting some sand in the wheels of massive capital inflows was still worth doing. Indeed, for some countries in Southeastern Europe, it reduced (but did not prevent) over-heating.

The limits of monetary policy and prudential measures argue for a stronger role for fiscal policy, and not just in countries with fixed exchange rates. With an open capital account and high global liquidity, fiscal policy—adjusted for the business cycle—should play a stabilizing role in the face of external imbalances, even when they are not of public origin. This would dampen demand and lead to some slowing of growth. But by creating domestic sources of finance for the private sector, it would reduce the attractiveness of borrowing abroad. The opposite policy stance was, however, observed in some financially

integrated vulnerable countries.⁹ This is not to suggest that fiscal policy alone would have insulated countries—the necessary adjustment would have been too much to bear for a single policy instrument—but it could have made them less vulnerable to a reversal in market sentiment. In fact, those financially integrated countries that pursued counter-cyclical policies more actively were more successful in reducing over-heating. It is more difficult to assign causality to a single instrument, such as fiscal policy, in accomplishing this, since the more successful countries had for the most part already achieved disinflation and had credible monetary policies before the period of high global liquidity. It is striking however that the most vulnerable countries relaxed their fiscal stance—adjusted for the business cycle—just when this was least advisable.

Recovery

The crisis in advanced country financial markets was transmitted in ECA through a less-than-full rollover of maturing external debt, a drying up of new external financing sources, and a slowdown in exports and remittances.

Adjustment and financing trade-offs—in some ECA countries adjustment has been massive

The scarcity of new external financing implies that the current account deficit had to shrink to whatever financing was available—to zero, if there was none. Less-than-full rollover implies that the current account has to adjust further—perhaps even into surplus to finance maturing debt that is not rolled over. For many financially integrated countries, this combined adjustment was significant, particularly when initial current accounts were in double digits and maturing debt was above 20 percent of GDP.

The result has been a sharp improvement in the private sector balance (private savings less private investment) to accommodate both a worsened fiscal balance and a large reduction in capital inflows. Current account deficits on the eve of the crisis reflected more an excess of private spending over income (as in the East Asia crisis 1997–98) than fiscal profligacy. So, the bulk of the adjustment has been a massive cut in private spending, making the private sector a net saver.

Indeed, Latvia and Ukraine, two of ECA's worst hit countries, are now running current account surpluses and experiencing marked declines in imports. Fiscal balances have worsened sharply, reflecting both a collapse in revenue (due to the downturn in activity) and an increase in spending (due in part

9. For example, public expenditures in real terms increased by more than 110 percent in Latvia over the period between 1998 and 2008, compared with an increase of slightly less than 40 percent in the Czech Republic.

to the need to expand social programs). Hence, the improvement in the private sector balance as a share of GDP that has occurred between 2008 and 2009 in the hardest hit countries has been extraordinary, amounting to more than 25 percent in Latvia and 10 percent in Ukraine. Oil exporters among the financially integrated countries, such as Kazakhstan and the Russian Federation, have had more room for maneuver since the stabilization funds saved for a rainy day could support a more expansive fiscal stance. But they have had more problems rolling over maturing debt and securing new money.

Transition also partly shaped the crisis response and rollover risks

Navigating the aftermath of the crisis has so far been easier for financially integrated countries with majority foreign-owned banking sectors. Foreign banks exposed countries to considerable risk, as did other foreign lenders. This is because domestic interest rates in excess of international lending rates, together with the expectation that borrowing countries would join the euro area at a fixed rate for peggers and at an appreciated rate for floaters, strongly encouraged lending in foreign currencies. But once the crisis hit, countries with majority foreign-owned banking sectors, such as Romania and some of the Baltic states, have generally rolled over maturing external debt owed to parent banks, at least so far. Countries with majority domestic-owned banks, such as Kazakhstan and the Russian Federation, more reliant on volatile wholesale funding, have had considerably more difficulty. Reliance on wholesale funding is negligible in Romania and ranges between 5 and 20 percent of total funding in the Baltic states. In contrast, half the funding for the banking sector in Kazakhstan comes from the wholesale market. Ukraine is a borderline case, with a mix of foreign banks with minority ownership in banking sector assets and a number of domestic banks with weak governance structures. Latvia, to a lesser extent, is also a borderline case: compared to the other Baltic states, it is more dependent on wholesale funding and nonresident deposits. In sum, the rollover of wholesale funding has proved difficult across the region.

Table 1 classifies the financially integrated ECA countries by available source of funding (the columns) and by the pace of growth of private sector credit as defined earlier—as *excessive* or *convergent* (the rows). In addition to wholesale and parent bank funding sources, the table includes resident deposit-taking operations, which have so far proven to be a source of stability. It is worth noting that crisis-hit countries that have recently sought official financing, such as Latvia, Romania and Ukraine, generally experienced excessive credit growth. The same is broadly true of the Russian Federation and Kazakhstan, which have tapped stabilization funds accumulated from oil

TABLE 1

Credit market characteristics in financially integrated countries

		Bank funding				
		Wholesale		Parent bank	Resident deposits	
Credit growth	Convergent^a		Hungary	Croatia Serbia	Czech Rep. Slovak Rep. Poland Turkey	Lower risk
		Kazakhstan		Bulgaria	Macedonia, FYR	Gray area
	Excessive^b	Russian Federation	Ukraine Latvia	Lithuania Estonia	Romania	Higher risk
		Low stability	Gray area	Medium stability	High stability	

a. Countries experiencing credit growth rates that could be viewed as in line with those of countries with similar initial ratios of private sector credit to GDP.

b. Countries experiencing credit growth rates that could be considered as above average; that is, their credit growth rates are too high relative to their initial ratios of credit to GDP.

revenue. The exception is Hungary, where the origin of macroeconomic imbalances, in contrast to much of the region, was more fiscal in nature. Securing a high rollover has been easier for Romania and some of the Baltic states, which rely primarily on a combination of parent bank and deposit funding, but also for Hungary and Ukraine, where reliance on wholesale funding is borderline. For the Baltic states, this also reflects the long maturity of some of the loans that have been extended (for example, mortgages that account for almost 50 percent of the loan portfolio have an average maturity of slightly over 25 years), which in effect limits the liquidity that is available for withdrawal. What is clear, however, is that countries that rely more heavily on wholesale funding, such as Kazakhstan and the Russian Federation, have had considerable difficulty in rolling over maturing debt.

At the other extreme, countries with convergent credit growth and predominantly reliant on resident deposit funding, such as the Czech and Slovak Republics and Poland, as well as Turkey, a nontransition country, have so far come through the crisis well. Indeed, countries relying primarily on such sources have had lower credit growth rates and have prevented a run on banks through coordinated action and deposit insurance schemes. Of course, the classification in table 1 broadly suggests the principal factors in play and does not fit every case, as is evident from the experience of Serbia, which has sought official support after being hit by the crisis, even with convergent credit growth.

A high rollover has been partly determined by the nature of financial integration, itself the result of choices made in the early years of transition. Introducing

foreign-owned banks while countries were moving from plan to market broke the symbiotic link between governments and state enterprises and newly privatized enterprises. Foreign bank ownership helped harden budget constraints and attain macroeconomic stability. Indeed, in most Central European countries, systemic banking crises had been the trigger to sell banks to foreign financial institutions. In turn, foreign banks engaged in restructuring and introduced better management practices. And at least till the onset of the crisis, they made possible a reduction in nonperforming loans and an increase in loan loss provisions that were accompanied by rising profitability. They also provided households with mortgage and consumer finance. And in the Czech Republic, Hungary, and Poland, they provided credit to previously underserved small and medium enterprises. But here, too, there is variability. For example, foreign ownership of banking sector assets is 39 percent in Kazakhstan and 17 percent in the Russian Federation, but has a more dominant role among the new member states of the European Union and in the Western Balkans.

Financial integration driven by a majority foreign-owned banking sector is, however, less of an option for ECA countries that do not have European aspirations. Among transition countries, majority foreign-owned banking sectors are generally found in the new member states of the European Union, accession and candidate countries, and the countries in the Western Balkans that have Stabilization and Association agreements with the European Union. Since this is less of an option for countries such as Kazakhstan, the Russian Federation, and Ukraine, their pattern of financial integration might be more akin to that in the financially integrated East Asian countries, with greater reliance on wholesale funding. In such cases, it becomes particularly important to calibrate the openness of the capital account to the strength of domestic financial sector institutions and to ensure that monetary, fiscal, and prudential measures limit the transmission of risks from world financial markets.

Easing the pain in aggregate: collective action and official financing have so far been effective, but more of both are likely to be needed—and should continue for several years

Official financing, more generous than in the East Asia crisis, has been complemented by collective action efforts. Reflecting lessons from earlier emerging market crises, the international financial institutions led by the International Monetary Fund and, for its member states, the European Union, have mounted an adequate response to the crisis. And the European Banking Coordination Initiative (the Vienna initiative) has attempted to ensure that Western European parent banks maintain their exposure to ECA countries and adequately capitalize

their banks. The World Bank Group, the European Bank for Reconstruction and Development, and the European Investment Bank have put forward a joint initiative to support the recapitalization of banks and the provision of debt financing for banks across the region, including that for the subsidiaries of parent banks. The combination of generous official financing and policy reform in return for support led by the international financial institutions has allowed countries with liquidity problems to avoid imposing standstills on external payments, while providing creditors some assurance that policy reforms will help enlarge their capacity to service debt. By staying engaged over the multiyear period required for reforms to bear fruit, official finance provides countries an incentive to implement reforms. These are encouraging examples of collective action.

Collective action should continue until a robust world recovery is in place. A protracted recession and weak economic recovery cannot be ruled out. As discussed later in this overview, the need to reduce overleveraging in Western European parent banks and recognize their estimated losses could cause them to reduce exposure to ECA countries, in turn undermining the latter's ability to navigate the crisis successfully. And deleveraging will be necessary and inevitable as banks move resources to countries with more favorable lending opportunities. Collective action can ensure that such deleveraging remains orderly and gradual.

Address the human dimension of the crisis . . .

The crisis has the potential to exact a high human toll, especially among the low-income and lower middle-income countries in the former Soviet Union. Since much of their external borrowing comes from official sources, these countries have not, for the most part, been directly affected by a reversal in inflows of foreign capital on account of global deleveraging. Instead, they have been hard hit by the global economic recession, which has led to a collapse of export demand and, for a number of them, of workers' remittances. The fall in remittances can create great hardship. In Tajikistan, the poorest country in the region, it is estimated that a 30 percent decline in remittances would cut household consumption in the poorest quintile by around 20 percent.

The human toll is not confined to the poor countries. Preliminary information suggests that registered unemployment more than doubled in the Baltics while it increased by about 60 percent in Turkey and between 20 and 40 percent in the Czech and Slovak Republics, Romania, the Russian Federation, Slovenia, and Ukraine. Even recognizing that incentives to register depend inter alia on the generosity of benefits to be received, the data suggest that unemployment may be on the rise in many financially integrated ECA countries. Poverty is on

the rise, too. In the Russian Federation, the numbers in poverty as a proportion of the population (using a national poverty line based on an officially defined subsistence level) increased by almost one-third between the last quarter of 2008 and the first quarter of 2009, implying 6 million more people in poverty.

... and scale up safety nets (to avoid a humanitarian crisis)

Social safety nets will have to be strengthened to deal with the human dimension of the crisis. Most ECA countries—including, encouragingly, several low-income and lower-middle-income countries—have at least one well-targeted program where a high proportion of benefits reaches the poorest quintile of households and that could be scaled up in response to the crisis. Indeed, in many ECA countries the targeting compares favorably with that of specific programs in Latin America. Examples of well targeted programs include the Unified Monthly Benefit in the Kyrgyz Republic and the Ndhima Ekonomike Program in Albania, which deliver more than 45 percent of their benefits to the poorest quintile. And in the South Caucasus, the Family Benefit Program in Armenia and the Targeted Social Assistance Programs in Azerbaijan and Georgia deliver between 55 and 60 percent of their benefits to the poorest quintile. But their coverage—the share of the poorest quintile reached by these programs—is generally less than 35 percent and could be expanded by consolidating other legacy “privileges.” There are examples of good targeting in middle-income countries, too. For example, 80 percent of the benefits of the Romanian GMI and the Ukraine Extreme Poverty program accrue to the poorest quintile of households, but reach only between 15 and 25 percent of them.

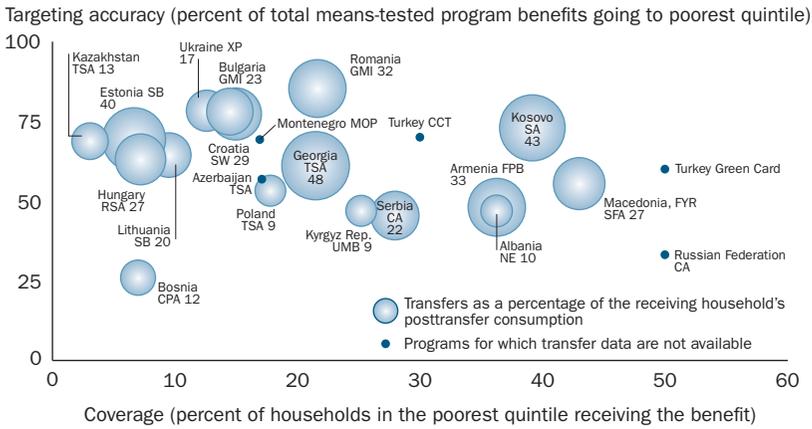
The generosity of means-tested safety nets is highly variable, ranging from modest in Albania, Bosnia, Kazakhstan and the Kyrgyz Republic to generous in Estonia, Georgia, and Kosovo (figure 1). Ten of the countries transfer at least one-fifth of post-transfer consumption of beneficiary households.

Many countries in the region inherited social programs from central planning with room for rationalization and targeting. A few ECA countries, such as Bosnia, Moldova, and the Russian Federation, have adequate spending but inadequate programs for channeling resources to the poor. Reforms can help consolidate programs, eliminate most untargeted privileges, and refocus design and eligibility criteria. Alternatively, new poverty-focused programs can be introduced (within available spending envelopes) while applying targeting tools and improving implementation arrangements.

While social safety nets in many ECA countries have several strengths, there is no room for complacency. Indeed, preliminary data from a few countries show significant declines in the number of beneficiaries between June

FIGURE 1

Means-tested safety nets: targeting accuracy, coverage, and transfers to the poorest quintile



Note: The figure shows the targeting accuracy and coverage of means-tested safety net programs. The size of the bubbles is a measure of their generosity—the transfer received by households in the poorest quintile as a share of the post-transfer consumption of all beneficiary households in that quintile.

2008 and June 2009—when more households have become vulnerable. The situation bears close monitoring.

Official financing in the poorer ECA countries should be stepped up if expected private flows do not materialize

While official financing has been adequate so far, larger and sustained official financing for the low-income and lower-middle-income countries of the former Soviet Union will be required to support desirable social spending and to prevent the global recession from becoming a humanitarian crisis. Foreign direct investment, which financed between 70 and 85 percent of current account deficits in Armenia, Georgia, Kyrgyz Republic, and Tajikistan in 2008, is expected to decline on average by more than half in 2009 to a point where it will finance roughly one-third of current account deficits. If even those levels of FDI do not materialize, however, as a result of delayed recovery of trade and exports, official financing will need to be stepped up.

Prepare for a less exuberant future in an even more competitive external environment . . .

Despite early evidence suggesting that the crisis has bottomed out, the growth outlook for the region is fraught with difficulty. Three factors support this

concern. *First*, when compared with other types of recessions, those associated with financial crises that are globally synchronized, like the current one, witness a deeper decline in GDP from the previous peak to the new trough and take longer to arrive at the new trough. And the time taken for GDP to recover to its previous peak is longer, and the gain in real GDP a year after the trough has been reached is weaker. This is because households increase savings out of disposable income and firms repair their balance sheets after the excesses of the boom years, leading to deep declines in private consumption and investment. Indeed, IMF projections suggest that the contraction in GDP in the Baltic states, Bulgaria, and Hungary will continue in 2010 as well.¹⁰

Second, given that the leverage of Western European banks is excessively high, attaining more sustainable levels would require fresh capital on a scale that may constrain the ability of fiscally strapped Western European governments to support their banking systems. That outcome, if it materializes, will entail substantial deleveraging, including from the ECA countries. This will limit external credit as a source of financing. If in addition exports do not expand rapidly because of a weak global recovery, the growth of imports will be restrained, limiting the expansion in private consumption and investment.

Third, even after world economic growth restarts and the Western European banks return to health, growth is unlikely to continue at the pace seen before the crisis as growth rates over the past decade were underpinned by abundant global liquidity. For the new member states of the European Union and the accession countries, this could imply inter alia a slower convergence to Western European living standards.

... while addressing bank, corporate, and household indebtedness (to prevent the recovery from stalling) . . .

Slow restructuring of banks could hold back the recovery of growth. Nonperforming loans are signaling systemic distress among borrowers: in Latvia and Ukraine, for example, they account for between 15 and 25 percent of all loans. The proportion is higher in sectors that were booming during the years of rapid credit growth, such as construction. In this context, regulators have begun to triage banks into those that are viable and meet regulatory requirements, nonviable and insolvent, and viable but undercapitalized. Based on such assessments, they are also taking actions appropriate to each case—from liquidation and recapitalization, to sale and merger. These efforts should proceed swiftly

10. IMF 2009b.

to avoid the earlier experience of transition countries in the 1990s: until banks were put on a strong footing, economic performance lagged.

. . . and establishing enabling frameworks for debt restructuring—but committing public resources only under special circumstances and careful design

To strengthen the recovery, household and corporate financial difficulties need to be addressed upfront. Most ECA countries have an insolvency framework that can deal with bankruptcy, reorganization, and liquidation. But fledgling judicial systems can be overwhelmed when a large number of firms need restructuring—as in a systemic crisis. To expedite restructuring, governments should consider setting up a system of out-of-court voluntary workouts between debtors and creditors to expedite debt restructuring, just as the Czech Republic, Indonesia, Korea, Malaysia, Mexico, Thailand, and Turkey did in previous crises.

While households drove a large share of the credit growth over the past decade, here too there is variability within ECA. On average, household debt accounts for a quarter of GDP in financially integrated transition countries, ranging from 10 percent of GDP in the Russian Federation to 50 percent in Estonia. This is not out of line with that in countries at similar stages of development. Governments may need to set up mortgage restructuring protocols—adapted to local circumstances—to facilitate negotiations between debtors and creditors. These protocols put forward objectives and options on how to restructure loans and may require changes to the insolvency legislation to ensure that the legal framework gives debtors the incentive to negotiate with creditors in good faith. But beyond setting up enabling frameworks, governments should discourage regulatory forbearance and resist calls to use public resources other than for the relief of the poorest households, which account for only a modest proportion of debt.

Reform bank regulation and supervision . . .

It is important for ECA countries to strengthen bank regulation and supervision to reflect the lessons learned from the present crisis. Better bank regulation and supervision alone would not have averted the crisis, owing to the strong demand and supply incentives for rapid credit growth. Yet, better regulation and supervision might have placed countries in a stronger position to deal with its consequences. In fact, reform of bank regulation and supervision appears to have weakened after 2000: more specifically, a survey of bank regulators reported declines in the ratio of actual-to-required capital adequacy ratio and a fall in the number of countries responding that the supervisory agency had the authority to declare a bank insolvent. Unlike those in a number of industrial countries,

banks in most ECA countries were neither exposed to toxic assets, though some parent banks were, nor part of a shadow banking system. This implies that improvements in regulation and supervision should be tailored to the problems facing ECA countries at their current stage of development and that are likely to arise as their systems of financial intermediation develop further.

... by increasing capital requirements,

Higher overall required ratios of capital to risk-weighted assets—larger than the minimum 8 percent under Basel I and Basel II—are desirable for financial institutions in countries that face volatile capital movements. This would provide a first line of defense to protect against operational and market risks and foreign currency loans, all of which are important in the financially integrated ECA countries—even though it would err on the side of financial stability at the expense of some loss in financial intermediation.

... strengthening supervision of foreign banks

Cross-border banks play a major role in many ECA countries, and this raises important issues of supervision for home and host countries. While information sharing between home and host countries is desirable, there are also incentives to keep the supervisors apart. Host countries can ring-fence subsidiaries to protect depositors and limit costs to the deposit guarantee system. And home countries can centralize a bank's assets while keeping its liabilities decentralized. The European Union is considering proposals for a new financial architecture—a European System of Financial Supervision that would develop a consistent and strengthened set of supervisory standards, coordinate the application of national supervisory standards across countries, and set up supervisory colleges for major cross-border financial firms. These would automatically apply in the new member states and likely be adopted by accession and candidate countries, thus covering the bulk of ECA countries where cross-border banks are important. But absent the ability of blocwide regulators to influence spending priorities of member states, the effectiveness of these arrangements is unclear.

... and participating in a system of macro-prudential supervision

Consideration needs to be given to assessing global systemic risk that arises from a common exposure of many financial institutions to the same risk factors. The European Union is considering setting up a European Systemic Risk Council comprising the European Central Bank and central banks of the member states to pool information relevant for financial stability and issue macro-prudential warnings for the European Union. Other financially integrated ECA countries

without European aspirations may wish to consider how such micro- and macro-prudential supervisory arrangements could be adapted to their contexts.

Finally, there is an extensive agenda for modernizing banking sector institutions. The World Bank-IMF Financial Stability Assessment Programs (FSAPs) and the Reviews of Standards and Codes (ROSCs) provide numerous recommendations on how to improve bank supervision in ECA countries.

Reform

Recession and immediate recovery have so far dominated the policy agenda, but, to remain competitive in a post-crisis world, countries now need to reinvigorate structural reforms in areas that constitute the tightest bottlenecks to growth. Despite an uncertain future, it is likely that capital flows will be considerably lower and will go to countries with the most attractive business environment. Greater discrimination by investors is already present in country spreads.

High pre-crisis growth caused infrastructure and labor skills—the positive legacy of socialism—to emerge as binding constraints to growth and raised the cost of weak market economy institutions

Which are the most important areas for action? On the eve of the crisis, firm managers in transition countries in an ECA-wide enterprise survey reported that, among all the elements of their business environment, infrastructure and labor skills were the most constraining in terms of their ability to operate and expand their businesses.¹¹ Other elements of the business environment included taxation, labor regulation, customs administration, licensing, the rule of law, and finance. Because all of them, with the exception of finance, resemble public goods whose supply is common to all firms in the economy, firms' responses are a measure of the high costs imposed by shortages of infrastructure and labor skills on the operating and growth of their businesses. The survey evidence highlights emerging shortfalls of investment in physical infrastructure, especially in the upper middle-income transition economies, and in education, especially in the low-income and lower middle-income-countries.¹² And access to land for business expansion had become more problematic in many countries.

11. The analysis is based on the Business Environment and Enterprise Performance Survey (BEEPS), conducted by the World Bank and EBRD every three years since 1999. The responses in 2008 (BEEPS 4) correspond to 10,000 firms in 28 transition countries. They are contrasted against responses by 51,000 firms in 74 non-transition countries under the World Bank's Investment Climate Assessments.

12. Comparison of the constraints to growth across countries requires that the responses correct for the fact that samples of firms from different countries differ by characteristics such as firm size, economic sector, and nature of ownership, whether domestic or foreign.

In addition, strong economic growth appears to have increased the cost of weak market economy institutions, especially the legal environment in the lower middle-income transition economies and corruption in the low-income and lower-middle-income transition economies. But other institutions of the market economy—such as tax administration and customs regulation, which traditionally ranked high among concerns in transition economies—are seen by firms as less constraining for business and have fallen in importance in line with nontransition economies at similar per capita incomes.

These bottlenecks are particularly important for exporters

During a period of growth fueled by large capital inflows and increasingly oriented toward nontradables, exporting firms in ECA's transition countries reported their business environment as being more constraining compared with earlier years. Exporters in the upper middle-income transition countries complain mainly about electricity and access to land. Those in the lower middle-income transition countries complain about corruption. And those in the low-income countries complain about tax administration. In contrast, exporting firms in nontransition economies at similar per capita incomes do not report the business environment on average to be more constraining than nonexporters.

Transition economies have come to resemble nontransition economies in some respects

The changing composition of constraints to growth shown in the 2008 survey allows broader comparisons between transition and nontransition economies after two decades of transition.

First, the superior endowment of infrastructure and labor skills with which countries started transition was the product of the legacy of forced industrialization. Over-industrialization involved levels of physical infrastructure and, for the poorer transition economies, labor skills that were “excessive” when measured against a market economy benchmark. It is thus striking that in 2008 firms in transition economies reported higher levels of concern with infrastructure and labor skills, compared with nontransition economies, for the first time since transition began.

Second, the richer transition economies—with a stronger collective memory of market institutions—show greater sensitivity to weaknesses in market-related institutions such as the legal system; a variation by income that is missing in nontransition economies. However, progress in transition in the

lower middle-income transition economies has steadily raised the sensitivity of firms to poorly functioning legal systems there as well.

Third, the structure of finance for fixed investment in transition economies had become similar to that in nontransition economies by 2008. While firms in transition economies had relied more on retained earnings to finance fixed investment, the gap has been falling over time. And while transition firms relied as much or more on informal finance than nontransition firms a decade ago, they had become less reliant on informal finance than nontransition firms by 2008, reflecting a shift to the formal economy. Bank finance had replaced both informal and internal finance by 2008.

The structural reform agenda

Priorities for reform will vary across countries depending on the relative severity of different constraints. However, the survey evidence suggests that structural reforms in infrastructure and labor skills will be important, as will continuing reform of market economy institutions.

In an environment with limited public resources, private investment will be crucial to opening infrastructure bottlenecks

For electricity, the challenge is to have a business environment conducive to private investment and participation in the sector. The latest enterprise survey shows that complaints about electricity as a constraint to growth in the richer transition economies rose above those in comparable nontransition countries. But those in the poorer transition economies rose to levels that are comparable to those in nontransition countries. Countries for which concerns about electricity were greater include Albania, the Czech Republic, Kosovo, and the Kyrgyz Republic. Because investment needs will be significant and public resources limited, attracting private investment is an option that ECA countries could exploit more. Although the situation varies by country, this will require commercially viable utilities, competitive trading regimes, and credible regulatory frameworks. There is also considerable potential for deepening regional cooperation and trade in power in Southeastern Europe and Central Asia.

Also key is to strengthen the education and skills of the labor force

For education and skills, strengths need to be maintained and emerging weaknesses addressed. Firms in Estonia, Belarus, and to a somewhat lesser extent Kazakhstan and the Russian Federation, as well as Moldova and Tajikistan among the poorer countries, encountered more severe problems with skilled

labor than did other countries. In response to the growing demand for skilled labor, there is a high, and in some cases growing, wage premium associated with tertiary education.

Primary school-age students perform well in international tests, but this advantage needs to be consolidated. Vocational education, which has been historically important, is in need of reform. Indeed, evidence from the Russian Federation suggests that the wage premium to vocational education has fallen sharply during the most recent decade. Yet vocational graduates do relatively well in employment relative to general education graduates in many countries in the region. While tertiary education has expanded in large part through the entry of private providers, the lag for strengthening licensing and accreditation systems and the lack of information for students to make informed choices means that the discipline of either the regulator or the market is absent. Governments need to unshackle institutions, especially of primary and secondary education, and allow them greater autonomy in the management of staff and resources. They also need to hold institutions more accountable for learning outcomes—by monitoring quality and making information public on quality and, for tertiary education, by strengthening licensing and accreditation. And they need to use financing more strategically—for example, by allowing financing to follow students (based on capitation formulae) and by building in incentives for performance, as opposed to making allocations based on outdated norms that bear no relationship to quality.

Conclusion

This overview started with three questions, the answers to which may now be summarized.

First, transition shaped the nature of vulnerability but was not its sole determinant. In particular, in some financially integrated countries that were late comers to the transition, excessive credit growth was fed on the demand side by households attempting to catch up to Western European living standards. In that sense, transition shaped the nature of vulnerability and made transition more prone than developing countries to being hit by the global economic crisis. But that is only part of the story. Turning to the supply side, the ECA countries were integrating into the world economy at a time of historically high global liquidity, when fierce competition in international banking provided an abundant supply of credit to emerging market economies. However, countries could have done more to manage risks: in particular, fiscal policy could have played a greater role in limiting vulnerability to a sudden change in market sentiment.

Second, crisis-hit countries that had decided as part of the transition to privatize banks to foreign investors (in order to harden budget constraints and attain macroeconomic stability) have generally navigated the crisis more successfully over the past year. Foreign banks—and other foreign lenders—exposed countries to greater risk. But crisis-hit countries with majority foreign-owned banking sectors have so far been able to roll over maturing external debt to parent banks more easily than those with majority domestic-owned banking sectors, which relied more heavily on wholesale funding. Indeed, the rollover of wholesale funding has been and continues to be difficult across the region.

Two caveats should be noted, however. One is that while parent bank funding has proved to be stable so far, risks remain and whether it will continue to be stable depends on the health of Western European parent banks. Those banks could come under strain in the event of a prolonged recession and weak global recovery. In that case, collective action and generous official financing, both distinctive features of this crisis, will need to continue for some years. The other caveat is that financial integration driven by a majority foreign owned banking sector and collective action under the aegis of the European Union and the International Monetary Fund to ensure continuation of exposure by parent banks may, however, be an aspect of European integration that is less of an option for ECA countries in the CIS that do not have European aspirations. For them, the pattern of integration may be more akin to that in the financially integrated East Asian countries.

But the poorer, less financially integrated countries must not be forgotten. They have been hit hard as a result of their integration into product and labor markets, due to the downturn in world trade and a falloff in workers' remittances. In these countries, substantial official financing will need to be sustained over a number of years in support of desirable social spending to prevent the human dimension of the crisis from becoming a humanitarian one.

Third, high growth in the years preceding the crisis caused firms in transition economies to encounter capacity constraints in infrastructure and labor skills—the positive legacy of socialism—for the first time since transition began. At the same time, progress in transition caused firms and economies to outgrow the capacity of institutions to provide public goods to support market economies, as is evident from concerns about the legal and judicial system, labor regulation, and corruption.

Looking ahead, an economic environment where growth is likely to be lower (as households and firms repair their balance sheets) and public resources more limited will reward countries that improve their business

environment. Moreover, staying internationally competitive in a world of reduced capital flows, when financial markets have already become more discriminating, requires that governments undertake structural reforms in the areas that firms in their countries report as imposing the highest costs for their operation and expansion. For example, attracting private investment in infrastructure sectors such as electricity will be key, and this book highlights ways to do so efficiently without adding to the burden on public finances. At the same time, the state has the important task of continuing to strengthen institutions that provide essential public goods—from strong banking supervision and regulation of tertiary education to a working judicial system. The record of the past 10 years shows that transition countries can accomplish much in building institutions of the market economy. As they did 20 years ago, there is every reason to believe that countries in the region will rise to the challenges facing them today.

CHAPTER 1

Prelude to the crisis

The Europe and Central Asia (ECA) region, among the most integrated of emerging and developing regions, has been hit hard by the global economic and financial crisis through all three channels of integration: financial (a sudden stop in capital flows), goods and services (a sharp decline in exports), and labor (a slowdown in remittances).¹

It is the hardest hit developing region partly because of the buildup of imbalances that accompanied financial integration. But not all ECA countries—and not even all financially integrated countries in the region—are equally vulnerable.

Questions

- Was integration into the global financial system desirable?
- Does variation in country outcomes suggest that different policies could have cushioned the impact of the global economic and financial crisis?

Findings

- High rewards involve risks and integration is no exception; it brought the ECA countries above average income convergence to EU15 levels and modern banking sector systems.
- Unusually abundant global liquidity and strong demand for credit by households attempting to catch up to Western living standards stretched the usual policy toolkit to its limits. But countries could have done more on the fiscal policy side to position themselves better when the crisis struck. Several countries tried prudential measures, which lessen overheating pressures. These measures are worth pursuing even though they are eventually circumvented.

Notes

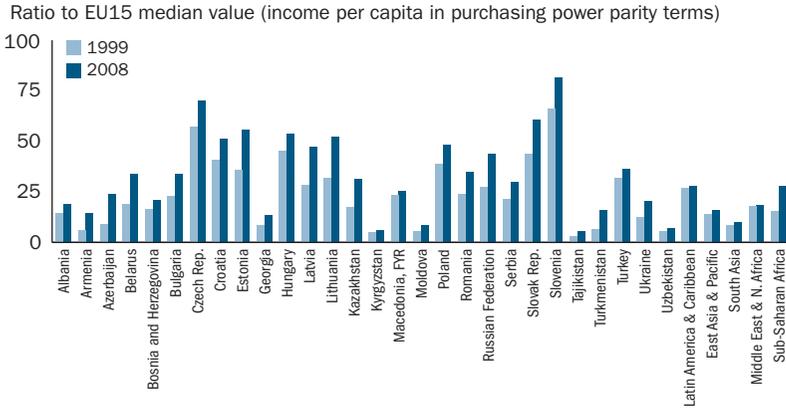
1. The ECA region comprises Central and Eastern Europe, including Turkey (CEE), and the Commonwealth of Independent States (CIS).

In the decade since the 1998 Russian financial crisis, the ECA region has become well integrated into the world economy. In the quest to converge with EU15 per capita incomes, most ECA countries outperformed other developing regions (figures 1.1–1.4). Some 55 million people were lifted out of absolute poverty between 1999 and 2006.¹

1. The poverty line used is \$2.50 a day in 2005 purchasing power parities.

FIGURE 1.1

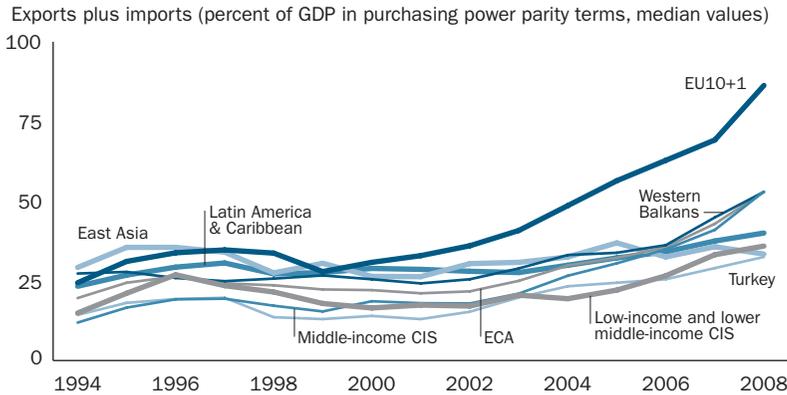
Income convergence with EU15, by country, 1999 and 2008



Source: IMF World Economic Outlook, World Bank World Development Indicators, and authors' calculations.

FIGURE 1.2

Trade integration, by region, 1994–2008



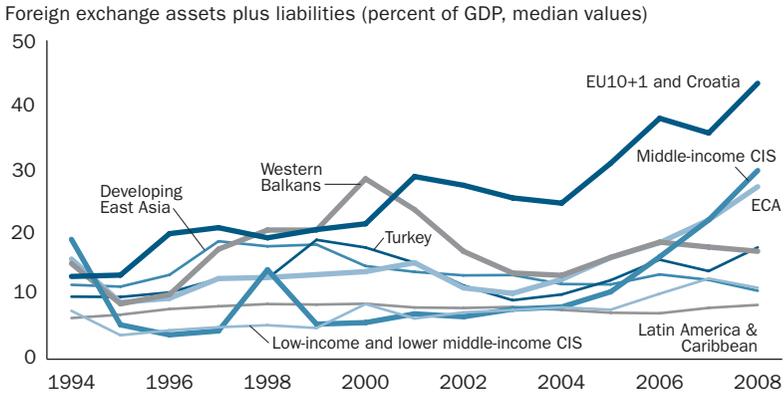
Source: IMF World Economic Outlook, World Bank World Development Indicators, and authors' calculations.

- Trade integration in ECA's transition countries (the ECA region less Turkey)—measured by the sum of exports and imports as a share of GDP in purchasing power parity—increased sharply, particularly since 2002, to reach around 50 percent of GDP in 2008 compared with 35–40 percent in developing East Asia and Latin America. The corresponding share for Turkey rose to 30 percent.²

2. The country groups used to describe the transition economies of Europe and Central Asia are: EU10 and Croatia (Bulgaria, the Czech Republic, Croatia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic, and Slovenia); the middle-income CIS (Belarus, Kazakhstan, the

FIGURE 1.3

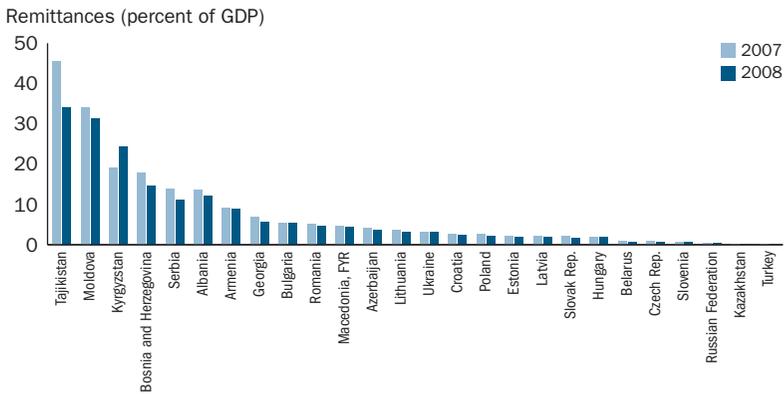
Financial integration, by region, 1994–2008



Source: IMF World Economic Outlook, World Bank World Development Indicators, and authors' calculations.

FIGURE 1.4

Labor integration, by country, 2007 and 2008



Source: IMF World Economic Outlook, World Bank World Development Indicators, and authors' calculations.

- Financial openness in the new member states of the European Union plus Croatia—measured by the sum of foreign exchange assets and liabilities as a share of GDP—was three times the average for developing East Asia in 2008.

Russian Federation, and Ukraine); Western Balkans (Albania, Bosnia and Herzegovina, Kosovo, FYR Macedonia, Montenegro, and Serbia); and the low-income and lower middle-income CIS (Armenia, Azerbaijan, Georgia, the Kyrgyz Republic, Moldova, Tajikistan, and Uzbekistan). Georgia is not part of the CIS but is included in this group because its economy shares many features of the other countries.

- High oil prices and a raft of structural reforms in the Russian Federation in the four years after 1998 dramatically reduced poverty, particularly in the middle-income CIS countries.
- Labor and remittance flows broadly followed a biaxial pattern, with Central and Eastern Europe depending on the European Union and with the South Caucasus and many Central Asian republics depending on the resource-rich CIS countries.

So it is not surprising that the global economic and financial crisis has affected the region through all three dimensions of integration—a sudden stop in capital flows, a decline in exports in line with the weakening of the world economy, and a brake on migration and remittances following the slowdown in Western Europe and the resource-rich CIS. Among all emerging and developing regions, ECA is projected to experience the deepest downturn in 2009 (–5 percent for CEE and –6.7 percent for the CIS) and the weakest recovery in 2010 (1.8 percent for CEE and 2.1 percent for the CIS). Indeed, the degree of integration—and now vulnerability—show how far ECA countries have come since the fall of the Berlin wall two decades ago.

But not all ECA countries have been affected to the same degree through each channel. Some countries were more vulnerable to the change in market sentiment and the decline in global liquidity. Balance sheet vulnerabilities accumulated during many years of high private sector credit growth and the external imbalances associated with this growth. In Latvia, for example, current account deficits were more than 20 percent of GDP in 2006 and 2007, only to decline into the mid-teens in 2008. Countries in the Western Balkans also had double-digit external imbalances. It is thus not surprising that these differences are now being priced by markets in sovereign bond spreads—changing the ordering of countries by risk and showing marked increases in volatility (annex 1.1). Ukraine's spread has increased sharply, but Hungary's has not changed much since the fall of 2008, when the crisis intensified in both countries. Still others are suffering a slowdown in exports, and for many the prospects of a rapid recovery are unclear. The effect on migration and remittances is likely to be acute, particularly among the poorer countries in the region. But some of them, such as Tajikistan and Moldova, have remittances to GDP ratios of between 30–35 percent, among the highest in the world. Early estimates suggest that the region is likely to see 11 million individuals fall into absolute poverty by 2010.

With this as background, the chapter answers two questions. First, was integration—particularly into global financial systems—desirable in light of evidence showing how deeply the region is being affected by the global economic and financial crisis? Focusing on financial integration, the analysis

highlights a distinctive feature of how ECA countries—Central and Eastern Europe (including Turkey) and the former Soviet Union—have become part of the world economy and the risks and rewards that such integration has brought. Second, does the significant variability in country outcomes, even among financially integrated countries, suggest that different policies could have positioned countries better when the crisis struck?

Vulnerable . . . but with variation

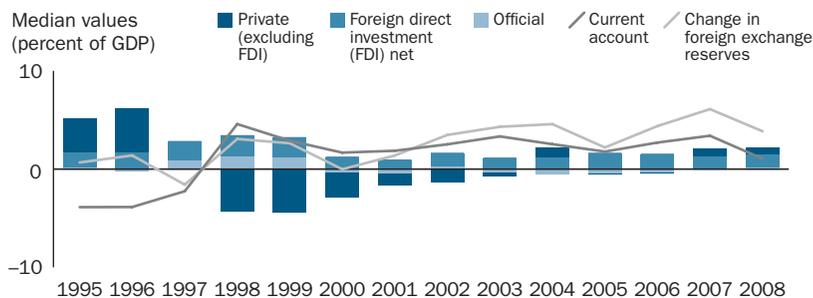
Compared with other emerging economy regions, all ECA countries received substantial capital inflows for much of the current decade (figures 1.5–1.8). The region received high levels of FDI flows and large amounts of debt-creating external financing, evidence of the substantial transformation of the region. Some of these flows originated in parent banks and corporates and were directed to their subsidiaries in host countries. As will be seen in chapter 2, some debt-creating flows can be as stable as FDI.

The region’s GDP growth rate outperformed all other regions until the crisis. The differences across ECA countries partly reflect progress in the transition to market (figures 1.9–1.14). Countries where transition-based output recovery had largely been accomplished by the turn of the new century grew slower than latecomers to the transition process—the Balkans and the countries of the former Soviet Union. In addition, the region as a group recently recorded a gradual pickup in inflation—in line with other developing regions.

Accompanying the strong growth was a buildup of external imbalances, which cannot be explained by a decline in terms of trade or, for the most part, by weak fiscal positions (see figures 1.9–1.14). External developments mirror an excess of private investment over private savings. Even in Hungary, Romania,

FIGURE 1.5

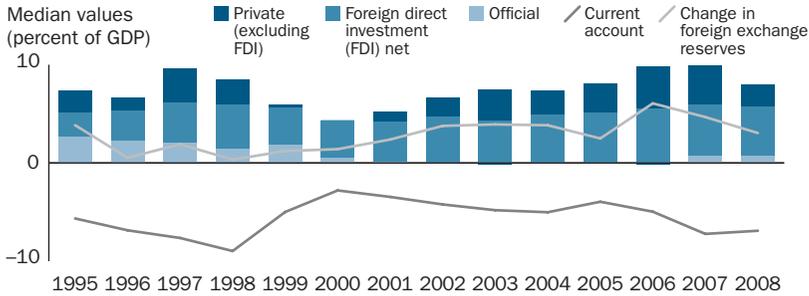
Capital flows in developing East Asia



Source: IMF *World Economic Outlook* and authors’ calculations.

FIGURE 1.6

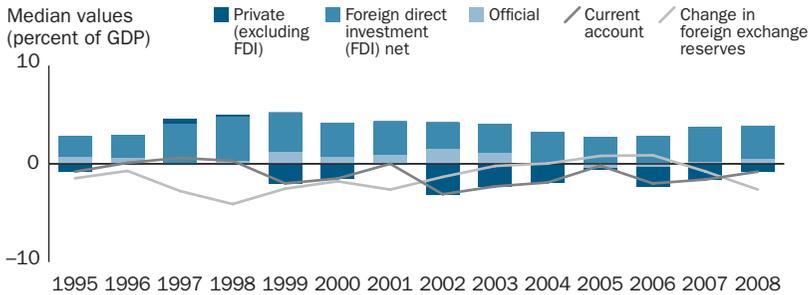
Capital flows in Europe and Central Asia



Source: IMF *World Economic Outlook* and authors' calculations.

FIGURE 1.7

Capital flows in Latin America and the Caribbean



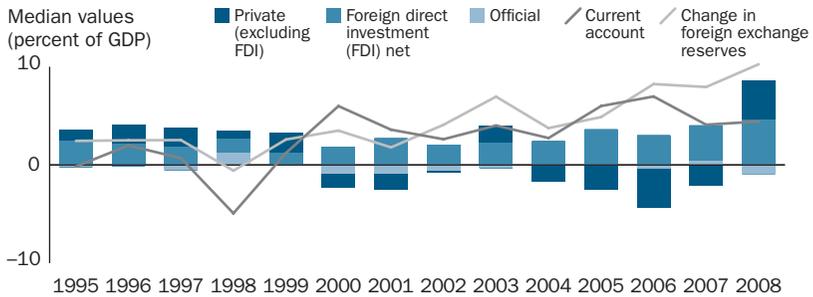
Source: IMF *World Economic Outlook* and authors' calculations.

and Ukraine, where fiscal positions are known to have been weaker, private sector imbalances were still important. While the real exchange rate appreciated in most of ECA, this was driven in some cases by higher productivity, reflecting integration with Western Europe in particular and global markets more generally. Unlike other emerging and developing regions, ECA saw no decline in external debt-to-GDP ratios (figure 1.13). And the ratio of short-term debt to foreign exchange reserves increased—a harbinger of things to come.

There is, however, substantial variability across countries in the region. That makes it instructive to contrast ECA countries with other regions, and with each other. For this, the region could be divided into countries integrating rapidly into financial markets—the emerging markets—and the low-income and lower middle-income countries. But using only two groups would not do justice to the diversity of economic experience among the region's financially integrated middle-income countries. To make these differences more evident,

FIGURE 1.8

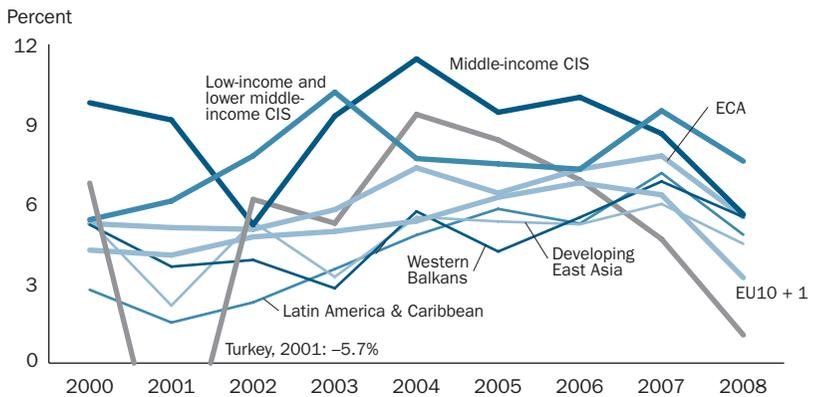
Capital flows in other emerging economies



Source: IMF *World Economic Outlook* and authors' calculations.

FIGURE 1.9

Real GDP growth, median values, 2000-08



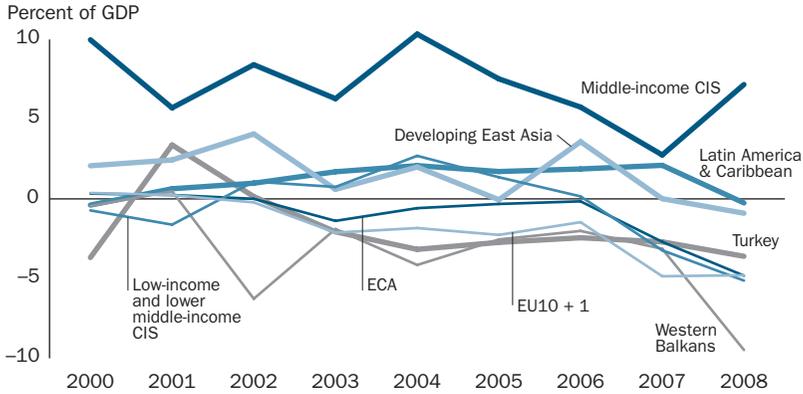
Source: IMF *World Economic Outlook* and authors' calculations.

a technique known as cluster analysis classifies countries into groups based on the sources of vulnerability that affect ECA countries. Such analysis allows differences across countries to be identified simultaneously in a number of dimensions of domestic sources of vulnerability (private sector credit growth, fiscal deficits, loan-to-deposit ratios) and external sources (short-term debt-to-foreign exchange reserves, external debt-to-GDP ratios, and exchange rate regime), without setting ad-hoc thresholds (box 1.1).

A classification of financially integrated ECA countries by the sources of vulnerability identifies five distinct groups. Ordered from groups that have the most sources of vulnerability to those that have the fewest the groupings are as follows:

FIGURE 1.10

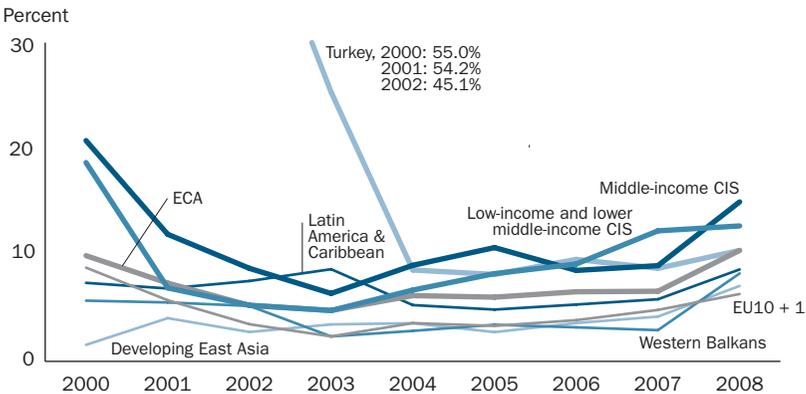
Current account, net of FDI, median values, 2000–08



Source: IMF World Economic Outlook and authors' calculations.

FIGURE 1.11

Inflation, median values, 2000–08



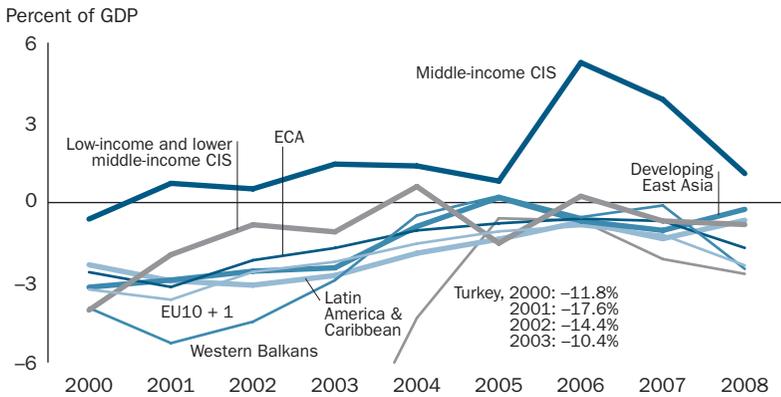
Source: IMF World Economic Outlook and authors' calculations.

- Group 1: Estonia and Latvia.
- Group 2: Bulgaria, Croatia, Hungary, Kazakhstan, Lithuania, and Montenegro.
- Group 3: FYR Macedonia, Poland, Romania and Serbia, and Ukraine.
- Group 4: Czech and Slovak Republics and Turkey.³

3. Slovenia in all likelihood would also belong to this group, but not all the data required to implement the cluster analysis methodology were available for this country when the exercise was conducted.

FIGURE 1.12

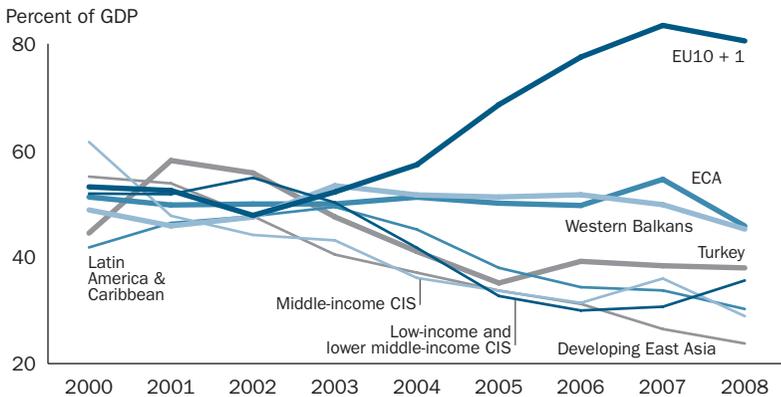
Fiscal balance, median values, 2000–08



Source: IMF *World Economic Outlook* and authors' calculations.

FIGURE 1.13

External debt to GDP, median values, 2000–08



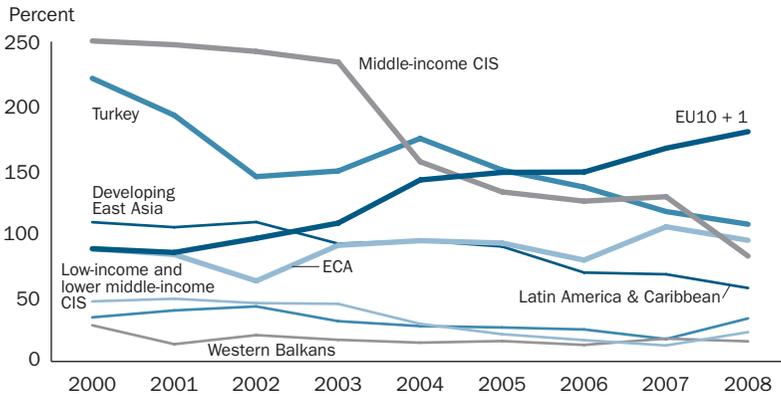
Source: IMF *World Economic Outlook* and authors' calculations.

- Group 5: Belarus and the Russian Federation.

The remaining countries in ECA are aggregated into Group 6. It is also important to recognize that the discussion in the remainder of this book reflects average characteristics within a group, but might mask intra-group differences. Still, looking at developments at the level of country groups provides policy guidance for countries that might face similar sources of vulnerability in the future.

FIGURE 1.14

Ratio of short-term debt to foreign exchange, median values, 2000–08



Source: IMF *World Economic Outlook* and authors' calculations.

The magnitude of current account imbalances varied widely across country groups (table 1.1 and figures 1.15–1.18).

- Current account imbalances as a percent of GDP during the period 2003–05 in the financially integrated country groups were in deficit amounting to double digits in Group 1 and fell monotonically across the country groups to a surplus of nearly 4 percent in Group 5.
- Current account imbalances as a percent of GDP worsened in 2006–08 in all the financially integrated country groups, but particularly sharply in Groups 1 and 2.
- Most external imbalances originated in the private sector; particularly in Groups 1, 2 and 3. Indeed, savings–investment balances in table 1.1 also reveal the change in the source of vulnerability between 2003–05 and 2006–08. While public sector imbalances were important in 2003–05, they seem to have abated for the most part during the most recent 3-year period. In contrast, private sector imbalances were not only large, but increased further during 2006–08.

External imbalances were accompanied by improvements in the fiscal balances (figure 1.16). Indeed, both domestic and external public debt ratios declined in most countries while total external debt increased in some countries. External debt ratios tripled during the decade in Group 1 and increased quite sharply in Groups 2 and 3, in contrast with the rest of the developing world. Perhaps more worrisome is the deterioration of foreign exchange

BOX 1.1

Shades of vulnerability—a cluster analysis approach to classifying countries

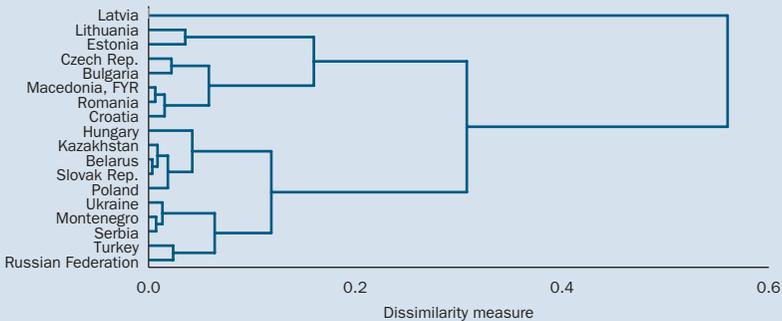
Classifying countries by underlying vulnerabilities is not straightforward. For instance, focusing on short-term debt-to-GDP might provide a ranking of country vulnerabilities. But how does one decide which are the relevant thresholds to divide countries into groups? The typical approach is to define them based on standard deviations—but this still is ad hoc. And a classification based only on one indicator (such as short-term debt-to-GDP) fails to compensate for large foreign currency holdings at the central bank or a flexible exchange rate—both of which should relieve market pressures but would not be captured by a classification built only on short-term debt-to-GDP ratios.

An alternative that reduces ad-hoc biases is to apply a data partition technique known as cluster analysis, which breaks the dataset into high (top) to low (bottom) risk groups, based on indices of data similarities (or dissimilarities). The iterative process begins by treating each country as a separate group and reduces the number of groups by aggregating observations that are the most similar—a process known as hierarchical agglomeration. No thresholds are needed. Instead, groups are aggregated based on Euclidean distances within and across subgroups.

When applied to short-term debt-to-GDP ratios, the data seem to be represented by numerous groups (box figure 1). The dissimilarity is represented by the length of the horizontal lines—the short horizontal lines suggest that dissimilarity is low. Some of the countries ranked at the top also are not the ones expected to be vulnerable. For instance, the Czech Republic is significantly more vulnerable than Hungary and Ukraine.

Box figure 2 goes a step further by carrying out cluster analysis on domestic (private sector credit growth, fiscal deficits, and loan-to-deposit ratios) and external (short-term debt-to-foreign exchange reserves, external debt-to-GDP ratios, and exchange rate regime—as classified in the IMF’s AREAER) sources of vulnerability.

BOX FIGURE 1
Cluster analysis



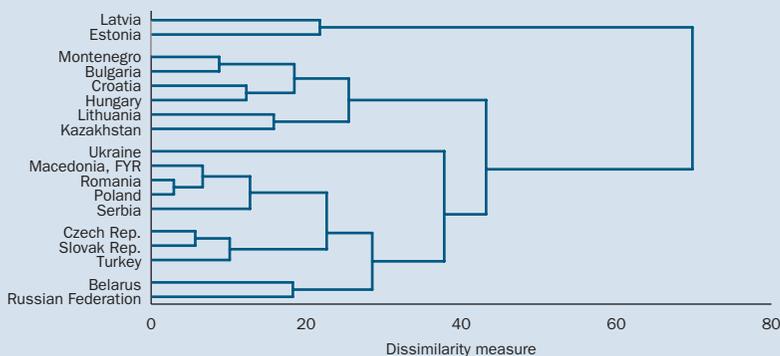
Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors’ calculations.

(continued)

Shades of vulnerability—a cluster analysis approach to classifying countries

The advantage of cluster analysis resides with its ability to classify countries on numerous indicators. The country groups now appear to be more representative of our priors, including recent developments in ECA countries and without imposing ad-hoc thresholds. Specifically, we group the 18 most financially integrated ECA countries into the 5 most different groups. The horizontal lines are longer than is the case when applying only one indicator, suggesting that it is important to consider the variety of country circumstances when classifying countries into groups.

BOX FIGURE 2

Cluster analysis

Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors' calculations.

liquidity indicators: by 2008, all the financially integrated groups 1 through 5 had ratios above one, implying significant liquidity risks.⁴

Transition meets global finance

Nowhere is ECA's integration more striking than in the role of foreign banks. The financial sector played a historically important role in the transition from plan to market (annex 1.2). After nearly two decades of transition, two-thirds of the countries in the region have half or more of their banking sector assets in foreign hands (figure 1.19). The increase in foreign ownership of banking sector assets has gone hand in hand with increasing financial openness.

4. The Guidotti-Greenspan rule suggests that the ratio of short-term debt on a remaining maturity (short-term debt and medium- and long-term debt falling due in the next 12 months) to foreign exchange reserves should be less than one.

TABLE 1.1

Savings–investments balance (percent of GDP, median values)

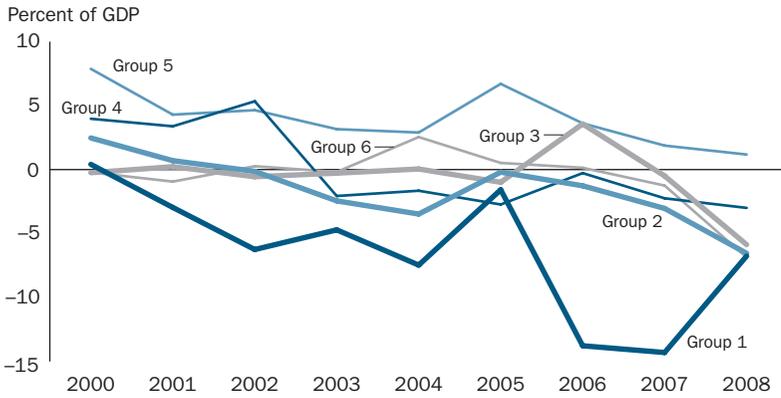
	Europe and Central Asia						Developing East Asia	Latin America and the Caribbean	Other regions
	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6			
2003–05									
National savings	21.9	17.0	16.9	19.0	27.7	21.9	27.1	19.0	23.1
Public	2.9	3.4	1.9	-0.4	7.2	3.0	6.0	3.1	3.6
Private	19.0	13.5	15.0	19.4	20.5	18.8	21.1	15.9	19.5
National investment	33.0	24.5	21.3	25.5	23.8	25.8	24.7	19.4	22.9
Public	5.2	4.5	4.0	4.5	7.4	4.3	8.1	4.7	6.4
Private	27.8	20.0	17.3	21.0	16.4	21.5	16.6	14.7	16.5
Savings–investment, public	-2.3	-1.1	-2.1	-4.9	-0.2	-1.3	-2.1	-1.5	-2.9
Savings–investment, private	-8.8	-6.5	-2.3	-1.7	4.1	-2.7	4.5	1.2	3.1
Current account	-11.1	-6.8	-5.0	-5.3	3.8	-3.6	0.2	-0.5	1.0
Total capital flows	13.0	10.0	7.8	6.8	0.9	4.2	1.3	1.9	0.4
Change in foreign exchange reserves	1.9	3.2	2.8	1.6	4.7	0.6	1.5	1.3	1.4
2006–08									
National savings	19.3	15.7	18.3	21.7	29.8	18.5	28.6	19.1	25.3
Public	3.6	3.6	2.0	2.8	10.9	3.6	6.5	4.7	6.9
Private	15.6	12.2	16.2	18.9	18.9	15.0	22.0	14.4	18.4
National investment	36.2	28.4	26.6	26.0	29.4	24.9	26.0	22.7	25.9
Public	6.7	4.5	4.4	6.6	10.4	3.2	9.4	5.5	7.0
Private	29.4	23.9	22.1	19.4	19.0	21.7	16.6	17.2	18.9
Savings–investment, public	-3.1	-0.9	-2.4	-3.8	0.5	0.3	-2.9	-0.8	-0.2
Savings–investment, private	-13.8	-11.7	-5.9	-0.5	-0.1	-6.7	5.4	-2.8	-0.4
Current account	-17.0	-10.3	-7.5	-5.7	0.4	-7.1	0.1	-1.7	-1.8
Total capital flows	18.1	14.0	9.7	5.0	3.6	6.2	1.6	2.9	3.1
Change in foreign exchange reserves	1.0	3.7	2.2	-0.8	4.0	-0.9	1.7	1.2	1.3

Note: Latin America and the Caribbean excludes island economies and International Development Association–eligible countries.

Source: IMF *World Economic Outlook*, Eurostat databases, and authors' calculations.

FIGURE 1.15

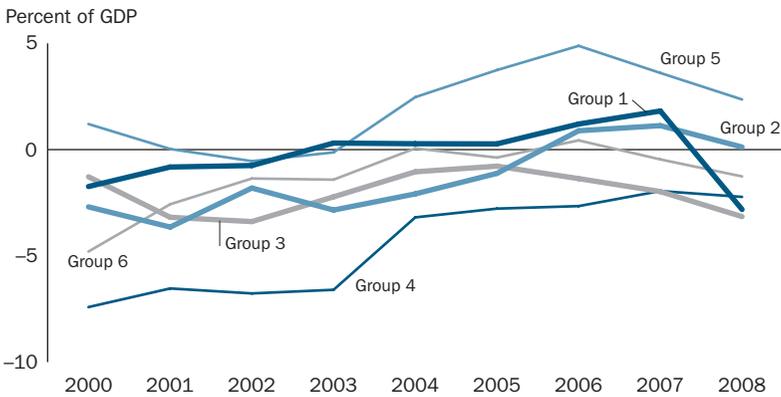
Current account, net of FDI, median per group, 2000–08



Source: IMF World Economic Outlook and authors' calculations.

FIGURE 1.16

Fiscal balance, median per group, 2000–08



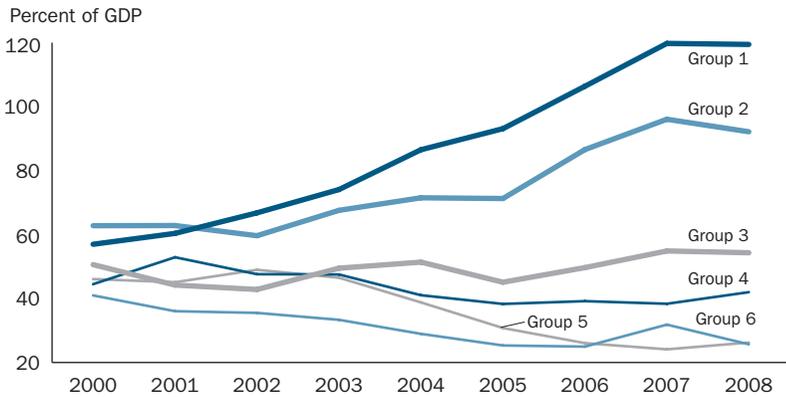
Source: IMF World Economic Outlook and authors' calculations.

Reaping the benefits . . .

Moving to foreign-owned banking systems made possible the attainment of macroeconomic stability. Indeed, the symbiotic link between governments and state-owned enterprises and newly privatized enterprises was a threat to stability. Perhaps the most important impact of foreign bank entry was severing relationships between politically connected enterprises and the banking system.

FIGURE 1.17

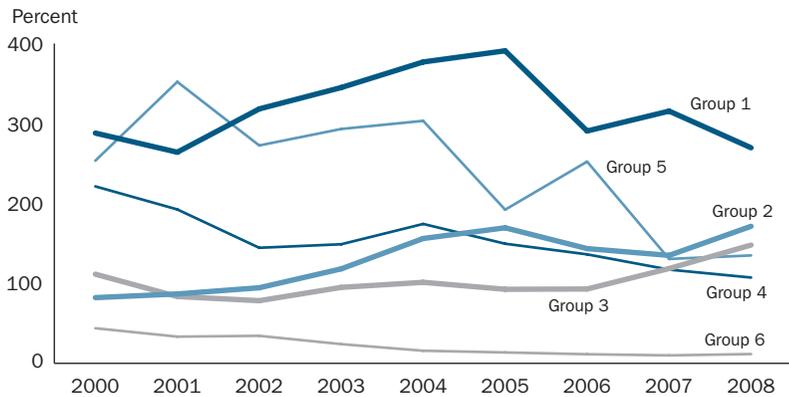
External debt to GDP, median per group, 2000–08



Source: IMF World Economic Outlook and authors' calculations.

FIGURE 1.18

Short-term debt to foreign exchange reserves, median per group, 2000–08



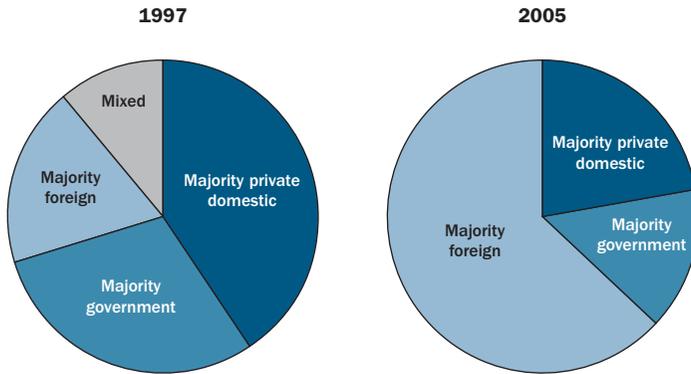
Source: IMF World Economic Outlook and authors' calculations.

Failure to do so had resulted in quasi-fiscal bailouts of incumbent state-owned enterprises and systemic banking crises during the 1990s, with banking distress reaching its peak in the mid-1990s (figure 1.20). Moreover, many foreign banks brought in long-term strategic goals and stabilized the banking systems.

Econometric evidence shows that firms with ownership links to domestic banks or the government grow less, while stronger and younger firms benefit from the

FIGURE 1.19

Bank ownership patterns in Europe and Central Asia transition economies, 1997 and 2005



Source: Barth, Caprio, and Levine 2008; EBRD (various years); and World Bank staff estimates.

entry of foreign banks. While foreign banks initially focused on large and foreign-owned firms, improvements in the contractual and information framework in the host country made lending to small and medium firms more attractive as well.⁵ Foreign strategic investors were also crucial for the development of financial services: by bringing in new technology and skills from their home countries, foreign banks had an overall positive impact on their home countries and on their host countries' financial systems. More recently, foreign banks were instrumental in providing credit to households, both mortgages and consumer finance.

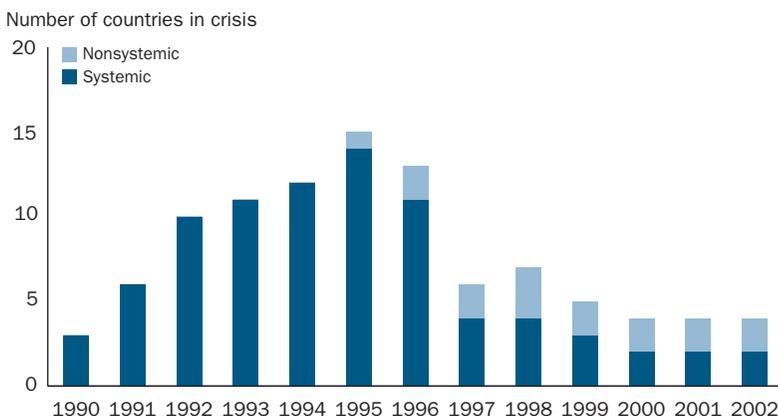
Foreign banks strengthened ECA's banking sector. Restructuring and better risk management within the banking sector sharply reduced nonperforming loans and maintained high capital adequacy ratios with significant changes between 1999 and 2007 (table 1.2). Provisions against loan losses generally increased steadily until 2007. Profitability, measured by rates of return on equity and assets, was high till 2007 but declined in 2008 to ranges seen earlier in the decade, perhaps reflecting the gradual onset of the crisis. Even so, profitability appears high enough to accommodate the substantial additional provisioning expected in 2009–10.

Parent banks that entered Central and Eastern Europe have been more profitable than their domestic competitors at home. Indeed, banks with a presence in Central and Eastern Europe had higher rates of return-on-equity

5. De Haas and Naaborg 2005.

FIGURE 1.20

Banking crises in transition economies, 1990–2002



Note: Episodes of distress are classified as systemic if emergency measures were taken to assist the banking system (such as bank holidays, deposit freezes, guarantees to depositors or other creditors) or if large-scale nationalizations took place. Episodes were also classified as systemic if nonperforming assets reached 10 percent of total assets at the peak of the crisis or if the cost of rescue operations was more than 2 percent of GDP.

Source: Honohan and Laeven 2005.

over 2004–08 than banks that have only market exposure in their home country (figures 1.21 and 1.22).⁶ Although the return on equity declines over the period in both groups, it does so more in the latter. Similar results hold for the rate of return-on-assets. Part of the reason for the higher rates of return for the internationally diversified banks is that markets perceived these as riskier, as reflected in more volatile stock prices than their domestic counterparts.⁷

... while taking on risks

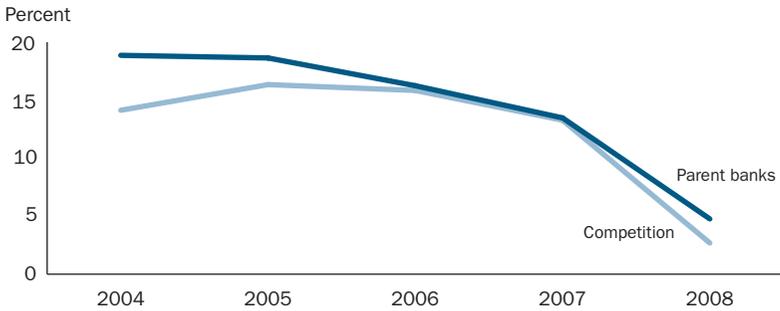
There was also a rapid increase across most groups in private sector credit-to-GDP ratios and in loan-to-deposit ratios (figures 1.23 and 1.24). Although the increase was most marked in Group 1 countries, the increase in other groups, such as Group 2 and 3, is also telling. But credit expansion in excess of the growth of deposits increased the reliance of banks on external borrowing and exposed countries to the risk of sudden stops and reversals in capital flows. Loan-to-deposit ratios increased across all groups, showing that credit to the

6. The estimates refer to the rates of return for a group of banks with exposures in the ECA region and a group of other Western European banks. The rate of return for each bank is weighted by its share of equity or assets in the group.

7. The comparison is between the beta coefficients of a bank with exposure in Central and Eastern Europe with that of its domestic counterpart; those for the former are significantly higher than those for the latter.

FIGURE 1.21

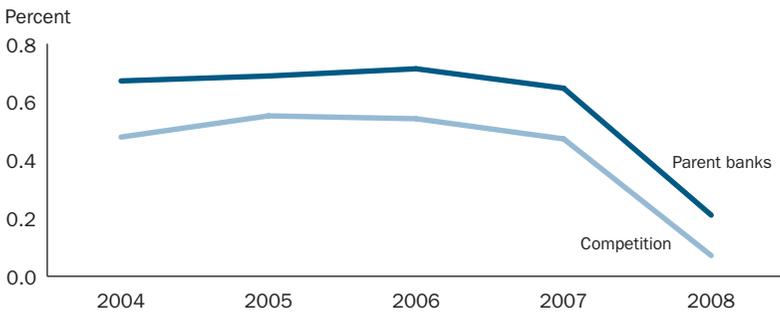
Average return on equity, parent banks and competition, 2004–08



Source: Andreeva and Branda 2009.

FIGURE 1.22

Average return on assets, parent banks and competition, 2004–08



Source: Andreeva and Branda 2009.

private sector was not financed through rising deposits (except for Group 4 where the increase was more modest).

By late 2008, foreign currency loans constituted the majority of bank loans in many new member states of the European Union—over 80 percent in Estonia and Latvia and around 60 percent in Bulgaria, Hungary, Lithuania, and Romania. But there are important exceptions to the generally high share of foreign currency-denominated lending. It stood at 10 percent in the Czech Republic, 20 percent in the Slovak Republic, and 25 percent in Poland, also the countries with the lowest loan-to-deposit ratios.⁸

8. As will be seen in chapter 2, these are also the countries where the share of international claims in total lending by parent banks and their subsidiaries are the lowest; in other words, resident deposit-taking was the primary source of funding.

TABLE 1.2

Evolution of banking sector indicators, by country, 1999–2008

Countries	Nonperforming loans (percent of total loans)				Capital adequacy (risk-weighted capital- asset ratio)				Loan-loss provisions (ratio of bank provisions for loan losses to nonperforming loans)				Return on equity (percent)				Return on assets (percent)			
	1999	2004	2007	2008	1999	2004	2007	2008	2000	2004	2007	2008	1999	2004	2007	2008	1999	2004	2007	2008
Bosnia and Herzegovina	9.9 ^a	3.5	3.0	3.1	26.3 ^a	18.0	17.1	16.3	64.2	96.1	..	37.8	-5.8 ^a	5.6	8.9	4.3	-1.3 ^a	0.6	0.9	0.4
Bulgaria	29.0	7.1	1.7	2.2	43.0	16.6	13.8	14.9	65.9	49.0	46.6	7.9	20.9	20.0	23.8	20.5	2.5	2.1	2.4	2.1
Croatia	11.8	4.5	3.1	3.2	20.6	14.1	16.4	14.2	79.9	60.3	51.5	48.4	4.8	16.6	10.9	10.1	0.7	1.4	1.6	1.6
Czech Rep.	22.0	4.1	2.7	3.2	13.6	12.6	11.5	12.3	46.8	69.4	56.4	56.9	-4.3	23.4	24.5	21.7	-0.3	1.3	1.3	1.2
Estonia	1.7	0.3	0.5	1.9	16.1	13.4	14.8	18.8	..	..	..	..	9.2	13.8	30.2	13.8	1.4	1.6	2.6	1.2
Hungary	3.6	2.7	2.6	2.6	14.9	11.2	11.0	11.1	57.0	51.1	58.1	80.3	7.1	25.2	18.6	15.1	0.6	2.0	1.7	1.3
Kazakhstan	..	..	..	..	..	..	14.2	14.9	..	..	..	..	..	..	18.4	9.7	..	..	2.3	1.2
Latvia	6.0	1.1	0.4	2.2	16.0	11.7	11.1	11.8	74.1	99.1	129.8	92.6	11.2	21.4	24.2	4.6	1.0	1.7	2.0	0.3
Lithuania	12.5	2.3	0.8	1.1	17.4	12.3	10.9	12.9	34.6	21.6	73.0	..	1.1	13.4	26.0	16.1	0.5	1.3	1.7	1.2
Macedonia, FYR	41.3	13.2	7.5	6.9	28.7	23.0	17.0	15.6	..	76.2	94.1	..	3.5	6.2	15.2	19.1	0.8	1.1	1.8	2.2
Poland	13.2	15.5	5.3	5.0	13.2	15.6	12.0	10.7	40.5	58.0	..	..	12.9	17.6	24.8	20.6	0.9	1.4	1.9	1.5
Romania	35.4	8.1	9.7	9.8	17.9	18.8	12.7	11.9	..	34.3	25.7	27.8	-15.3	19.3	11.5	15.9	-1.5	2.5	1.3	1.4
Russian Federation	..	..	..	..	..	..	15.5	14.5	..	..	..	..	..	..	22.7	12.1	..	..	3.0	1.6
Serbia	21.6 ^b	22.8	3.8	5.3	25.6 ^b	27.9	27.9	21.9	..	..	..	..	-60.6 ^b	-5.3	10.2	10.6	-8.4 ^b	-1.2	1.7	2.1
Slovak Rep.	23.7	5.4	2.8	3.2	29.5	19.0	13.2	11.1	75.1	89.1	93.3	91.4	-36.5	11.9	19.6	14.1	-2.3	1.0	1.1	1.0
Slovenia	5.2	5.7	1.8	1.6	14.0	11.0	11.2	11.2	45.3	34.0	..	..	7.8	14.2	16.3	8.1	0.8	1.1	1.4	0.7
Turkey	10.5	6.0	3.5	3.2	8.2	28.8	19.0	17.7	59.8	88.1	86.8	81.1	33.1	17.4	21.3	18.8	3.3	2.5	2.7	2.2
Ukraine	..	3.2	1.3	14.5	..	..	13.9	13.6	..	..	26.3	26.0	..	..	12.7	10.9	..	1.1	1.5	1.3
Average	16.5	6.8	3.2	4.3	20.3	16.9	14.6	14.2	58.5	63.6	67.4	55.0	-0.7	14.7	18.9	13.7	-0.1	1.3	1.8	1.4
Austria	1.7	1.5	1.7	..	13.9	14.7	11.6	10.8	..	..	..	..	6.9	9.3	8.2	..	0.3	1.5	0.5	..

.. is not available.

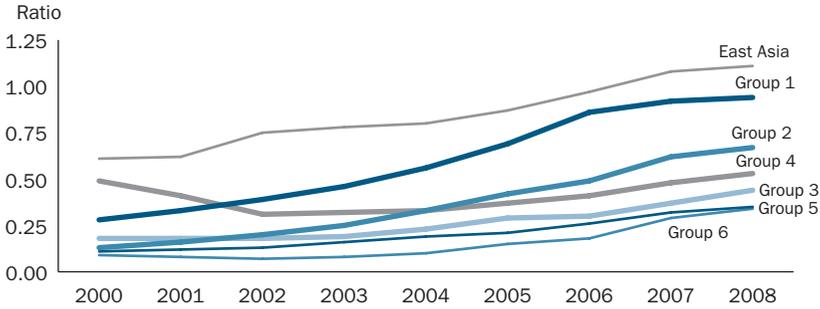
a. Data are for end-2000.

b. Data are for end-2002.

Source: Central banks (Annual Reports or Financial Stability Reports), IMF *World Economic Outlook*, and authors' calculations.

FIGURE 1.23

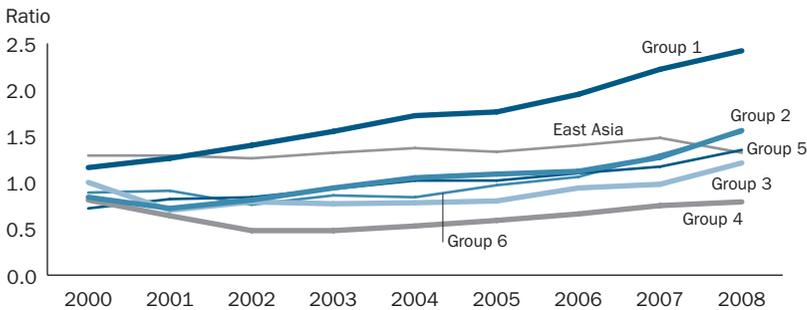
Private sector credit to GDP, median value, 2000–08



Note: East Asia denotes the median values for Indonesia, Korea, Malaysia, and Thailand for 1990–98; this data is superimposed on 2000–08 in the charts for the different groups of ECA countries. Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors' calculations.

FIGURE 1.24

Loans to deposits, median value, 2000–08



Note: East Asia denotes the median values for Indonesia, Korea, Malaysia, and Thailand for 1990–98; this data is superimposed on 2000–08 in the charts for the different groups of ECA countries. Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors' calculations.

Together the charts have two implications. First, there has been increasing reliance on direct borrowing from parent banks and on wholesale funding abroad. It is also worth noting that the increase among the countries of East Asia hit by the emerging market crisis of 1997–98 was not as pronounced, in line with the more limited role of parent banks in the buildup of vulnerabilities. Second, while deposits are typically the cheapest source of funding, parent bank expansion strategies relied heavily on foreign financing sources that were on-lent in foreign exchange to unhedged borrowers.

Foreign exchange liabilities and leverage (liabilities-to-equity) ratios of banks also rose among financially integrated countries. The foreign exchange exposure ratios show that foreign exchange liabilities increased across all groups, in some cases sharply, signaling growing vulnerability to a reversal in market sentiment (figure 1.25). And while leverage ratios are not high when compared with advanced economies, they increased steadily and rapidly over the past few years in the three groups (Groups 1 through 3) facing more sources of vulnerability (figure 1.26).

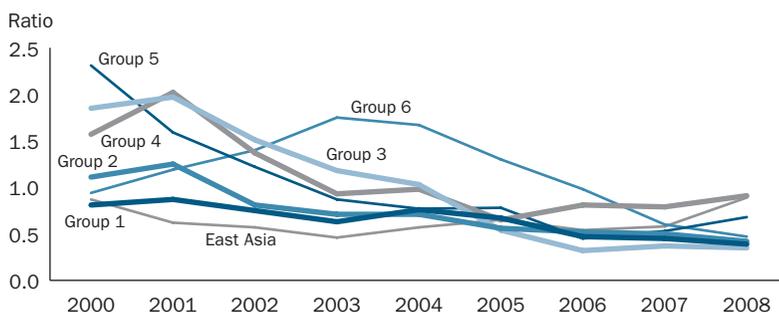
Financial deepening or irrational exuberance?

There is no doubt that credit to the private sector expanded very rapidly in the ECA countries, particularly since 2005. The growth of private sector credit has however been decelerating in the Baltic States since 2007 and, for the most part, elsewhere since mid-2008. But it is less clear how much of the acceleration reflects catch-up due to low initial indebtedness characteristic of late financial deepening and how much reflects excess growth. In particular, it is worth asking if credit growth was excessive in the years leading up to the crisis.

To answer that question, figure 1.27 defines excess credit growth relative to the average experience of all developing countries during 2005–08. The top two panels of figure 1.27 describe how each arrow in these charts should be interpreted. Where each arrow begins depicts private sector credit as a share of GDP in 2000 and the annual real private sector credit growth in 2001–04. The arrows end at the level of private sector credit as a share of GDP in 2004 and the annual real private sector credit growth in 2005–08. Whether credit

FIGURE 1.25

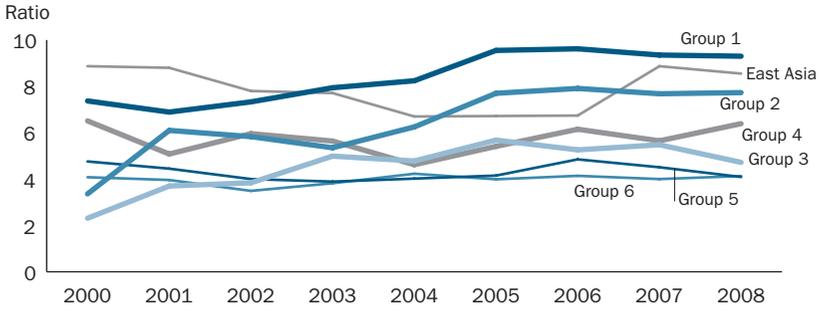
Foreign exchange assets to liabilities, median value, 2000–08



Note: East Asia denotes the median values for Indonesia, Korea, Malaysia, and Thailand for 1990–98; this data is superimposed on 2000–08 in the charts for the different groups of ECA countries. Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors' calculations.

FIGURE 1.26

Liabilities to equity, median value, 2000–08



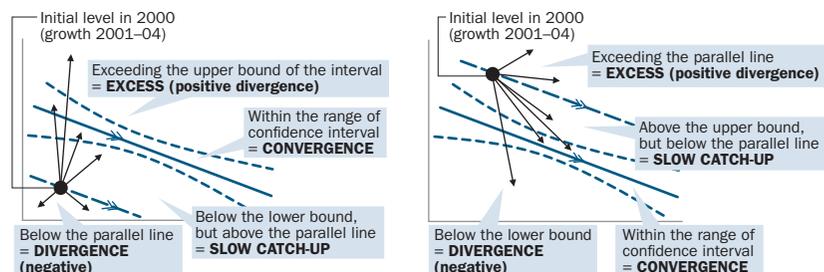
Note: East Asia denotes the median values for Indonesia, Korea, Malaysia, and Thailand for 1990–98; this data is superimposed on 2000–08 in the charts for the different groups of ECA countries. Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors’ calculations.

growth was convergent or excessive depends on where the arrows end relative to the confidence interval. For countries whose arrows begin below the regression line, three relevant outcomes are possible. First, if the arrow ends within the confidence interval, these countries are considered to be catching up (convergence). Second, if the arrow exceeds the upper bound confidence interval, this indicates “excess” credit growth. Third, if arrows go toward the regression line but do not reach the lower bound, countries are said to be catching up but at a slow rate. The same logic applies to countries whose arrows start above the regression line—though in this case, excess growth relates to arrows going away from the origin of these graphs.

Financially integrated countries in ECA are represented in the bottom panel of figure 1.27. The upward sloping arrows that end above the upper bound confidence interval are interpreted as cases of excess credit growth. This includes Belarus, Lithuania, Romania, the Russian Federation, and Ukraine: for all five the second subperiod’s growth was higher than the first subperiod’s—in excess of 30 percent a year except in the Russian Federation, where it was somewhat lower. Estonia already had the financial depth characteristic of Central Europe in 2000 and had far overtaken the latter by 2004 as a result of high credit growth, which continued with only slight moderation in the second subperiod. Bulgaria and Kazakhstan, however, went through a slow convergence. The Czech and Slovak Republics and Turkey experienced financial disintermediation between 2000 and 2004, but credit growth was positive between 2005 and 2008. FYR Macedonia’s growth picked up in the second subperiod—a borderline case. But the other transition countries were in line with the average developing country.

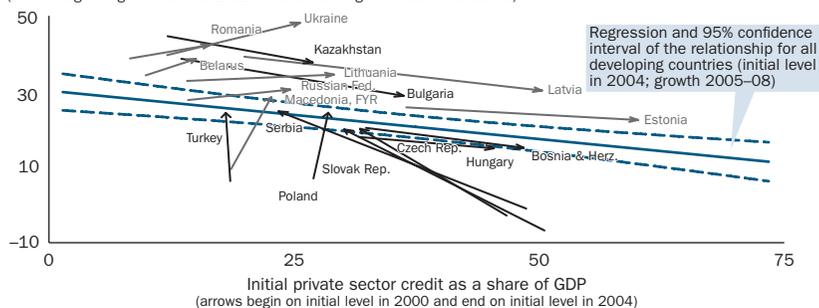
FIGURE 1.27

Private sector credit developments in 2005–08: catch-up or excess?



Real private sector credit growth (percent)

(arrows begin on growth rate for 2001–04 and end on growth rate for 2005–08)



Note: The horizontal axis depicts the initial level of private sector credit as a share of GDP in either 2000 or 2004 in all three charts. The vertical axis depicts annual percentage changes of real private sector credit for four-year periods beginning in 2001 or in 2005. The downward sloping line reflects a negative relationship for developing countries (including nontransition countries) between the initial level of private sector credit as a share of GDP in 2004 and real private sector credit growth during 2005–08; also shown are the 95 percent confidence intervals for the relationship. Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors' calculations.

In sum, the evidence suggests that financially integrated transition countries that experienced excess credit growth were those that had come late to the transition. Thus, using the share of private credit in GDP as a measure of financial deepening, it is clear that most countries of the former Soviet Union—Belarus, Kazakhstan, the Russian Federation, and Ukraine, as well as Lithuania and (to less extent) Latvia—having come later in the transition, were financially much shallower in 2000 than countries in Central Europe, such as Croatia and Serbia. So too were Bulgaria and particularly Romania, both of which had encountered severe macroeconomic difficulties in the mid-1990s and undergone a second transition recession before a durable recovery took hold. This relative lack of financial depth continued to be true for the share of private credit in GDP even in 2004 for Belarus, Kazakhstan, Romania, the Russian Federation, and Ukraine in relation to Central Europe and Croatia.

Indeed, Kazakhstan, the Russian Federation, and Ukraine had similar levels of financial depth in 2004. But that was no longer the case for Bulgaria and Latvia where financial depth, starting at CIS levels, had respectively become comparable to and exceeded that of Central and Eastern Europe by 2004.

Bringing finance home

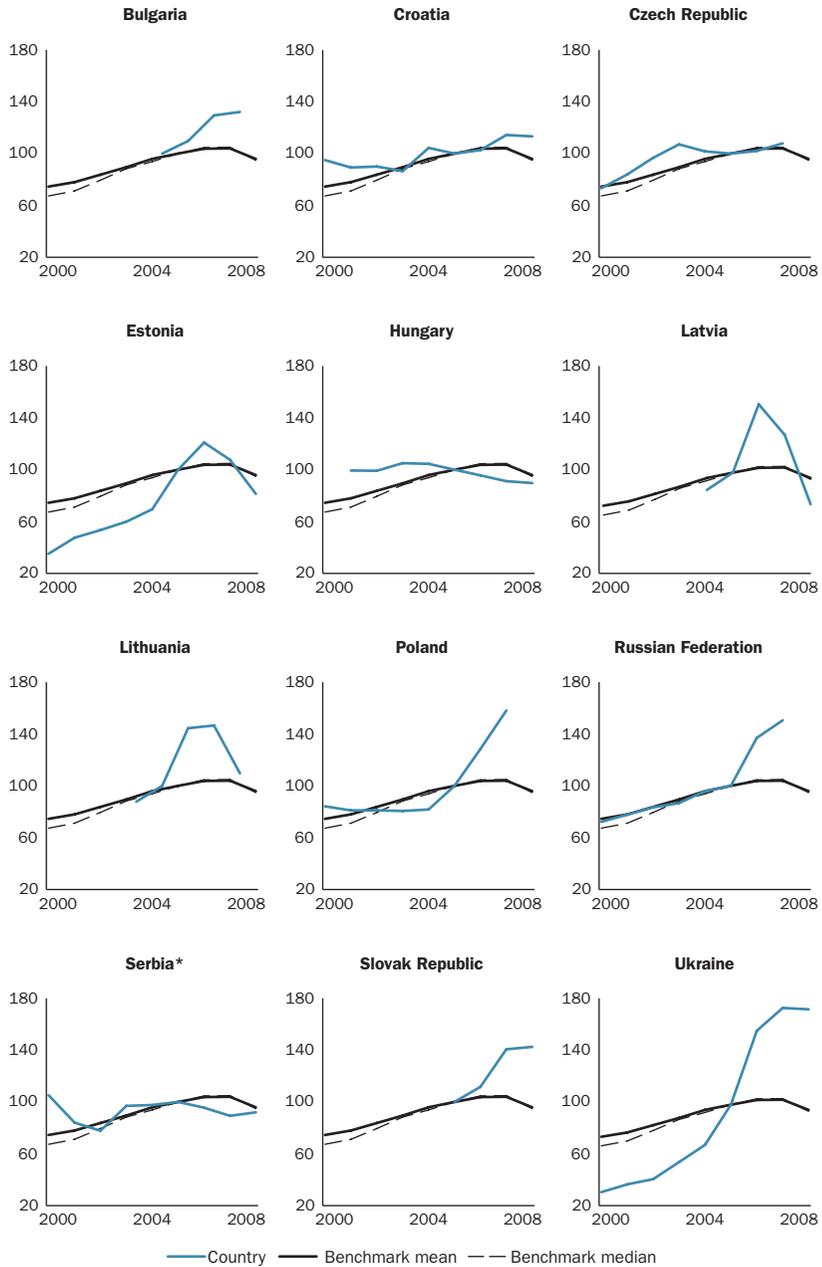
The domestic credit expansion of 2005–08 in much of ECA was driven by the household sector. As large corporates turned to cheaper cross-border lending, the share of households in bank loans to households and nonfinancial corporates rose sharply after 2003, and in 2008 stood at more than 50 percent in the Czech Republic, Estonia, Poland, and Romania; somewhat less than 50 percent in Hungary, Latvia, and the Slovak Republic; and below 40 percent in Bulgaria and Ukraine (table 1.3). Indeed, the increase in the ratio over five years was by far the highest in Kazakhstan and the Russian Federation, both of which were financially less developed and where the share of households in private sector loans was around 10 percent in 2003. It was the least in Estonia and the Czech Republic, where households already accounted for more than 40 percent of private sector loans in 2003.

With real credit growth in Kazakhstan and the Russian Federation at 30 percent or more a year in 2005–08, there was a steep rise in household lending, albeit from a very low base (figure 1.27 and table 1.3). Among households, mortgages increased in importance in many countries, particularly Croatia, Latvia, and Poland and, as a share of household lending, stood at around 80 percent in Estonia and Latvia, 70 percent in the Czech Republic and Lithuania, 50 percent in Poland and just above 40 percent in Bulgaria and Croatia and about 30 percent in Ukraine in 2008 (table 1.3). But the share of mortgages in household lending between 2003 and 2008 stayed broadly unchanged in the Slovak Republic and fell sharply in Hungary and, to much less extent in Lithuania. In Hungary, the Slovak Republic, and Slovenia, adjustable interest rate mortgages accounted for more than three-quarters of mortgage debt in 2006. Household indebtedness in the new member states of the European Union is however much lower than in the EU15. Within the corporate sector, whose share was falling, lending to previously underserved small and medium enterprises increased faster in the Czech Republic, Hungary, and Poland—a positive development.

Not surprisingly, the increase in private sector credit was accompanied by increases in asset prices. There were marked increases in real housing prices—beyond those in the Western European benchmark (figure 1.28). This is true of the countries that had excess credit growth during 2005–08 for which data on house prices are also available: Bulgaria, Estonia, Latvia, Lithuania, the

FIGURE 1.28

Real housing price developments, 2005 = 100



*For Serbia the data end in June 2008.

Source: Global Property Guide based on data from statistical offices and real estate companies. Benchmark countries are France, Germany, Ireland, Spain, and the United Kingdom.

TABLE 1.3

Growth and composition of credit to the private sector (percent)

Country	Average growth of credit to households 2003–08	Average growth of credit to corporations 2003–08	Ratios of lending to households to lending to households and corporations		Share of housing loans in total household lending	
			2003	2008	2003	2008
Bulgaria	41	57	27	37	..	43
Croatia	15	11	53	57	31	43
Czech Rep.	26	12	41	56	65	70
Estonia	39	32	45	51	78	81
Hungary	21	7	35	49	64	51
Kazakhstan	71	34	12	30	..	..
Latvia	44	28	33	47	64	79
Lithuania	59	31	22	43	76	69
Macedonia, FYR	44	20	22	40	..	..
Poland	28	13	50	65	30	52
Romania			..	51	..	21
Russian Federation	59	27	10	25	..	28
Slovak Rep.	28	10	28	46	69	68
Turkey	45	24	27	44	27	33
Ukraine	84	47	25	39	25	31

.. is not available.

Source: IMF *International Financial Statistics*, central banks, and Bank staff estimates.

Russian Federation, and Ukraine. But the timing of the peaks differs—house prices started falling in 2007 in Estonia and Latvia, but only in 2008 in Lithuania. Here too, however, there is no tight association between credit growth and housing price increases, since there were rapid increases in the latter in Poland and the Slovak Republic, both countries with convergent credit growth.⁹

Financial integration clearly brought benefits to borrowers and lenders alike. Credit became widely available to countries that had rudimentary financial sectors at the beginning of their transition. Established corporates could work with cross-border banks directly. Countries with majority foreign-owned banks saw credit extended to younger and less established firms. Households could borrow to finance housing and other durables, driving the

9. There are also significant structural breaks during the period, including in the role of private builders in a sector that was among the latest to be liberalized to market forces (both in prices and in the public sector as a supplier of housing).

credit boom in many countries. On the supply side, as already noted, Western European banks with subsidiaries in CEE earned higher returns on equity and assets than those serving only home countries (see figures 1.21 and 1.22). In a broader institutional context, modernized lending practices and strengthened risk assessment procedures led to lower nonperforming loans and higher loan loss provisions as well as high capital adequacy ratios until 2007.

But borrowing in foreign currency posed macroeconomic risks for countries that did not belong to a reserve currency area. The incentives to do so depended on whether the differentials between domestic and international lending rates were narrowing, reflecting market expectations of the credibility of disinflation efforts and the exchange rate regime. And disinflation was far from achieved in a number of countries: in 2007, Bulgaria, Estonia, and Hungary had high single-digit inflation, and Latvia had double-digit inflation. In 2008, Croatia and Romania had high single-digit inflation and Bulgaria, Estonia, Latvia, Lithuania, and FYR Macedonia had double digit inflation.

The interest rate spread in the Baltic states and Bulgaria, which have fixed exchange rates, increased after 2006, while it increased from end-2007 in Croatia, Hungary, and Romania, where the first country had an exchange rate peg and the other two were facing fiscal difficulties. The expectation that these countries, either new EU member states or close to accession, would eventually adopt the euro, and that convergence implied trend real currency appreciation, made it extremely profitable to engage in borrowing and lending in foreign currencies when the lending spread was high. Borrowers evidently perceived pegs to be credible in countries with fixed exchange rates and expected nominal appreciation in countries with flexible exchange rates on account of an expected catch-up in living standards.¹⁰

Policymakers attempted to put “sand in the wheels” during the boom years with mixed success, illustrating the difficulty of restraining macroeconomic imbalances in small, open, and integrating economies. What needed to be done about the growth of credit, particularly the foreign exchange exposure, has been a subject of widespread debate since at least 2005, and many countries in the region introduced prudential measures in an attempt to limit vulnerabilities (box 1.2). By way of example, Estonia increased the risk weight for housing loans in calculating capital adequacy from 50 percent to 100 percent. Latvia relied on monetary reserves. Bulgaria and Romania introduced tighter loan-loss provisioning, more stringent rules for classifying claims and cal-

10. This appears still to be the case in the midst of the financial crisis. Specifically, households in Hungary have largely not taken up the option—available after the onset of the crisis—of converting foreign currency mortgages into local currency.

Playing cat and mouse—staying ahead of regulation arbitrage in Southeastern Europe

High credit growth rates have been a major concern for countries in the region, in particular when accompanied by risk-taking that banking supervision authorities might regard as excessive, as when foreign exchange borrowing is undertaken by domestic entities that are not naturally hedged. But regulation is no easy task. As countries know only too well: regulate banks, and leasing activities will emerge, regulate “the system,” and cross-border lending flourishes. The trick is to strike a balance and to keep adapting regulations as means to circumvent them are developed. But behavior to circumvent regulations occurs against a broader backdrop, where a country’s macroeconomic policy mix and exogenous factors that affect global liquidity are at play.

Despite these difficulties, many banking supervision authorities have actively introduced monetary and prudential regulations to slow, at least for a while, what is perceived as high risk or excessive lending. Croatia, FYR Macedonia, Montenegro, Romania, Serbia, and Slovenia have pursued countercyclical monetary and prudential policies to pour “sand in the wheels,” and shared successes and failures. Examples of such monetary and prudential regulations include:

- *Increased risk weights for capital adequacy ratio calculations.* When growth rates in certain business lines, such as credit card and overdraft credit lines, were considered too high, the corresponding risk weights were adjusted upward. For example, in FYR Macedonia the risk weights were increased from 100 to 125 percent for consumer lending. In Serbia the risk weights also varied between local and foreign currency loans.
- *Regulations on loan classification.* Foreign currency loans are classified as higher risk; with exceptions allowed only with first class collateral, such as government bonds. The effectiveness of these exceptions depends on a well developed registry of collateralized assets, which cannot always be assumed. For instance, Latvia introduced such a registry only in early 2008, when banks realized for the first time that some of the collateral they held had been pledged multiple times.
- *Indicative credit growth thresholds.* Whenever credit growth rates exceeded a predefined threshold considered too high by the banking supervision authorities, a compulsory deposit equal to the excess above the threshold needed to be deposited with the central bank. FYR Macedonia introduced such a policy in the second quarter of 2008 for household credit, and the deposit was remunerated at a 1 percent rate. In Croatia, the deposit is remunerated at the same rate but in special central bank bills that are marketable. The regulation is intended not as a credit ceiling, but as a cost markup whenever credit growth exceeds the specified threshold. In Croatia and Montenegro, the ceiling applies to total credit as opposed to household credit alone.

(continued)

Playing cat and mouse—staying ahead of regulation arbitrage in Southeastern Europe

In Croatia, the limits are also tied to the source of funding on which the banks depend, and in Montenegro, the ceiling growth rates are tied to the bank's own capital adequacy ratios.

- *Liquidity-asset ratios—typically distinguishing between loan currencies and maturities.* In FYR Macedonia, banks are obliged to maintain floor thresholds for liquidity-asset ratios. The thresholds are applied to 30-day and 180-day maturities, distinguish between local currency and foreign exchange exposures, and allow only low-risk highly liquid assets to be used in the calculations. Banks that do not comply with the ratios are required to make up the shortfall in phases. Concentration in lending results in the imposition of additional liquidity requirements.
- *Minimum foreign exchange liquidity requirements.* In Croatia the foreign exchange liquidity has a floor of 32 percent of the total to discourage foreign exchange liabilities as a source for funding credit operations.
- *Leverage ratio limits or special reserve requirements.* Romania introduced limits on leverage ratios or special reserve requirements.
- *Varying reserve requirements.* These have been set at different levels for local currency and foreign exchange deposits, aimed at increasing the interest rate and thus reducing credit demand.

While supervision authorities develop rules to slow credit growth, banks have looked for ways to circumvent them as they are introduced. The typical credit growth control regulation is said to have a shelf life of one to two years; and even monetary regulation can be circumvented, as with capital controls more generally. One way to circumvent controls is through establishing leasing companies, which typically operate outside the reach of banking supervision authorities. When they are closely linked to bank activities, as in FYR Macedonia, they can easily be brought within the purview of the regulatory authorities. But in the Baltic states, they have emerged as entirely separate entities that compete with banks for shorter maturity lending. In Latvia, leasing institutions make it more difficult for banks to restructure mortgage loans, as they attempt to coerce early repayment by threatening foreclosure. Since mortgage lending has a priority claim, this obliges banking institutions to foreclose on loans that they would otherwise have preferred to have restructured.

culating capital, increased risk weights, and limits to loan-to-value and loan payments-to-net income ratios. In addition to such prudential measures, Croatia introduced direct limits to credit growth whenever a specified threshold was exceeded, marginal reserve requirements on banks' foreign borrowing (as Chile had in 1992), and specific additional capital requirements related to foreign exchange exposure.

Although it might be too early to judge their effectiveness, some of these measures had unintended consequences. For example, limits on credit growth in Croatia could be circumvented by corporates directly accessing cross-border banks or capital markets, and in the end the limits constrained lending to small and medium enterprises. The Chilean-type tax in Croatia made foreign borrowing very expensive for banks and created an incentive for banks to finance expansion through equity rather than debt. Even there, however, a better capitalized banking system could have been accomplished more directly.

Would different macroeconomic policies have lessened vulnerability?

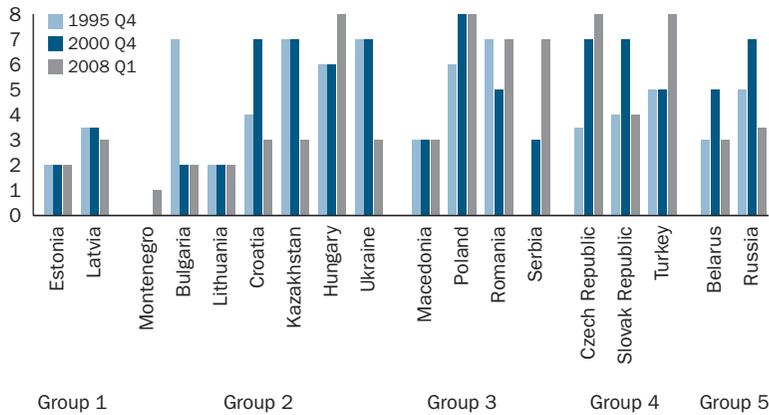
The vulnerabilities of ECA countries cannot be delinked from their pre-crisis policy choices. As an example, exchange rate regimes were evenly distributed between countries where their primary role was as a nominal anchor and those where external competitiveness was the main concern (figure 1.29). Not surprisingly, there is a concentration of less flexible regimes among countries that face more sources of vulnerability. And yet, the evidence on the role of exchange rate regimes is not conclusive. Indeed, it was only in early 2007 that overvaluation concerns emerged among small and open economies experiencing externally financed consumption booms. These were rationalized as driven by catching-up effects and the role of financial integration in a context of low private indebtedness.

But it is less clear that the buildup of vulnerabilities would have been avoided if countries had followed different policies. The magnitude of the capital inflows to these countries stretched the limits of the policy toolkits available to the authorities. More likely, the combination of initial conditions (degree of consumption catch-up effects, varying relative sizes of economies, progress in institutional reforms), exogenous factors (EU accession where applicable, high global liquidity), and policy choices made some countries more prone to balance of payments difficulties. So, even though differences in policy alone are unlikely to have averted the crisis, they might have placed countries in a better position to face the consequences when it struck.

To that end, the differences in macroeconomic conditions across groups, as well as the policy reaction of the authorities to balance of payments pressure across countries, are compared. The analysis focuses on (1) exchange rates, as reflected in measures of exchange rate flexibility and volatility, (2) fiscal policy, as measured by changes in the fiscal position vis-à-vis the cyclically-adjusted fiscal balance, and (3) monetary conditions, as measured by changes

FIGURE 1.29

Exchange rate regimes



Note: 1 no separate legal tender; 2 is a currency board; 3 conventional pegged arrangement; 3.5 conventional peg to a basket; 4 pegged exchange rate within horizontal bands; 5 equals crawling peg; 6 equals crawling band; 7 equals managed floating with no predetermined path; and 8 equals independently floating.

Source: IMF's AREAER, Bubula and Ötker-Robe, and authors' calculations.

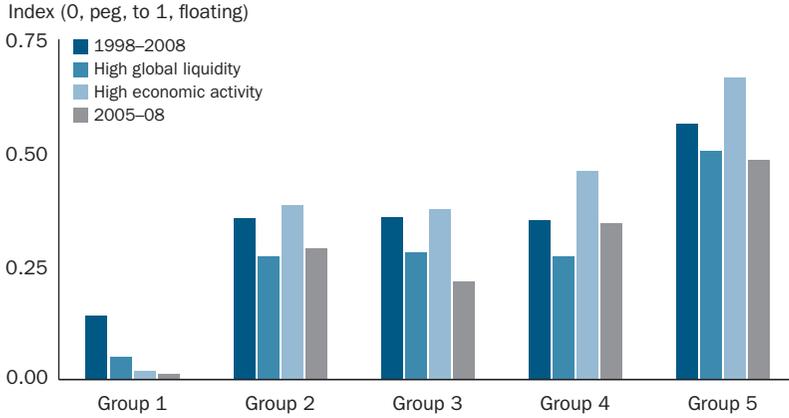
in velocity (as a proxy for demand and supply factors) and the central bank's sterilization efforts (as a proxy for a key determinant of the money supply—that is, central bank liquidity operations). The assessment distinguishes between:

- The average macroeconomic conditions in each of the five groups of financially integrated countries (figures 1.30–1.33) and across each of the policy instruments at the disposal of the authorities.
- The policy reaction functions to balance of payments pressure, i.e., the sum of the current account balance and capital flows (official and private) (figures 1.34–1.37)—and, in the case of the central bank's sterilization efforts, to changes in net foreign assets. Each policy reaction controls for other policies and initial conditions.¹¹

11. The analysis of policy reaction functions is based on econometric estimations and includes a dummy on group membership that is interacted with balance of payments pressures (that is, the sum of total capital flows—private and official—and the current account balance) corresponding to the country. For the central bank's sterilization effort, the group dummy is interacted with changes in net foreign assets. Different sample periods (1999–2008 and 2005–08) are considered, as well as episodes with high global liquidity (2003–06) and country-specific periods when economic activity is above potential. The fixed effect estimations include controls for other macroeconomic policies (lagged) as well as for country-specific initial conditions and economic characteristics, such as the output gap, inflationary pressures, external liquidity (short-term debt-to-reserves) and solvency (external debt-to-GDP) indicators, exchange rate regime (a dummy based on the IMF's AREAER), and time dummies.

FIGURE 1.30

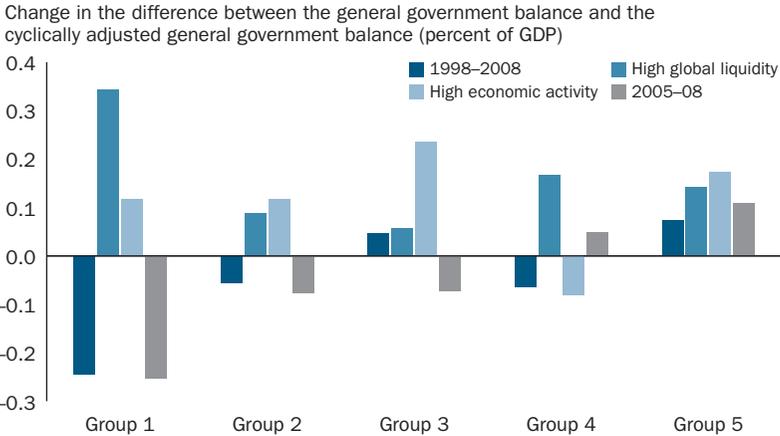
Average policy outcome/stance: exchange rate flexibility, by group and period



Source: IMF World Economic Outlook, World Bank DEC, and authors' calculations.

FIGURE 1.31

Average policy outcome/stance: fiscal policy, by group and period



Note: A positive value implies tight fiscal conditions; a negative value, loose fiscal conditions.

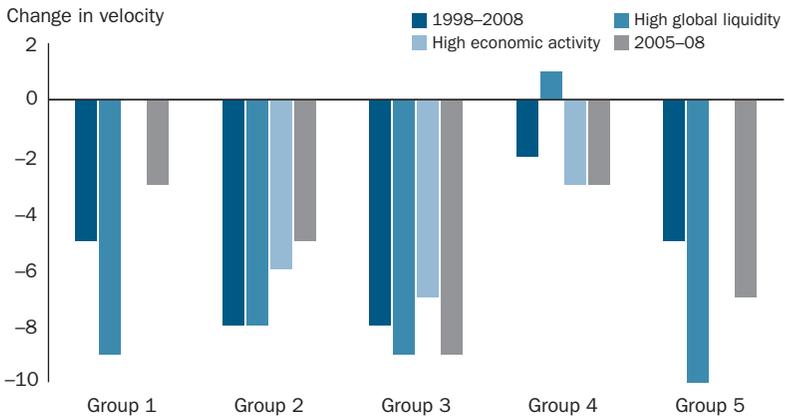
Source: IMF World Economic Outlook, World Bank DEC, and authors' calculations.

The analysis for each individual policy instrument as well as the full portfolio of macroeconomic policies is done only for the groups of financially integrated countries.

As noted earlier, moving from Group 1 to 5 is associated with a decline in the number of sources of vulnerability. What matters in the end is whether

FIGURE 1.32

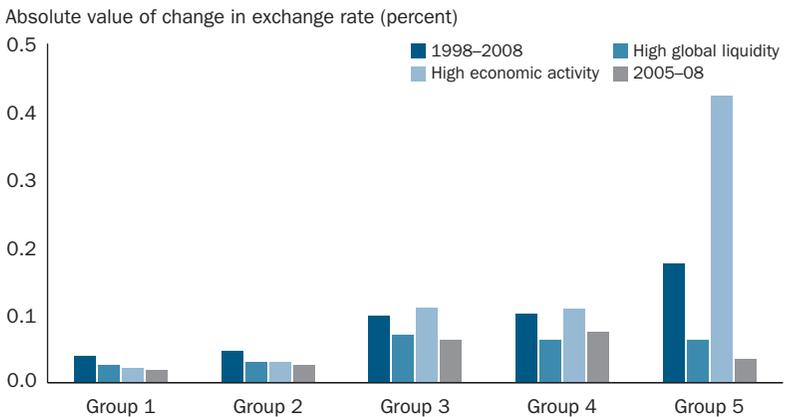
Average policy outcome/stance: monetary conditions, by group and period



Note: A positive value implies tight monetary conditions; a negative value, loose monetary conditions.
 Source: IMF *World Economic Outlook*, World Bank DEC, and authors' calculations.

FIGURE 1.33

Average policy outcome/stance: nominal exchange rate volatility, by group and period

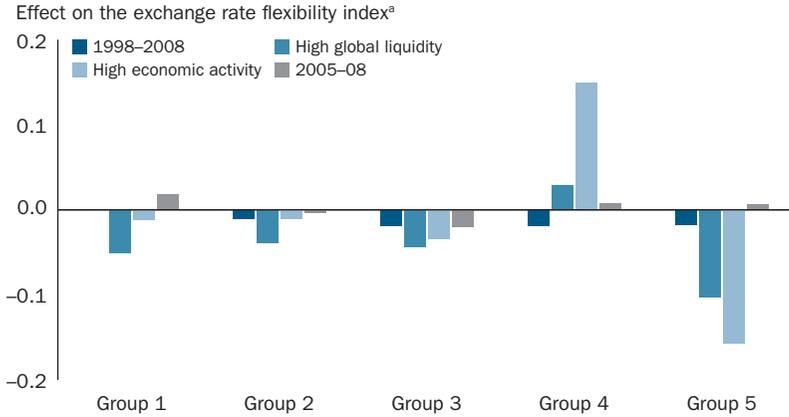


Source: IMF *World Economic Outlook*, World Bank DEC, and authors' calculations.

macroeconomic policies within each group were calibrated at the right level based on the external position affecting each group. Thus, the assessment by policy instrument is then complemented by a discussion covering the macroeconomic policies as a whole: specifically, the links between economic performance, the real exchange rate, and macroeconomic imbalances.

FIGURE 1.34

Policy response to balance-of-payment pressures: exchange rate flexibility, by group and period



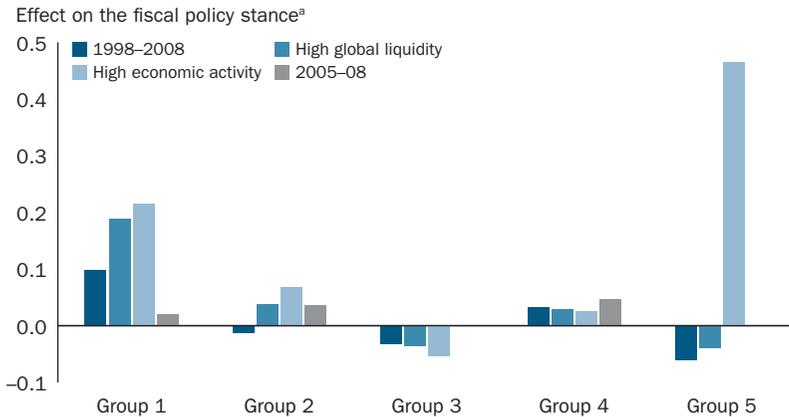
Note: The figure represents the point estimate derived from a fixed-effects ordinary least squares estimation that includes controls for lagged economic policies (fiscal and monetary policy, exchange rate flexibility, and sterilization) and for initial conditions (output gap, liquidity, solvency, and exchange rate regime) as well as dummy variables for time.

a. A positive value implies more flexibility and a negative value implies less flexibility.

Source: IMF *World Economic Outlook*, World Bank DEC, and authors' calculations.

FIGURE 1.35

Policy response to balance-of-payment pressures: fiscal policy, by group and period



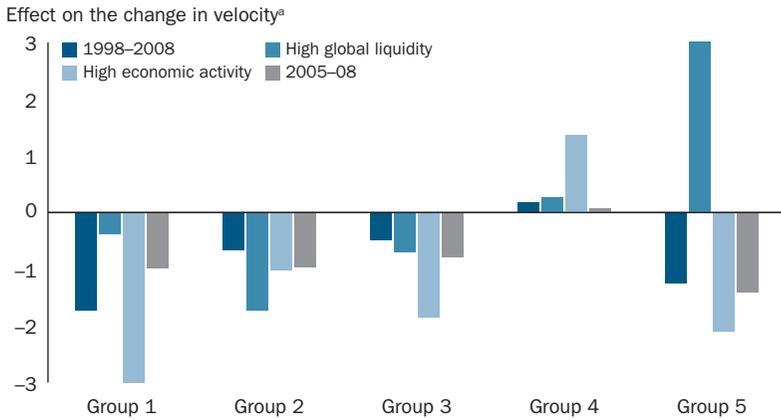
Note: The figure represents the point estimate derived from a fixed-effects ordinary least squares estimation that includes controls for lagged economic policies (fiscal and monetary policy, exchange rate flexibility, and sterilization) and for initial conditions (output gap, liquidity, solvency, and exchange rate regime) as well as dummy variables for time.

a. A positive value implies fiscal tightening and a negative value implies loosening.

Source: IMF *World Economic Outlook*, World Bank DEC, and authors' calculations.

FIGURE 1.36

Policy response to balance-of-payment pressures: monetary policy conditions, by group and period



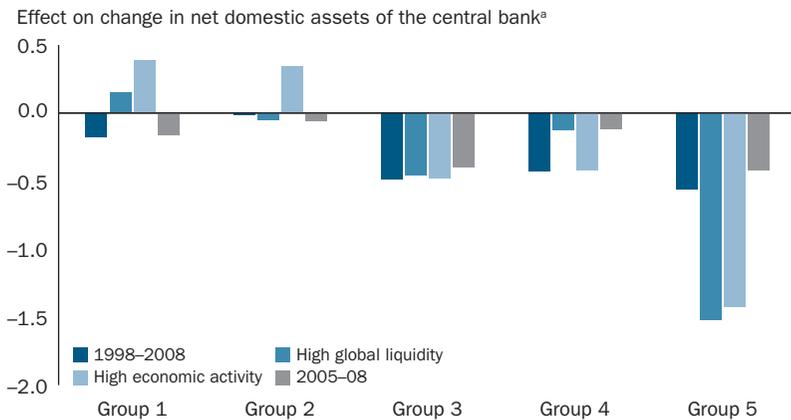
Note: The figure represents the point estimate derived from a fixed-effects ordinary least squares estimation that includes controls for lagged economic policies (fiscal and monetary policy, exchange rate flexibility, and sterilization) and for initial conditions (output gap, liquidity, solvency, and exchange rate regime) as well as dummy variables for time.

a. A positive value implies monetary tightening and a negative value implies loosening.

Source: IMF *World Economic Outlook*, World Bank DEC, and authors' calculations.

FIGURE 1.37

Policy response to changes in net foreign assets: sterilization of foreign exchange, by group and period



Note: The figure represents the point estimate derived from a fixed-effects ordinary least squares estimation that includes controls for lagged economic policies (fiscal and monetary policy, exchange rate flexibility, and sterilization) and for initial conditions (output gap, liquidity, solvency, and exchange rate regime) as well as dummy variables for time.

a. A value of zero implies no sterilization and a value of -1 implies full sterilization.

Source: IMF *World Economic Outlook*, World Bank DEC, and authors' calculations.

Before discussing each policy instrument and their role in the buildup of vulnerabilities, it is useful to provide an example of how to interpret figures 1.30–1.37. For example, Group 1 had loose fiscal policies in the period 2005–08 (figure 1.31). Yet, this group appears to have tightened fiscal policies—though only marginally—when balance of payments pressures were positive (figure 1.35). In sum, while the policy reaction is appropriate, it appears that the overall fiscal policy stance was still too loose. It is also important to recognize that the discussion reflects average policy responses in a group but might mask intragroup differences. For instance, the two countries in Group 1 had different fiscal stances before the global financial crisis. Even so, it is useful to look at developments at the level of country groups to provide policy guidance for countries that might face similar sources of vulnerability in the future.

Opening the toolkit

Nominal exchange rate policy

In general, countries in all five groups experienced lower exchange rate flexibility in 2005–08 than for the full period (figure 1.30).¹² Countries also experienced lower exchange rate flexibility during episodes of high global liquidity, 2003–06. This suggests that policymakers attempt to limit appreciation pressures originating outside the country, most likely to prevent losses in external competitiveness. Interestingly, countries appear more favorably disposed toward exchange rate flexibility when domestic activity picks up. In levels, this appears to mimic the exchange rate regime that dominates each group. In fact, the groups facing more sources of vulnerability have lower flexibility, and those with fewer sources of vulnerability have more volatile exchange rates. Still, volatility has declined overall.

Country groups with fewer sources of vulnerability appear to have reduced exchange rate flexibility in response to balance of payments pressure (figure 1.34). This was particularly true when global liquidity was high or when domestic economic activity was above potential (figure 1.33).¹³ Although there are differences across groups, they generally had lower exchange rate flexibil-

12. The index of exchange rate flexibility is defined as the absolute change in the exchange rate divided by this term plus the change—also absolute—in foreign exchange reserves. The index defined in this way is restricted to the closed interval [0, 1] with 0 a full peg and 1 a fully floating regime. Exchange rate volatility is calculated as the absolute value of the percentage change of the exchange rate over the previous 12 months (calculated using monthly nominal effective exchange rates). Volatility is defined as the 12-month average of the observations.

13. The results for Group 5 are probably dominated by the policy stance of the Russian Federation during the years of high oil prices.

ity when global liquidity was high. Note, moreover, that Group 4 was disposed toward exchange rate flexibility when output was above potential.

Fiscal policy stance

The fiscal stance was in general looser in the more vulnerable country groups, especially during the last four-year period (figure 1.31).¹⁴ Fiscal policy appears to have run counter to what policy advice would usually recommend, with more vulnerable countries, some with pegged exchange rates, also following looser fiscal policies in 2005–08. By contrast, countries appear to have tightened fiscal policies relative to the cycle during the high global liquidity period (2003–06) and when domestic economic activity was above potential. Such procyclical fiscal behavior in the period preceding the global financial crisis suggests that more could have been done by country authorities to reduce or contain overheating.

In contrast to the average fiscal stance, policy responses in the face of balance of payments pressure are more nuanced. More vulnerable countries tightened fiscal policies (figure 1.35), though this adjustment might not have been sufficient. But it is not clear whether fiscal policy alone could have brought the macroeconomic framework onto a sustainable path, given the magnitude of capital inflows and their role in exacerbating external imbalances. While fiscal policy might have lessened vulnerabilities, it is also possible that the necessary adjustment would have been too much to bear with only one policy tool. Group 1 did not tighten policies to any significant extent during 2005–08. And while Group 4 tightened fiscal policy when faced with balance of payments pressure across most subsamples, Groups 3 and 5 were looser even during high global liquidity periods.

Monetary conditions and central bank sterilization efforts

The underlying monetary conditions reflect the rapid monetization of the ECA region.¹⁵ Indeed, all country groups experienced a decline in velocity, reflecting an increase in money demand as financial deepening intensified (figure 1.32). The decline was least striking in Group 4, the group that also experienced declines in financial disintermediation during part of the decade.

14. Fiscal stance is defined as the change in the deviation between the fiscal balance and the cyclically adjusted fiscal balance (a measure of fiscal impulse). An increase represents a fiscal tightening.

15. Monetary policy is defined as the change in nominal GDP over the change in broad money: a measure of velocity. Sterilization is defined as the change in net domestic assets of the central bank. The econometric estimation links changes in central bank net foreign assets to this measure of net domestic assets; a zero implies no sterilization, a -1 implies full sterilization. The coefficient can also be positive if, for example, liquidity exceeds even what would have been justified on account of the change in net foreign assets alone. Both net domestic assets and net foreign assets are scaled by the average of reserve money in period t and period $t-1$.

But the differences between country groups across periods and events are quite revealing. Almost all groups experienced a loosening of monetary conditions during the period of high global liquidity, except again Group 4, which appears to have followed rather tight monetary policy during the past decade. While these developments might in part reflect increased money demand, they also suggest that more could have been done to slow down economic activity. A caveat is in order. Increases in interest rates as a result of tighter monetary conditions could also further stimulate capital inflows. The evidence is more varied when focusing on episodes of high domestic economic activity or on the most recent four-year period (2005–08). Groups 1 and 5 have tighter monetary conditions when economic activity picks up than at other times. Indeed, relative to other periods and events, this is the case across all groups—and it might mirror the choice of exchange rate regime that reduces the effectiveness of monetary policy. Interestingly, there seems to be more variety during the last four-year period. Group 1 appears to have experienced monetary conditions, which, while still loose, were tighter than those in Groups 2, 3, and 5.

There is also a variety of monetary policy responses when balance of payments pressures are positive (figure 1.36). Specifically, while Groups 1 through 3 (and, to some extent, Group 5) had loose monetary policy responses, the opposite was the case in the most recent four-year period among countries in Group 4.

Sterilization efforts were limited in the more vulnerable country groups (Groups 1 and 2) but more actively pursued in the less vulnerable country (Groups 3 and 5), although less so in Group 4. For the most part, Groups 1 and 2 appear to have allowed external financing and its impact on net foreign assets to be fully monetized, while Groups 3 through 5 and, to a lesser extent, Group 4 more actively sterilized the effects of the balance of payments on the monetary accounts. Although these efforts weakened across all groups in the most recent four-year period, they were important during periods of high domestic economic activity and, in some cases, also during the high global liquidity period. The limited sterilization effort might also reflect the unusually high global liquidity that characterized the period, including the effect of EU accession on capital mobility in a number of these countries. But a more active sterilization effort might have only furthered stimulate capital inflows through the interest differentials this might have created relative to the EU15 countries.

An overall policy assessment

The real exchange rate can be used as a summary statistic to assess macroeconomic developments. While the real exchange rate is outside the control of

country authorities, it is affected by their policy choices and the response of the economy to those policies. Moreover, macroeconomic policies are not formulated by the authorities in a vacuum. Instead, they are informed by domestic and external developments: from a country's economic growth to the underlying inflationary pressures and buildup of external vulnerabilities. Here too the real exchange rate serves as a summary of the effects of economic policies.

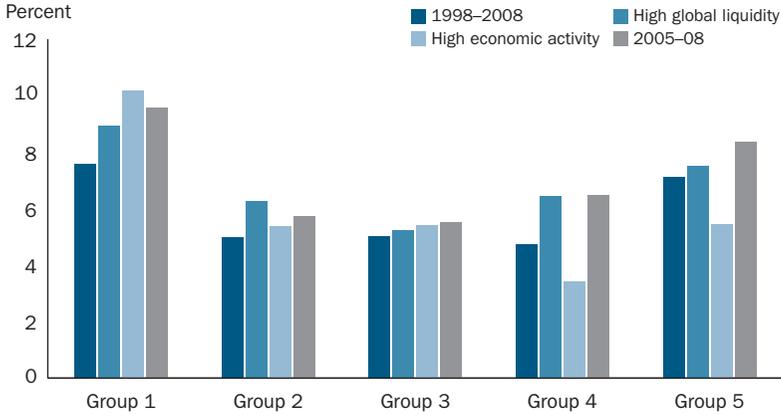
Group 1 experienced the largest current account imbalances with the smallest real exchange rate appreciation while Group 4 in contrast had moderate current account imbalances with significant real appreciation (figures 1.38–1.41). Thus, a tighter set of macroeconomic policies would have been needed to contain the deterioration in the external accounts in Group 1. In fact, fiscal policy could have played a greater role in containing the excessively rapid economic growth underpinned by large and ultimately unsustainable capital inflows. This also appears to be the case during the episodes of high global liquidity and high economic activity. Indeed, since the choice of exchange rate regime restricted the options for monetary policy—and particularly the effectiveness of sterilization efforts owing to their impact on interest rate differentials and, consequently, on capital inflows—fiscal policy should have played a greater role. In contrast, the appreciation pressures in Group 4 in all likelihood reflect productivity gains, and thus explain why external imbalances did not accumulate too rapidly or become a source of vulnerability. Countries in this group appear to have kept a balance of fiscal and monetary policies that enabled sustainable growth, as the Czech Republic shows (box 1.3).

The countries in Group 3 were successful on average but experienced policy slippages in recent years. Specifically, external imbalances accumulated in the last four-year period—the average for the period as a whole is much lower than during 2005–08 (figure 1.39). Moreover, appreciation pressures picked up (figure 1.40). While these pressures could reflect productivity gains, external imbalances cast some doubt on such an interpretation. Indeed, examining each policy instrument points to the conclusion that fiscal and monetary conditions could have been tightened more during the high global liquidity period. Still, this group appears to have reached the era of large capital inflows with a lag, and this might have helped avoid an even more difficult set of risks.

In conclusion, while the process of financial integration against the backdrop of high global liquidity reinforced the upswing features of the business cycle, not all countries exposed themselves equally to the risks of a change in market sentiment. Domestic macroeconomic policies were tightened in some countries but, quite remarkably, were loosened further in others during the

FIGURE 1.38

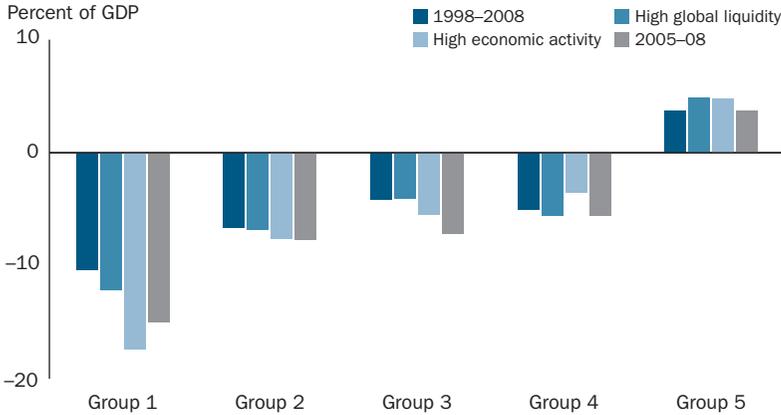
Median real GDP growth, by group and period



Source: IMF World Economic Outlook, World Bank World Development Indicators, and authors' calculations.

FIGURE 1.39

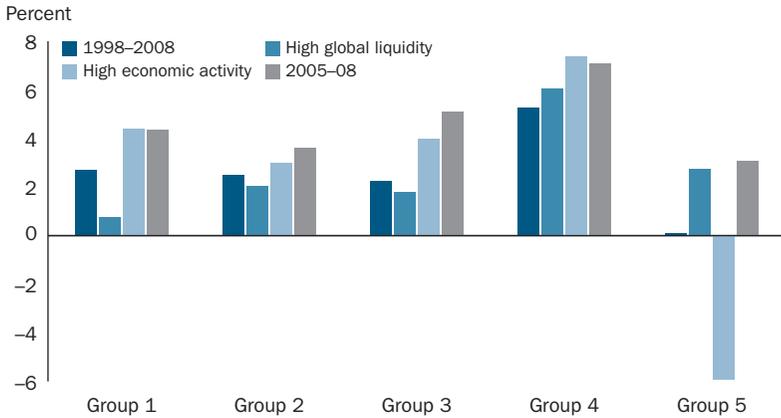
Median current account balance, by group and period



Source: IMF World Economic Outlook, World Bank World Development Indicators, and authors' calculations.

FIGURE 1.40

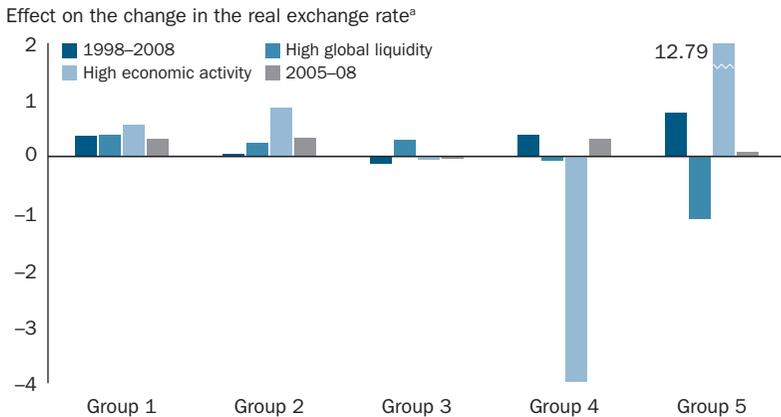
Change in real effective exchange rate, by group and period



Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors' calculations.

FIGURE 1.41

Policy response to balance-of-payment pressures: real effective exchange rate, by group and period



Note: The figure represents the point estimate derived from a fixed-effects ordinary least squares estimation that includes controls for lagged economic policies (fiscal and monetary policy, exchange rate flexibility, and sterilization) and for initial conditions (output gap, liquidity, solvency, and exchange rate regime) as well as dummy variables for time.

a. A positive value implies appreciation pressures and a negative value implies depreciation pressures. Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors' calculations.

BOX 1.3

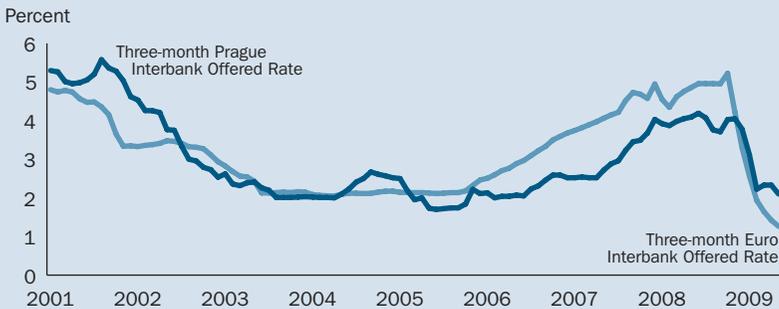
Why foreign currency lending did not take off in the Czech Republic

With a share of industrial production in GDP of about 30 percent—the largest in the European Union—the Czech economy has a large export-oriented manufacturing sector. Despite strong lobbying, however, the Czech National Bank (CNB) did not manipulate the exchange rate in favor of export industries, emphasizing instead that a small economy and its businesses and labor unions needed to learn how to deal with external shocks. Further, the sustained appreciation of the koruna-euro exchange rate, due to a favorable productivity growth differential vis-à-vis the eurozone, helped contain overly optimistic expectations and an excessive credit boom in the corporate sector.

The credibility earned by an independent Czech National Bank as a result of implementing conservative monetary policy within an inflation targeting framework since 1998, together with substantial fiscal consolidation since 2004, led to a negative interest rate differential between the koruna and euro interest rates since early 2005 (box figure 1).

Low interest rates, far from producing an undesirable credit boom, offered some advantages. The koruna, as a relatively low yielding currency, was not attractive for speculators. Its lower yield also removed any incentive for Czech households to borrow in foreign currency and take foreign exchange risk. The relatively low foreign currency denomination of the domestic deposit base permitted the economy to reap the benefits of currency depreciation without experiencing major balance sheet effects. Notwithstanding the absence of foreign currency borrowing by Czech households, mortgage lending grew substantially, with financial penetration in this segment reaching significantly higher levels than in other EU10 countries except the Slovak Republic, and indeed comparable to Belgium, Denmark or Luxemburg. This

BOX FIGURE 1
Koruna and euro interest rate, 2001–09



Source: Datastream.

(continued)

Why foreign currency lending did not take off in the Czech Republic

produced housing bubbles, especially in large cities like Prague. Although this could lead to a significant deterioration of credit quality in the downturn, it is worth noting that lending practices in the past were conservative with respect to the average loan-to-value and the debt service-to-income ratios.

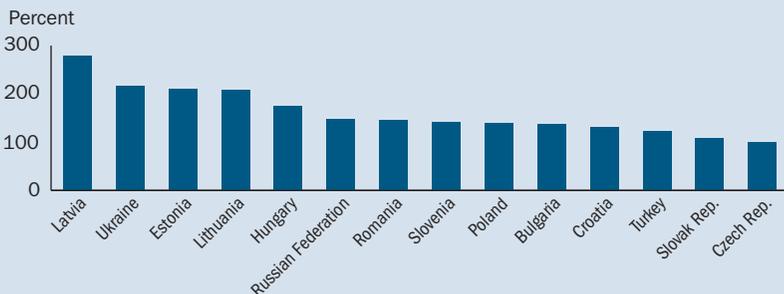
Supported by low koruna interest rates and excess liquidity in the financial system, the CNB has withdrawn liquidity from the market. In sum, a combination of confidence in the domestic currency due to credible disinflation, deep financial penetration, and more patient households, as captured by modest growth of private consumption below most of its EU10 peers, helped establish a resident deposit base.¹ The loan-to-deposit ratio stood at 78 percent by mid-2008, the lowest in the EU10 (box figure 2).

Moreover, the banking system, which had negligible exposure to toxic assets, was highly profitable. By April 2008, the return on equity stood at about 23 percent, the third highest after Poland and Bulgaria (25 percent). This helped sustain the modest external funding made available by parent banks to their Czech subsidiaries.

The institutional arrangements governing financial regulation and supervision and their links to monetary policy proved important in coping with the global financial crisis. In 2005, the Czech Republic undertook a functional reorganization of financial supervision, resulting in consolidated supervision of all segments of the financial system.² The capacity for a rapid supervisory response has been boosted by increased monitoring efforts, collection of daily information, and frequent communication between the CNB's senior management and the bank association.³

BOX FIGURE 2

Ratio of loans to deposits, by country, December 2008



Source: IMF *International Financial Statistics* and authors' calculations.

(continued)

Why foreign currency lending did not take off in the Czech Republic

The efficiency of supervisory action was tested in the Société Générale scandal. The independence of bank subsidiaries also protected their financial standing when problems arose within financial groups such as Komerční Banka (Société Générale) or AIG Czech Republic.

In February 2008, the mandate of the CNB was expanded to include consumer protection in financial services, which effectively increased the powers of the supervisor in business conduct enforcement. This enhanced the CNB's financial prudential supervision by enabling it to curb the accumulation of indirect credit risk in the household sector. And living through a crisis in 1997–98 made the Czech Republic more agile in undertaking reforms to mitigate financial crises.

In sum, a combination of credible disinflation led by an independent central bank and fiscal discipline, underpinned by integrated supervision, shaped by an earlier crisis, can lower spreads in lending interest rates between domestic and foreign currency and make foreign currency borrowing unattractive.

Notes

1. Of adults, 80 percent have a bank account in Croatia and the Slovak Republic and 97 percent in Slovenia.
2. Nevertheless, there are still some financial sector institutions such as leasing companies or nonbank credit institutions, that the Czech National Bank does not supervise, leaving the door open to some regulatory arbitrage.
3. The decision to collect daily data was implemented on the next day, and the collected data include cash requirements, money market and government bond market, financial institutions (banks and other important financial players), liquidity stance, exposures within group, deposit levels, and fulfillment of regulatory limits.

Source: Based on background work by Martin Melecký.

period preceding the global crisis, which could have exacerbated their vulnerabilities. But private sector imbalances also accumulated owing to other factors, such as integration into European production and financing structures as well as differences in initial conditions, such as lagging consumption of housing and low levels of private debt. Thus, while differences in policy alone would not have eliminated the emerging vulnerabilities given the magnitude of capital inflows during this period, better policies might have made the impact of the global financial crisis less severe.

Annex 1.1

Separating wheat from chaff—evidence of market differentiation from EMBI spreads

Financial markets appear to be differentiating countries, particularly after the collapse of Lehman Brothers. It suffices to compare the variety of changes in spreads across emerging market economies—country spreads have increased sharply, but some have done so more than others. A formal assessment requires decomposing spreads into global, group-specific, and country-specific factors. A global factor model is well suited for this purpose; such models have looked at co-movements in output¹⁶ and stock returns.¹⁷

The global factor model is estimated using cross-sectional and constrained ordinary least squares, with daily data for forty EMEs for the period February 2008 to April 2009. Spreads for each period are regressed on a constant term (or global component) and a set of group-specific regional dummies; these two regressors are the common factors determining spreads. The residuals in the estimation are considered to be idiosyncratic and country-specific. The goal is to identify differences (if any) across countries. Note that country fundamentals need not change for markets to differentiate. It suffices for them to be perceived differently after an event such as Lehman's collapse.

Indeed, reduced appetite for risk could lead to a reassessment of pre-existing country weaknesses, such as high current account imbalances, high private sector credit growth, excessive dependence on external financing, and balance sheet factors—from solvency concerns (debt-to-GDP ratios) to indicators of foreign exchange liquidity (short-term debt-to-reserves). In other words, the risks were present, but investors are only now starting to charge a premium for “bad” characteristics. But investors might also be incorporating in their pricing the real effects of the crisis. For instance, product and trade integration with Western Europe among new EU members might have led to a re-assessment of risk on account of the effects of the crisis on the real economy.

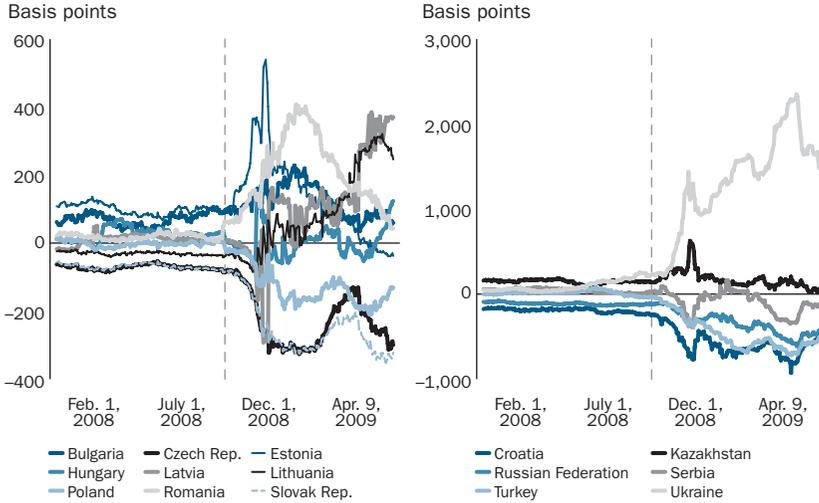
What is the evidence? There is both an increase in the volatility of country-specific spreads among new EU member states and a change in the risk-ordering of these country-specific spreads (annex figure 1.1.1).

16. Stockman 1998.

17. Brooks and Catão 2000.

ANNEX FIGURE 1.1.1

Country-specific components of EMBI spreads



Source: Bloomberg and authors' calculations.

Annex 1.2
Finance in transition

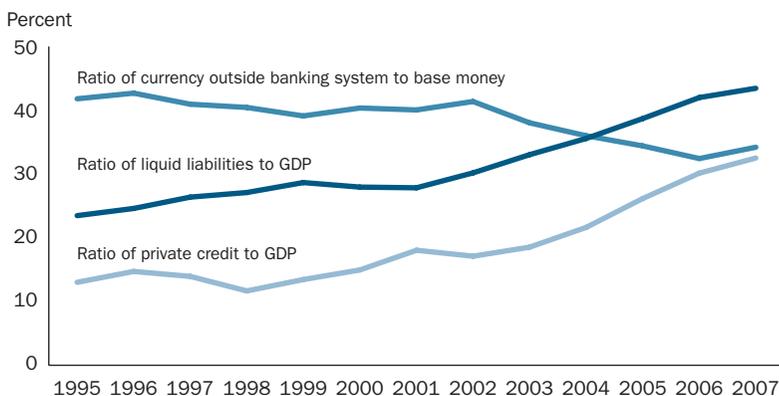
Financial systems have come a long way since the start of the transition.¹⁸ Their deepening (annex figure 1.2.1) is captured by a steady increase in standard measures of financial development, viz., liquid liabilities to GDP and private credit to GDP. Growing confidence in the financial system is illustrated by the lower ratio of base money outside the banking system. Intermediation efficiency has improved, with the loan-to-deposit ratio exceeding unity in 2006, as have traditional measures of efficiency, with net interest margins and overhead costs in 2007 falling to half their values of 1995 (annex figure 1.2.2).

Financial systems however are smaller than that predicted by GDP per capita, although the gap has become narrower between 1995 and 2007 (annex figure 1.2.3). This is the case for such EU member states as Poland, the Slovak Republic, and Slovenia—where the ratio is less than 40 percent and credit to the private sector expanded less rapidly than in some other new member states—and for such lower middle-income countries as Armenia and Georgia. While the new member states of the EU and Croatia have overhead costs to total assets similar to those of the EU15, their net interest margins are somewhat higher.

18. This annex is based on Beck 2009.

ANNEX FIGURE 1.2.1

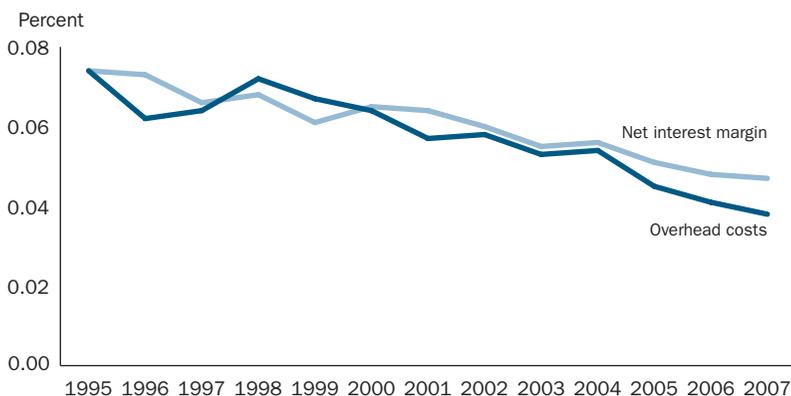
Financial deepening in ECA's transition economies, median values, 1995–2007



Note: Private credit to GDP equals claims on nonfinancial private sector by deposit money banks and other financial institutions relative to GDP. Liquid Liabilities to GDP equals liquid liabilities of the financial system (currency plus demand and interest-bearing liabilities of banks and nonbank financial intermediaries) divided by GDP. Currency outside banking system equals currency outside banking system relative to base money.
 Source: Beck and Demirguc-Kunt 2009.

ANNEX FIGURE 1.2.2

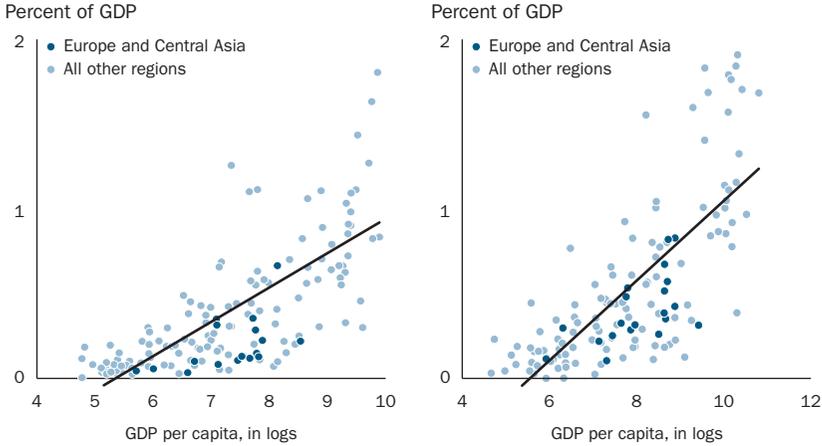
Bank efficiency in ECA's transition economies, median values, 1995–2007



Note: Net interest margin is net interest revenue relative to total earning assets averaged over all banks for each country. Overhead costs are total operating costs relative to total assets averaged over all available bank data.
 Source: Beck and Demirguc-Kunt 2009.

ANNEX FIGURE 1.2.3

Private credit to GDP versus GDP per capita, ECA's transition economies versus other regions, 1995 and 2007



Source: Beck and Demirguc-Kunt 2009.

ANNEX TABLE 1.2.1

Comparing ECA's transition economies with other regions (group medians) (percent)

	GDP per capita	Liquid liabilities to GDP	Private credit to GDP	Bank deposits to GDP	Loan-deposit ratio	Stock market capitalization to GDP	Stock market turnover	Overhead costs	Net interest margin
EU10 + Croatia	5,935	49.4	52.0	42.8	107.3	32.4	15.4	2.5	3.6
Turkey	5,045	40.4	26.0	37.6	72.1	34.3	93.0	4.1	5.7
EU15	26,511	97.5	115.7	93.1	149.7	88.0	107.4	2.4	2.3
Southern EU Accession 1989	10,952	68.2	49.7	59.3	84.0	15.4	21.5	3.0	4.9
Western Balkans	2,037	51.5	32.7	40.3	98.1	42.0	9.0	3.7	3.9
Middle-income	2,246	49.0	36.1	42.3	80.3	41.9	14.1	3.7	5.6
Large CIS	2,284	35.2	39.0	27.1	134.7	55.0	15.6	4.8	5.8
Middle-income	2,246	49.0	36.1	42.3	80.3	41.9	14.1	3.7	5.6
Smaller CIS	1,218	19.8	12.3	10.5	129.5	3.0	5.1	4.9	6.3
Low-income and lower middle-income	1,435	43.0	35.5	37.6	80.4	40.7	17.0	3.5	5.4

Note: Data are for 2007, unless otherwise specified.

Source: Beck and Demirguc-Kunt 2009.

A comparison of the EU10 plus Croatia to Greece, Portugal and Spain in 1989—that is, a few years after those countries joined the European Union—shows that the former group, despite having lower per capita incomes than the countries that joined the EU during its southern enlargement, enjoy financial development comparable to those of the latter in 1989 (annex table 1.2.1). Countries of the Western Balkans have financial markets whose liquidity and efficiency is comparable to those of countries at similar levels of per capita income. Overhead costs are similar, whereas net interest margins are lower. The middle-income CIS has financial indicators similar to those of countries at similar per capita incomes, with the exception of the share of liquid liabilities in GDP, but overhead costs and net interest margins are higher. Among all country groups, Kazakhstan, the Russian Federation and Ukraine have relatively large stock markets compared with their banking systems.

A striking exception to this pattern of broad comparability is provided by the low-income and lower middle-income CIS countries where both the liquidity and efficiency of financial markets are much lower than in countries at similar per capita incomes. The modest financial development of the low-income and lower middle-income CIS is due in part to bank restructuring having been postponed to the second decade of transition.

Furthermore, small firms rely less on external finance for new investment in the Western Balkans than in the EU10 + 1 countries, and indeed much less than in the middle-income CIS, falling to low levels in the low income CIS. But the ratio in Armenia and the Kyrgyz Republic and, to less extent, Moldova is comparable to or higher than in the middle-income CIS and some of the Western Balkans. This is consistent with evidence from the three rounds of the Business Environment and Enterprise Performance Surveys (BEEPS) in 1999, 2002, and 2005. Firms in transition economies rely more on retained earnings than external finance for new investment, but this reflects a move away from informal sources of finance rather than a decline in the institutions of formal finance, with the countries that joined the European Union in 2004 (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Republic, and Slovenia) relying almost as much on external finance as the cohesion countries: Greece, Ireland, Portugal, and Spain.¹⁹

19. Mitra 2008.

CHAPTER 2

How much adjustment? How much financing?

The more vulnerable among the financially integrated ECA countries face two big risks: that maturing external debt might not be rolled over, and that new money to finance large current account deficits might not be available.

The global recession has also reduced exports and remittances for most ECA countries, with remittances being particularly important for some low income countries.

Questions

- What is the role of official financing in country adjustment to the global financial and economic crisis?
- Has the international response to the crisis in the financially integrated countries been adequate, and does it need modification?
- Does the crisis in the poorer CIS countries, affected mainly by the collapse in export demand and the decline in remittances, call for a stronger and sustained international policy response?
- What is the exposure of parent banks to the financially integrated ECA countries? And what are the determinants of rollovers by creditors?

Findings

- International collective action has so far managed to keep an orderly draw-down of excessive exposures.
- For the financially integrated countries, more official financing is likely to be needed, particularly because it has a short repayment horizon, and the global recovery is expected to be weak and prolonged. Sustained official financing will be needed for the poorer CIS countries.
- Parent-bank exposure to the financially integrated ECA countries, while large, varies significantly across countries. It is much less than is frequently cited.
- Rollover risks depend on the liability and asset structures of banks in the region. Rollover rates for wholesale funding are low, but parent-bank funding of their ECA subsidiaries—though declining—has so far been a stabilizing force.

In its quest for convergence toward Western European living standards, the stereotypical ECA country relied on debt-creating external financing. Indeed, in some cases, external imbalances as a percentage of GDP rose into double

digits. Not surprisingly, when the global crisis erupted in advanced country financial markets, the risk that many creditors would be unwilling to roll over their exposures to the ECA region, let alone continue to extend new financing for consumption and investment, came to the fore. In an extreme, no new external financing and 100 percent rollover imply a balanced current account. A less-than-100 percent rollover would then require the current account to be in surplus by the amount of maturing debt that creditors do not roll over. Reality lies in between these two cases: there is less-than-100 percent rollover but there is also some new money. Official financing can soften the pain of this adjustment, as will be seen later.

It is thus not surprising that external adjustment is proving to be quite sharp in many ECA countries—despite the effectiveness so far of international coordination efforts. Also, as discussed in Chapter 1, ECA as an integrated region is also affected through other channels; from sharp declines in exports given the slowdown in the world economy to the effect of a decline in remittances.

Different shocks for different countries

The 2008 global crisis affected financially integrated ECA countries in two ways—and through an additional third channel for the oil exporters among them. First, global deleveraging made creditors unwilling to continue financing large current account deficits. But deleveraging was also due to the unwinding of real estate booms in some host countries.

Second, the deep world recession led to a downturn in exports to Western Europe, translating almost immediately into lower output and employment. This effect is particularly strong in small open economies—such as the Czech Republic, Estonia, Hungary, and the Slovak Republic, where exports in 2008 accounted for 70–80 percent of GDP—and somewhat less in larger economies such as Poland and Romania (30–40 percent). Furthermore, economies in Central Europe and the Baltic states—which depend heavily on exports of motor vehicles and auto parts as well as engineering products such as machinery, electrical goods, and transport equipment—can expect to see a particularly severe downturn due to falling investment demand and a shortage of credit.¹ In contrast to East Asia in 1997, the Russian Federation in 1998, and Latin America in the second half of the 1990s and the turn of the century, the current combination of a seizure in advanced country financial markets and the deepest global downturn since the Great Depression makes a quick export-driven recovery more challenging.

1. Landesmann 2009.

Third, a sharp decline of around 40 percent in oil prices between 2008 and 2009 had an adverse impact on oil-exporting countries, because these account for nearly a fifth of the Russian Federation's exports and a third of Kazakhstan's.

The first shock is what is typically referred to as a capital account crisis,² marked by an abrupt and massive reversal of capital flows to a country and carrying the potential of a loss of confidence. Creditors head for the exits. The currency comes under intense pressure. And the banking system experiences a deterioration of its assets as borrowers face financial difficulties, a drying up of wholesale and interbank funding, and, as in the Russian Federation and Ukraine, a withdrawal of deposits.

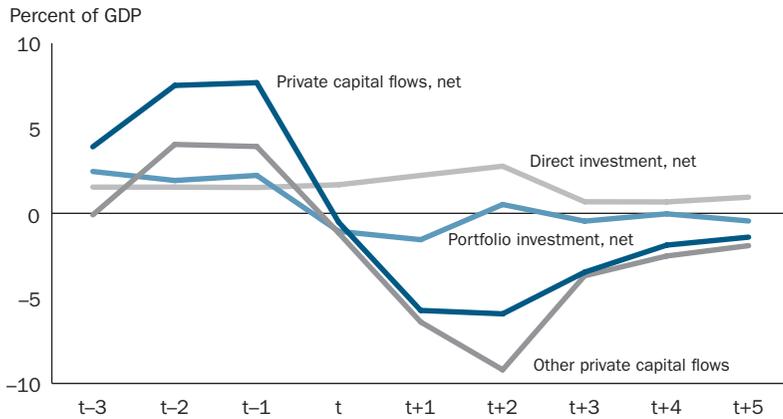
Countries with floating exchange rates have already seen major depreciations of their currencies. In relation to the euro, the Hungarian forint lost 20 percent of its value between October 2008 and February 2009, the Romanian leu 20 percent between August 2008 and February 2009, the Serbian dinar more than 20 percent between September and December 2008, and the Ukrainian hryvnia 35 percent between September 2008 and June 2009. A country with a currency peg, such as Latvia, lost a fifth of its reserves over the past year as the central bank defended the peg. Earlier capital account crises suggest the following:

- In the crisis year (year t) private capital flows sharply reverse (figure 2.1). While foreign direct investment and portfolio flows tend to be more stable, the reversal in bank and corporate financing is substantial, lasting several years, particularly in East Asia.
- The banking sector is distressed by worsening asset quality and the effect of currency depreciations on unhedged borrowers that contracted loans in foreign currency. The deterioration in bank balance sheets can be substantial. For example, nonperforming loans as a proportion of the total peaked at about 20 percent in Thailand during the East Asian crisis and in Argentina in 2002; at 30 percent or slightly more in Indonesia, Korea, and Malaysia; and at around 40 percent in Ecuador and Uruguay.
- In the year following the crisis, private investment plummets. Between 1997 and 1998, it fell from 32 percent of GDP to 16 percent in Malaysia and from 22 percent to 11 percent in Thailand—a reaction to overinvestment in the boom years and the decline in asset prices that follows the reversal of capital flows. Early data suggest that such a collapse in private investment has taken place in the Russian Federation and Ukraine. Similarly, the slowdown in growth in

2. For a discussion on what criteria need to be met to classify an event as a capital account crisis, see Ramakrishnan and Zalduendo 2006.

FIGURE 2.1

Mean private capital flows during the East Asian capital account crisis



Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors' calculations.

Estonia and Latvia brought the overheating in real estate markets to an abrupt end—pushing investment down more than 10 percentage points of GDP.

The second shock is a collapse in export demand, requiring an even deeper contraction in imports, intensifying the negative impact on consumption. And in small open economies, where imports are large as a proportion of GDP, government revenues fall steeply. In Bulgaria and Latvia, for example, revenues from such indirect taxes as the value-added tax have fallen sharply.

The third shock adds the decline in oil prices to the fall in export demand for oil exporters, with the loss divided between private and public income, depending on oil taxes.³ It can further compress imports over what is required to equilibrate the balance of payments in response to the other shocks.⁴

Sharing the burden: private and public, domestic and external

Maturing debt in some ECA countries is high relative to foreign exchange reserves. Short-term private capital flows have financed a good part of the current account deficits in ECA. The ratio of maturing debt to the country's foreign exchange reserves, an indication of liquidity pressures, is quite high: more than three times for Estonia and Latvia and 1.5 times in other ECA countries.

3. An average for Kazakhstan and the Russian Federation yields an export tax of roughly 25 percent.

4. The oil price decrease benefits oil importers, an effect that is not taken into account here.

Compare that with a median of 1.8 times reserves in capital account crisis countries from East Asia in 1997 and 2.4 times elsewhere.

A coordinated rollover of the bulk of external debt coming due can restore investor confidence in a capital account crisis. A sizable share of capital inflows to ECA countries is external finance from Western European banks, both to their subsidiaries in the ECA countries and directly to borrowers. So, generous official financing to support policy reform, coordinated with full rollover of a major component of private debt, could assure the markets while allowing the least committed creditors an orderly exit. Indeed, the European Bank Coordination Initiative provides a forum for the parties to discuss these rollover matters (box 2.1). A large official financing package would reduce the risk of a country's imposing a standstill on its payments, which would transform a temporary liquidity squeeze into a worse situation of violating its debt-service commitments.

Reforms covering fiscal policy, bank restructuring and resolution, and better bank regulation and supervision, together with corporate and household debt restructuring (chapter 3), could ease concerns about solvency and persuade creditors with claims on the country not to withdraw. The evidence that markets have become more discriminating in judging country risk (annex 1.1 in chapter 1) supports the presumption that a rollover is more likely to be forthcoming in the context of domestic policy reform.⁵ Indeed, generous official financing and a rollover of short-term debt by major creditors can increase the likelihood of policy reform, since the program can bridge the time for the reforms to take effect.

How difficult could it get?

Since the possible adjustment path for some country groups is meant only as an illustration, it is limited to two of the financially integrated country groups described in chapter 1—Groups 1 and 4—as well as the special case of two oil exporters, the Russian Federation and Kazakhstan (table 2.1).

Group 1, Estonia and Latvia, ran an average current account deficit of more than 11 percent of GDP in 2008 and had external debt maturing in 2009 of nearly 70 percent of GDP. Group 4 had an average current account deficit of 5 percent of GDP in 2008 and significantly less external debt maturing in 2009—25 percent of GDP. Initial fiscal deficits were moderate for both groups at 2–3 percent of GDP. Thus, the current account deficit—the sum of the excess of spending over income of the private sector, or net private dissavings, and the

5. IMF Independent Evaluation Office 2003.

Sticking together through thick and thin: the European Bank Coordination (Vienna) Initiative

As the first IMF-supported programs among the new EU member states were put together in late 2008, it became clear that the sustainability of these programs depended heavily on the ability to ensure that Western European banks would remain engaged in host countries. They were, after all, at the center of the buildup of vulnerabilities in transition countries. In the context of international financing packages, the IMF, the EC, and other international financial institutions (as well as the banking regulators of the home and host countries), engaged in discussions with parent banks of subsidiaries aimed at ensuring high rollover rates in the exposure of these banks in each of the countries requiring IMF financial support. Another goal was to ensure that these programs would not be perceived as a private sector bailout.

How has the process worked in practice? So far the coordination has been useful and has provided a forum for discussion among the key parties. For Hungary, banks committed in October 2008 to support their subsidiaries and did so, case-by-case, in discussions with the central bank and banking supervision authorities. But the IMF arrangements in Romania and Serbia aimed at specifying further these commitments. In late March 2009, in both countries, the main parent banks gave a general declaration on maintaining their overall exposure in the host country and on adequately capitalizing their banks following stress tests carried out by the central bank. The aim was to ensure pre-emptive increases in capital given that nonperforming loans were expected to pick up in line with the slowdown in economic activity. Later in May, the nature of the voluntary commitment was discussed in Brussels for Romania, clarifying further how overall exposures are defined, how large pre-emptive capital increases should be, and the mechanisms to re-assess the adequacy of these commitments as economic activity slows. A letter similar to the one signed in March was signed for Hungary in mid-May.

Although the initiative is justified given the nature of a crisis that has unfolded with differing timeframes across the ECA region, it has limitations as to what it can accomplish.

First, the exposure decisions by parent banks can only to a degree be seen as a country-specific commitment. For the parent bank, the exposure decision has a regional dimension. In an extreme, a 100 percent rollover in the countries that first face external financing difficulties would in effect imply deleveraging (a likely scenario) in the less vulnerable countries (an unlikely scenario).

Second, although the agreements with parent banks (even if legally non-binding) are nondiscriminatory (the treatment of domestically owned and foreign-owned banks is the same), central banks of the countries interested in reaching these agreements might at times provide financial incentives (such

(continued)

BOX 2.1 (CONTINUED)

Sticking together through thick and thin: the European Bank Coordination (Vienna) Initiative

as different reserve requirements on new financing flows). These incentives are in compliance with EU regulations, but over time could potentially distort resource allocation across the region.

Third, a key aspect of the initiative is capitalizing banks (foreign or domestic) for what promises to be a period of increasing nonperforming loans. But the differences across the regulations and accounting practices in the region are pronounced. For instance, some countries follow international financial accounting standards and others follow national accounting standards. Thus, different countries might end up with varying degrees of capital adequacy ratios. What matters more, however, is not the strength of the subsidiary but the financial health of the bank as a group. Yet the standards for such comparisons are far from agreed with several initiatives being followed—both at the country level and at the group level—and substantial differences of opinion exist as to how to assess the health of Europe’s banking system.

Notwithstanding these caveats, international coordination has proved a useful undertaking and, at least so far, the region has avoided the rapid deleveraging observed in past capital account crises events.

excess of spending over income of the public sector, or net public dissavings—mainly reflected net private dissavings in Group 1, less so in Group 4. The contribution of net private dissavings to the current account deficit ranged from 60 to 75 percent in these groups, confirming that ECA’s imbalances had predominantly private origins. The oil exporters had an average current account surplus of 6 percent of GDP and maturing debt of 12 percent of GDP. Their average fiscal surplus was nearly 3 percent of GDP, and both had oil funds and large foreign exchange reserves.

Without official financing, the partial rollover of maturing debt will require a sharp cut in private spending—and a sharp fiscal contraction. The adjustment brings the current account, net of what FDI can finance, into surplus by the amount needed to service that proportion of maturing debt not rolled over.⁶ Because FDI is the only new money assumed to be available, the current account deficit would have needed to shrink to this level of FDI if maturing debt had been fully rolled over. Even this would be a major adjustment for Group 1 countries because they were running double-digit current account deficits before the crisis.

6. Empirical evidence suggests that a reduction in the flow of credit by 1 percent of income increases private saving rates by 0.32 percentage points (Loayza, Schmidt-Hebbel, and Serven 2000).

TABLE 2.1

**Savings–investment balances, adjustment without official financing
(percent of GDP)**

Item	Group 1	Group 4	Oil-rich middle-income CIS economies (Russian Federation and Kazakhstan)
Macroeconomic data, 2008			
Current account balance	-11.2	-5.0	6.2
Public sector savings– investment balance	-2.9	-2.1	2.7
Private sector savings– investment balance	-8.4	-2.9	3.5
Foreign direct investment	4.4	3.2	4.6
Short-term debt, remaining maturity ^a	68.9	24.6	12.4
Assumptions for external adjustment scenarios			
Share private sector debt	0.9	0.9	0.9
Rollover rate	0.75	0.75	0.50
Foreign direct investment (half the 2008 value)	2.2	1.6	2.3
Scenario for 2009 without official financing			
Estimated current account balance	15.0	4.6	3.9
Estimated public sector savings–investment balance ^b	1.7	0.6	0.6
Estimated private sector savings–investment balance ^c	13.3	3.9	3.3

Note: The table presents the assumptions underlying the adjustment scenarios. *First*, in line with the experience of previous capital account crisis cases, external private creditors are willing to roll over 75 percent of debts coming due for Groups 1 and 4 and 50 percent for oil producers. Although rollover rates in capital account crisis cases of a private origin are typically lower (65 percent during the East Asia crisis), the higher figure for Groups 1 and 4 is justified in recognition of the fact that the parent–subsidiary relationship is likely to be more conducive to a higher rollover rate in those ECA countries where this covers a substantial proportion of banking sector assets, an argument which will be developed later in the chapter. By the same token, the lower rollover rate for oil exporters reflects the lower share of banking sector assets owned by parent banks in these countries. *Second*, although there is some variation across groups, it is assumed as a simplification that 90 percent of maturing debt in all groups is owed by the private sector, which thus has to service 90 percent of what is not rolled over. *Third*, the ratio of foreign direct investment (FDI) to GDP, which remained stable at pre-crisis levels in earlier crises, is assumed to be halved—to reflect the ongoing recession in originating countries. *Fourth*, FDI is also assumed to accrue entirely to the private sector, adding to its savings or financing projects that would have been undertaken in any event. The assumption has the effect of making FDI fully fungible and thus, perhaps optimistically, available to finance maturing debt. *Fifth*, because portfolio flows have typically hovered around zero in earlier capital account crises, they are assumed to be zero.

a. Includes short-term debt falling due in 2009 and medium- and long-term debt falling due in the same year.

b. Calculated as $[1 - (\text{rollover rate})] \times \text{maturing external debt (2009)} \times (1 - \text{share of private sector debt})$.

c. Calculated as $[1 - (\text{rollover rate})] \times \text{maturing external debt (2009)} \times (\text{share of private sector debt}) - \text{foreign direct investment}$.

Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors' calculations.

That is not all. A further adjustment is required to bring the current account balance into a surplus equal to that proportion of maturing debt not rolled over. Recall that maturing debt is nearly 70 percent of GDP for Group 1 in 2009, compared with about 25 percent for Group 4. So, the former requires a very large external adjustment. Group 4 also needs to adjust, though the magnitudes are lower. And because the bulk of debt repayment falls to the private sector, the change in net private savings is much larger than that in net public savings.

Figures 2.2 and 2.3 illustrate these scenarios. Net private saving as a share of GDP (measured horizontally in the figures) and net public savings as a share of GDP (measured vertically) make up a given current account balance. An *iso-current account balance* (iso-CAB) line is a negatively sloped 45-degree line whose intersection with either the vertical or the horizontal axis reflects the total current account balance. Deterioration in either the private or the public balance needs to be compensated for by improvement in the other balance to remain on the same iso-CAB line. For reference, the iso-CAB that passes through the origin connects all combinations of private sector and public sector savings that yield a current account balance of zero. All lines to the northeast of the reference line represent a current account surplus, and those to the southwest a current account deficit. Not surprisingly, the iso-CAB lines for Groups 1 and 4 before the crisis are all located in the southwest quadrant (figure 2.2), because all the balances are negative. The iso-CAB line for

FIGURE 2.2

Crisis, adjustment, and financing in financially integrated Europe and Central Asia economies (percent of GDP)

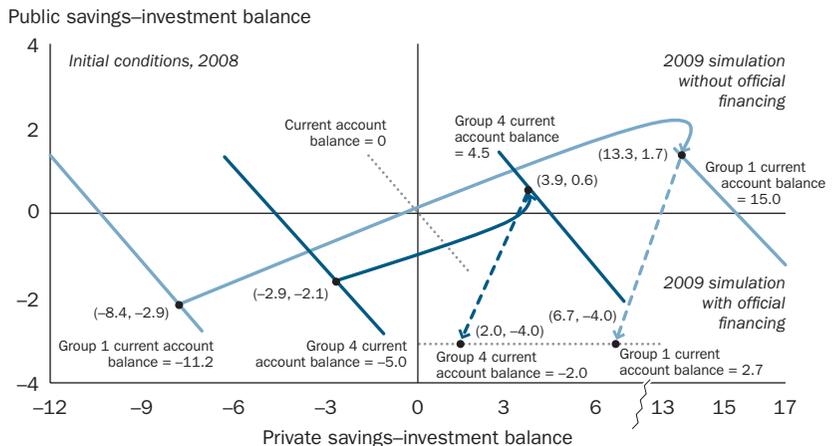
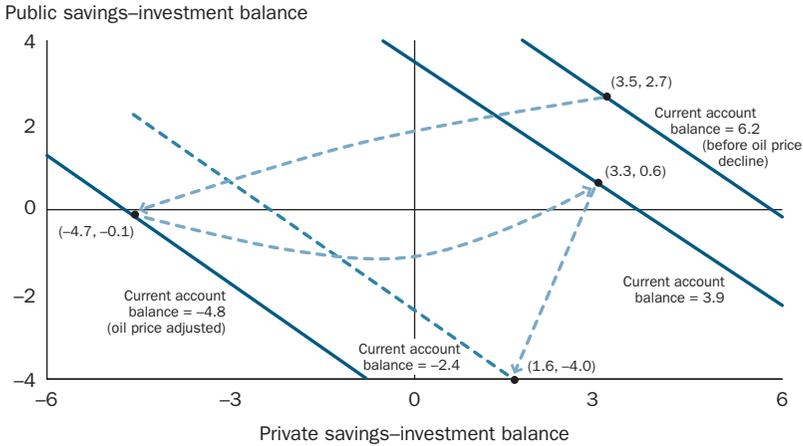


FIGURE 2.3

Crisis, adjustment, and financing in financially integrated oil-exporting Europe and Central Asia economies (percent of GDP)



oil producers (figure 2.3) is in the northeast quadrant, reflecting positive net private and public savings.

More precisely, the iso-CAB line for Group 1 is farther to the southwest, reflecting a current account deficit that is more than twice that for Group 4 (figure 2.2). Finally, the dominance of net private dissaving in this deficit is represented by the greater horizontal distance of the Group 1 equilibrium in 2008 from the vertical axis compared with that from the horizontal axis.

The iso-CAB lines for each group for 2009 are consistent with a partial rollover of maturing debt and no new money other than some FDI, which is assumed to flow entirely to the private sector and be available for financing debt repayment. Both iso-CAB lines move to the northeast quadrant, but the shift for Group 1 is much larger. Indeed, the current account surplus is 15 percent of GDP for Group 1—a shift of more than 26 percentage points of GDP! In contrast, Group 4 undergoes a smaller, yet still large, shift of just less than 10 percentage points of GDP. Why? Because its initial current account deficit as a share of GDP was lower, requiring a smaller adjustment, and because less is needed to service the group’s relatively modest maturing debt that is not rolled over.

For oil producers, the developments in the iso-CAB line are a little more complicated owing to the parallel effects of changes in oil prices. The iso-CAB line moves to the southwest quadrant of figure 2.3, showing a shift of 11 percentage points of GDP because of the fall in oil prices, reflecting a worsening of both

private and public net savings.⁷ But the need to service the part of the maturing debt that is not rolled over then requires a current account surplus of just less than 4 percent of GDP, a shift of some 9 percentage points of GDP. This change is smaller than in Group 4 because of the lower share of maturing debt in GDP.

Government steps in . . .

The compression of private spending in response to new money equaling only half of 2008 FDI and the partial rollover of maturing external debt is very large. Government policy can lessen the adjustment, but official action has other justifications. Paralleling past capital account crises, the current episode is accompanied by systemic bank and corporate distress (box 2.2). And for some ECA countries, the adverse impact on households may not allow governments to stand back. Banks are experiencing distress as their loan portfolio deteriorates on account of households and firms not being able to service debts. Banks will need to be recapitalized by private shareholders, and in some cases governments might need to step in.

The fiscal costs are likely to be significant. Gross fiscal costs over the five years following the start of the capital account crisis in East Asia in 1997–98 were 57 percent of GDP in Indonesia, 31 percent in Korea, 16 percent in Malaysia, and 44 percent in Thailand. In Latin America, gross fiscal costs are estimated to have been 10 percent of GDP in Argentina, 22 percent in Ecuador, and 20 percent in Uruguay.⁸ The largest part of these costs is using public funds to recapitalize banks. Some of these costs were eventually recovered, but the recovery rate ranged from around a quarter in East Asia to between a third and a half in Latin America.⁹ Although these numbers provide a benchmark, the recapitalization of subsidiaries will likely be by parent banks, as in Latvia and Romania, where the authorities are seeking such support. So, there could be a call on public funds in partnership with the private sector to recapitalize domestically owned banks that are deemed viable and are of systemic importance and where private shareholders cannot raise enough capital.

7. Energy exports in dollars for both countries are projected to decline by 44 percent from 2008 to 2009, slightly more than the projected decline in world prices (39 percent). In 2008, energy exports were 18 percent and 32 percent of GDP in the Russian Federation and Kazakhstan, respectively; thus the decline of energy exports as a percent of 2008 GDP is 8 percent in the Russian Federation and 14 percent in Kazakhstan. The average of these two figures (11 percent) yields the impact of the oil price decline on the current account balance. This resulting current account balance is -4.8 percent of GDP—the 2008 actual current account balance of 6.2 percent of GDP minus the 11 percent adjustment.

8. Laeven and Valencia 2008.

9. The exception in East Asia was Malaysia, where the recovery rate was two-thirds; the exception in Latin America was Argentina, where nothing was recovered.

BOX 2.2

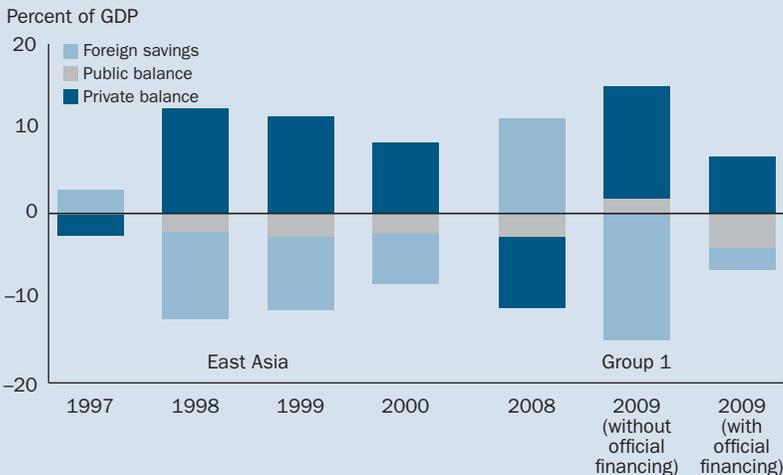
From Bangkok to Budapest: ECA's adjustment compared with East Asia's

Reflecting lessons from earlier emerging market crises, official financing in the affected ECA countries has been significantly more generous than in the East Asian crisis. The projected increase in net private savings and the swing from deficit to surplus in the current account in East Asia were broadly comparable to those in Group 1, the hardest hit ECA countries. The box figure shows net private savings and the fiscal deficit in 1997 through 2000 in Indonesia, Korea, Malaysia, and Thailand (mean values). The changes in net private savings and in the fiscal surplus were 15 percentage points of GDP and a worsening by more than 2 percentage points of GDP respectively, while the current account swing from deficit to surplus was 13 percentage points of GDP. This can be compared with a change in net private savings and the fiscal surplus of 15 percentage points of GDP and a worsening by over 1 percentage point of GDP respectively in Group 1 between 2008 and 2009, and a corresponding improvement in the current account deficit of just under 14 percentage points of GDP in the equilibrium with official financing. The latter amounted to more than 12 percentage points of GDP. Of course, the external adjustment would have been much sharper if external financing had not been available.

A first difference with the current crisis is the larger deterioration in East Asia's fiscal balance in the aftermath of the shock than that of Group 1, which East Asia could cover thanks to its stronger fiscal position—one of virtual

BOX FIGURE 1

Public and private sector balances, developing East Asia economies and Europe and Central Asia Group 1 economies



Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors' calculations.

(continued)

BOX 2.2 (CONTINUED)

From Bangkok to Budapest: ECA's adjustment compared with East Asia's

balance—going into the crisis. Even so, the fiscal deficit in East Asia was just above 2 percent of GDP in the year after the crisis. Current IMF-supported programs in Central and Eastern Europe incorporate official financing in the range of 8 to 12 percent of GDP and have allowed more recently for a recession-induced deterioration of fiscal balances through its effects on automatic stabilizers.

A second major difference relates to the circumstances in the world economy. The pattern of adjustment in East Asia in the five years after the crisis was one of declining current account surpluses from double-digit percentages of GDP as capital flows, especially bank and corporate financing, which had turned negative for a few years, gradually resumed. This allowed net private savings to fall, also from double-digit percentages of GDP. Indeed, the restoration of confidence implied by declining current account surpluses occurred against a backdrop of rapidly expanding exports to the rest of the world. Growing exports and declining current account surpluses allowed imports to expand *pari passu* with the recovery in private consumption and investment.

Finally, fiscal imbalances, which were allowed to deteriorate by more than 2.5 percent of GDP as countries switched to expansionary demand policies to offset the recession after the shock, were reined in as the recovery took hold.

Fiscal policy can also help countries adjust to both the capital account crisis and the trade contraction. First, the public sector has to service that part of non-rolled over maturing debt for which it is responsible. Second, as discussed, fiscal space will need to be found to recapitalize domestically owned banks that are deemed viable but undercapitalized, jointly with shareholders of those banks, with the injection of public funds being accompanied by government representation in decision making. Third, the recession triggers automatic stabilizers. It causes tax revenues to decline, for example due to severe import contraction, and public spending to increase on items such as unemployment benefits and targeted social safety nets. This additional deficit needs to be financed.

Fourth, countries with exchange rate pegs will need to undertake a deeper fiscal consolidation, accompanied by incomes policy, to reduce real wages—in order to bring about the relative price changes needed to switch resources toward tradables and demand toward nontradables. The few ECA countries that entered the crisis with strong fiscal positions have implemented countercyclical fiscal policy to alleviate the recession (box 2.3). Households that have contracted mortgage and other consumer debt in foreign exchange might not be able to service these debts as a result of currency depreciation, putting pressure on the

Countercyclical fiscal policy in financially integrated countries: Kazakhstan and the Russian Federation

Taking advantage of the reserves accumulated during the period of high oil prices, Kazakhstan and the Russian Federation have quickly introduced some countercyclical fiscal measures to cushion the impact of the crisis.

The composition and timing of the fiscal response in the Russian Federation is summarized in box table 1. The fiscal measures implemented in 2008 and announced by mid-2009 are about 2.6 percent and 4.1 percent of GDP, respectively. The initial focus was stabilizing the financial sector, particularly through injecting liquidity and recapitalizing banks. In 2009, the focus has moved to supporting the real economy with an emphasis on reducing the tax burden on large firms. So far the support to vulnerable households has been limited. The recent announcement by Rosstat that the number of people below the poverty line rose by one-third during the first quarter of 2009, however, raises the issue of whether an increasing share of the fiscal stimulus should not be devoted instead to protecting these households.

The fiscal stimulus announced by Kazakhstan, about 90 percent of which is financed by the National Oil Fund, is relatively large, amounting to about

BOX TABLE 1

Summary of fiscal anti-crisis measures—introduced in 2008 and announced for 2009

Measure	Billions of rubles			Total % of GDP	Distribution of each policy measure as percentage of total		
	2008	2009	Total		2008	2009	Total
Strengthening the financial sector	785.0	625.0	1,410.0	3.3	72.1	34.1	48.2
Supporting the real economy	304.0	798.3	1,102.3	2.5	27.9	43.5	37.7
Protecting the vulnerable	—	111.5	111.5	0.3	—	6.1	3.8
Transfers to regions	—	300.0	300.0	0.7	—	16.4	10.3
Total	1,089.0	1,834.8	2,923.8	6.7	100.0	100.0	100.0
% of GDP	2.6	4.1	6.7				

— is not applicable.

Note: Excludes quasi-fiscal and monetary measures, state guarantees in the amount of 300 billion rubles planned for 2009, and measures planned before the crisis, such as increasing the minimum wage and indexing pensions, as well as external crisis-related lending to CIS countries and Mongolia.

Source: World Bank staff estimates, Government of the Russian Federation.

(continued)

BOX 2.3 (CONTINUED)

**Countercyclical fiscal policy in financially integrated countries:
Kazakhstan and the Russian Federation**

8 percent of GDP. Nearly 60 percent had been disbursed as of mid-2009. As in the Russian Federation the majority of the initially disbursed funds (about 60 percent) were directed to recapitalize the banks and stabilize the financial sector. The remaining disbursements have been directed toward supporting small and medium enterprises, mortgage refinancing, agriculture, and construction. But should future allocations include some expansion of safety nets for vulnerable households instead? Although Kazakhstan's spending on a safety net as a share of GDP is low compared with other ECA countries, it has a well targeted means-tested social assistance program worth expanding. At present the program is quite small: though 70 percent of the beneficiaries are in the poorest quintile, only about 2 percent of households in that quintile are being covered (figures 4.5 and 4.6).

Source: Bogetic et al. 2009 and World Bank 2009a.

government to provide relief. This should be agreed to only after careful examination, informed by appropriate burden sharing and accountability to limit moral hazard and avoid the diversion of scarce public money from better uses.

. . . with a little help from its friends

There are limits to accommodating the tax and public spending consequences of the crisis within an unchanged fiscal envelope, highlighting the need for official financing. Such financing from international and regional financial institutions will be required to support the new fiscal needs. It can also help reverse some of the currency depreciation following the outbreak of a capital account crisis.

The case for official financing will be even stronger if the fiscal consequences of crisis and recession are accommodated through reallocations away from lower priority public spending and through greater efficiency in pensions and health spending. This is especially important in countries such as Hungary, Ukraine, and Serbia, where public spending as a share of GDP is already very high in relation to per capita income—just below 50 percent in the first two countries and 45 percent in the third. Indeed, the crisis may provide an opportunity to enact reforms that might have eluded the authorities in normal circumstances. Notwithstanding the short-run increase in spending financed from official sources, the structural fiscal balance should be on a path that ensures debt sustainability especially where the burden of external public debt was high before the crisis.

Indeed, official financing from supranational and international financial institutions—and the use of oil funds by oil exporters—can reduce the intensity of the private sector adjustment and provide room for a fiscal deficit. For instance, the official financing in figure 2.2 (and resort to oil funds in figure 2.3) illustrates what is required to halve the substantial net private savings in the equilibrium without official financing and to increase fiscal space in order to allow the three country groups to have net public dissaving equaling 4 percent of GDP. It moves all the iso-CAB lines in a southwesterly direction. Using Group 1 as an illustration, official financing is equal to maturing debt that is not rolled over (17.2 percent of GDP) less the sum of the current account balance (the sum of net private savings of 6.7 percent of GDP and net public dissaving of -4 percent) and FDI of 2.2 percent of GDP (table 2.2). So, the required official financing is 12.4 percent of GDP. Financing needs in the other two groups are about 6 percent of GDP, with the additional financing in the oil-exporting countries assumed to come from their oil funds. Financing of 6 percent of GDP allows the current account balance to change from a

TABLE 2.2

Savings–investment balances, adjustment with official financing (percent of GDP)

Item	Group 1	Group 4	Oil-rich middle-income CIS economies (Russian Federation and Kazakhstan)
Scenario for 2009 with official financing (or use of foreign exchange reserves) and a reduction in the external adjustment ^a			
Estimated current account balance	2.7	-2.0	-2.4
Estimated public sector savings–investment balance ^b	-4.0	-4.0	-4.0
Estimated private sector savings–investment balance ^c	6.7	2.0	1.6
Official financing (or foreign exchange reserve use)	12.4	6.6	6.3
Effect of an increase in rollover rates ^d			
Extra financing	3.4	1.2	0.6
Effect on private surplus	Reduced by half	Reduced by half	Reduced by a third

a. The goals are to allow room for fiscal impulse and to reduce the private sector balance (surplus) by half.

b. Set at -4 percent of GDP.

c. Arbitrarily set at half the surplus level identified in the projections that assume no official financing.

d. Scenario in which rollover is assumed to be raised to 0.80 for Groups 1 and 4, and 0.55 for Kazakhstan and the Russian Federation.

Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors' calculations.

surplus of 3–4 percent of GDP to a deficit of 2–2.5 percent and the fiscal balance to move from a modest surplus to a deficit of 4 percent.

A higher rollover of maturing debt cushions the required reduction in the private sector's imbalance between spending and income. An increase in the rollover rate by 5 percentage points (from 75 to 80 percent for Groups 1 and 4 and from 55 to 60 percent for the oil producers), provided it accrues entirely to the private sector, makes possible a reduction of net private savings of between one-third to one-half from the equilibrium with official financing. Clearly, if maturing debt is large (as in ECA), even a small improvement in rollover rates provides much needed relief in adjustment (table 2.2).

The weakness of the expected recovery from the global recession highlights the importance of sustaining generous official financing. Crisis support from the international financial institutions and the EU has so far been adequate. Parent banks have largely maintained their exposure. The risk that Western European parent banks recapitalized by home governments would focus lending in their home countries has so far been averted. For their part, some hard-hit ECA countries have positive net private savings, while their fiscal balances have deteriorated.

But continuing collective action will be important. Unless replenished by new lending, net transfers from international financial institutions are expected to turn negative in three to four years. A sluggish recovery and high unemployment in Western Europe will test the willingness of home governments to recapitalize banks as their large losses have to be recognized. And financial protectionism could put strains on cooperation between home and host country authorities of cross-border banks.

Crisis, adjustment, and financing in low-income and lower middle-income CIS countries

Because the external borrowing of the low-income and lower middle-income countries of the CIS (Armenia, Georgia, the Kyrgyz Republic, Moldova, and Tajikistan) comes mainly from official sources, they have for the most part not been directly affected by a reversal in capital inflows.¹⁰ Instead, they have been affected by the global economic recession, which has led to a collapse of export demand and, for a number of them, of workers' remittances as well. Foreign direct investment has also declined during 2009 to about half of its 2008 level. The sharp downturn in the Russian Federation has depressed export demand

10. Georgia is not part of the CIS but is included in the group because its economy shares many features of the other countries.

in Armenia, the Kyrgyz Republic, Moldova, and Tajikistan. The marked deceleration in growth in Kazakhstan following the sudden stop in capital flows in 2007 has hurt the Kyrgyz Republic. And export demand for Georgian goods, for which the CIS countries are not a major destination, is also projected to fall due to recessions in Turkey, the European Union, and the United States.

The fall in workers' remittances from the Russian Federation, Kazakhstan, and the European Union has been significant. Preliminary estimates suggest that remittances had accounted for nearly 35 percent of GDP in Tajikistan, 30 percent in Moldova, and 25 percent in the Kyrgyz Republic in 2008—and fell in the first quarter of 2009 and even more during the course of the year. In Tajikistan it is estimated that a 30 percent decline would cut the consumption of households in the poorest quintile between 17 percent (rural) and 21 percent (urban) and increase headcount poverty from 53 percent to nearly 58 percent (box 2.4).

Terms of trade changes have not been positive for countries that export products intensive in natural resources. For copper in Armenia and Georgia, and aluminum and cotton in Tajikistan, the price prospects are dim. And the difficulties facing Kazakhstani banks as a result of their inability to roll over external debt have the potential to spill into some Central Asian countries, such as the Kyrgyz Republic, where subsidiaries of Kazakhstani banks account for more than a third of banking assets. Parent banks have maintained funding of their Kyrgyz subsidiaries so far.

Without official external financing, a trade-and-remittance shock, together with lower foreign direct investment, will require tight fiscal policy to lower the current account deficit. The effect of fiscal consolidation on output and employment is negative, but this can be partly mitigated by a depreciation of the currency. In the likely event of the depreciation not being passed through fully into domestic price increases during a recession, this facilitates the transfer of factors away from nontradables and toward exportables and import substitutes. As with the financially integrated countries, it can also switch foreign demand toward the country's tradable goods, but this will be more limited for exports than import substitutes because of currency depreciations in competitor countries.

The ability of the low-income and lower middle-income CIS countries to mitigate the contractionary impact of fiscal consolidation has been made more difficult by the Russian ruble's losing an estimated 15 percent of its value relative to a dollar-euro basket since September 2008 and the Kazakhstani tenge's losing 20 percent of its value in February 2009. While several low-income and lower middle-income CIS countries have allowed significant depreciations of their currencies, the depreciation of the ruble and the inflation differentials

Tajikistan's declining remittances can hurt the poor disproportionately

The inflow of remittances to Tajikistan in 2007 amounted to \$1.4 billion, or about 40 percent of the country's GDP, the highest share worldwide. The Russian Federation is the principal country of origin for such remittances, accounting for about 80 to 90 percent of officially recorded remittances.

The box table shows that low-income households in Tajikistan rely heavily on migrant flows. Almost half of the families in the bottom quintile in the income distribution have an absent migrant abroad. The difference is very sharp relative to the other quintiles. The income dependency seems to be critical for low-income rural households. In the bottom quintile, remittances account for almost 80 percent of rural household consumption in cases where they have a migrant abroad.

Although estimates of the magnitude of the decline in remittances during the crisis vary, a range of a 30–35 percent decline is commonly used. A 30 percent decline will result in a 25 percent decline in the consumption of the poorest rural households and an 18 percent decline for the poorest urban households and increase headcount poverty in Tajikistan from 53 to 58 percent.

BOX TABLE 1

Share of households with migrants, by preremittance consumption quintile

Preremittance consumption quintile	Share of households with currently absent migrant	Remittances as a share of total household consumption	
		Urban	Rural
1	46.5	55.9	78.8
2	7.5	35.9	66.5
3	4.9	36.2	65.1
4	4.6	45.0	63.9
5	6.3	44.6	60.1
Average	14.1	39.5	66.4

Note: Quintiles are calculated over yearly total household consumption net of remittances. World Bank estimates using TLSS 2007 data. The analysis uses an absolute poverty line equal to 139 somoni per month while the value of the PPP \$2.15 poverty line used by the World Bank for international comparison is 120 somoni per month.

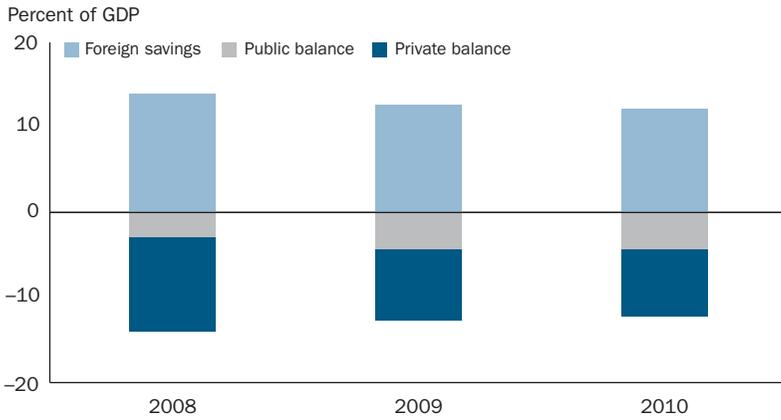
Source: World Bank 2009b.

with other trading partners have resulted in some appreciation of their real effective exchange rates.

As with other groups of countries, GDP growth forecasts for the low-income and lower middle-income CIS countries continue to be revised downward. In general, the reduction in current account deficits projected for 2009 is modest in all countries except Georgia, which had a large current account deficit in 2008 for conflict-related reasons (figure 2.4). Official financing makes

FIGURE 2.4

Public and private sector balances in low-income and lower middle-income CIS countries, 2008–10



Source: IMF *World Economic Outlook*, World Bank *World Development Indicators*, and authors' calculations.

it possible for countries to run larger fiscal deficits, which reflect in part the adverse impact, particularly on revenue, of the significant slowdown in growth. This implies that there will be less net private dissavings. Between 2008 and 2009, the current account deficit as a proportion of GDP is broadly unchanged in the Kyrgyz Republic and Moldova and might increase in Armenia.

Official multilateral and bilateral financing from the Russian Federation is being used in both Armenia and the Kyrgyz Republic to fund higher fiscal deficits, reflecting in part the adverse impact of slower growth on revenue, but also increased spending on well targeted social safety nets in both countries. In Moldova, by contrast, the fiscal deficit is expected to balloon because of revenue shortfalls from trade taxes due to the severe import compression and to pre-election increases in wages and pensions, while net private dissavings fall by an offsetting amount. In Tajikistan, the current account deficit as a proportion of GDP is expected to increase, but the fiscal deficit will rise more, with a substantial increase in social spending however being accommodated in the face of revenue shortfalls through cuts in current spending and delays in capital outlays. Georgia is expected to witness a large decline from 2008 in the current account deficit as a proportion of GDP. There will be a reallocation to domestic social and infrastructure spending from other less urgent needs.

Larger official financing will be required if expected levels of foreign direct investment do not materialize. The average current account deficit as a share

of GDP for the five countries is expected to decline over the 2009–10 period, and remain at an average of about 12 percent of GDP (figure 2.4). This will be helped if the official financing now covering about a third of such deficits can be maintained. Although the high historical values for foreign direct investment as a share of GDP are expected to be reduced in 2009, they are still expected to cover about a third of the current account deficits, at par with official financing. If that FDI does not materialize because of a delayed recovery in trade and exports, official financing will need to be stepped up. Most countries are increasing their fiscal deficits because of the fall in revenue and the expansion of social programs. So, private sector imbalances will need to be reduced further.

Of parents and offspring: understanding rollover risks in ECA

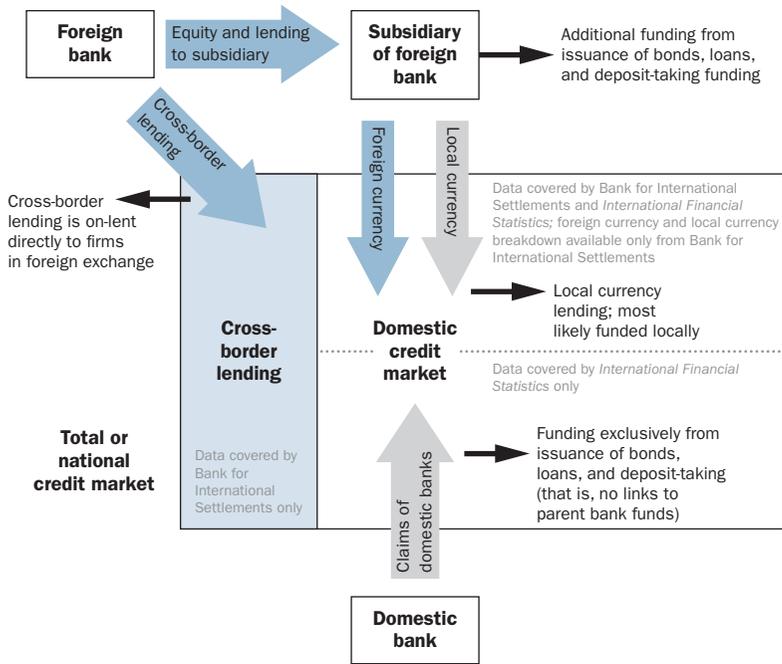
The assumption of a 75 percent rollover, though informed by earlier capital account crises, might not do justice to the particularities of ECA's financial integration. With rollover prospects depending heavily on the behavior of cross-border parent banks, the rollover risks might differ from those in past capital account crises.

Although a few capital account crises linked to private sector imbalances, such as the sudden stops in East Asia, come closest to the current episode in ECA, the comparison cannot be taken very far. In East Asia, the capital flows were not linked to decisions by banks to develop a long-term engagement in the region, so the financing could not be considered to have had FDI-like features. Indeed, the resources flowing to East Asia in the mid-1990s were similar to wholesale funding and the syndicated loans seen in some transition countries over the past few years. But the bulk of bank financing going into ECA countries was loan financing from parent banks to their subsidiaries for an aggressive credit expansion, frequently in foreign currency. The resource flow may have also been triggered by profit opportunities in the region's version of the carry trade, and doing so through the extension of loans—in lieu of equity flows—had accounting and tax advantages. In sum, the resource flow reflects a strategic opening by Western European banks into new markets that were underdeveloped and that turned out to be quite profitable.

Equally important, the resources were on-lent by the subsidiaries to corporates and households, frequently at very long maturities. For instance, mortgages in some Baltic countries have an average maturity of 26 years and are funded by the subsidiary through very short-term borrowing from parent banks. This maturity mismatch is inherent in financial intermediation. Once the long-term loans have been extended, there is little the subsidiary can do

FIGURE 2.5

Banking sector credit—national and domestic sources



to improve its liquidity position. In many ways, mortgage lending has a handcuffs nature and limits the drawdown of liquidity that is likely to occur.¹¹ This is not to say that deleveraging is unlikely, but that the reversal of capital flows is probably not as easy as for investments by institutional investors in emerging markets during previous capital account crisis events.

This raises two questions. First, what is the exposure of parent banks in the region and their behavior so far? Second, what are the liability and asset features that might determine rollover behavior of parent banks and their subsidiaries?

It's national not domestic: parent bank exposure

To answer the first question it is necessary to understand the role of parent banks in credit markets. With rollover prospects depending heavily on the behavior of parent banks, it is necessary to cover not only the domestic credit market (akin to the residency concept of gross domestic product), but also the national credit market (akin to the concept of gross national product)

11. For a discussion see Herzberg, Sugawara, and Zalduendo 2009.

(figure 2.5). A key foreign source of credit is direct or cross-border lending, which lies outside the monitoring orbit of monetary and banking supervision authorities in the recipient (host) country and could be a source of rollover risk in ECA countries at a time of global deleveraging.¹² When parent banks commit to maintain exposures in an IMF-supported program, it is unclear how this extends to cross-border lending because these transactions are in response to decisions by the clients of parent banks that do not reside in the host country.¹³ But it is also possible that these are voluntary decisions by parent banks aimed, say, at circumventing regulations that might constrain lending through their subsidiaries. Note the increasing share of cross-border lending in total credit in ECA (table 2.3). But there are also significant differences across ECA: cross-border lending is 44 percent of total credit in Lithuania, but only 11 percent in Belarus and 12 percent in FYR Macedonia.

In addition to *direct* or *cross-border* lending, parent bank groups also provide credit through their subsidiaries to borrowers in the host country, in either *foreign* or *local* currency. The parent can fund these activities directly through the equity and credit lines it extends to its subsidiary or through deposit-taking operations carried out directly by the subsidiary in the host country. The sum of cross-border and foreign currency lending, referred to in the Bank for International Settlements (BIS) data as *international claims*, constitutes the foreign exchange exposure of the parent bank. The local-currency credit extended by the in-country subsidiary, together with the international claims of parent banks, are referred to by the BIS as *foreign claims*. (Annex 2.1 describes in greater detail the data covered in BIS international financial statistics.)

Although credit flows described in figure 2.5 preclude a breakdown of the funding sources of each credit channel, it is reasonable to assume that most of the local currency lending is funded through deposits and wholesale funding that the subsidiary obtains locally.¹⁴ In that event, the foreign exchange risk

12. The discussion in this section combines the BIS dataset on financial statistics and the IMF's data on banking systems; there are gaps in coverage that are filled in this section through putting forward simplifying assumptions.

13. An example makes this point clearer. A client of Bank X in Austria might request the extension of a credit to Firm Z in Hungary and, later on, instruct for this not to be renewed. In such a case, it is unlikely that the parent bank will maintain this exposure. Direct lending might also be extended at the initiative of the parent to avoid host country regulations. For example, Firm Z in the host country might have requested this cross-border lending and choose not to renew it as economic activity slows down; or, similarly, the parent bank might deliberately slow down the renewal of direct lending. Either way, this credit channel might retrench more rapidly as global deleveraging works its way through the financial markets.

14. See Keller and Maslova 2009 for a discussion of this subject.

TABLE 2.3

Direct lending as a share of total national credit, by country, 2005–09 (percent)

Country	2005 Q1	Peak	2008 Q4	2009 Q1	
Belarus	2.9	13.5	2008 Q1	11.1	11.4
Bulgaria	10.0	28.8	2008 Q1	26.7	27.2
Croatia	16.6	46.5	2008 Q1	35.8	36.3
Czech Rep.	25.3	31.9	2005 Q2	24.9	24.0
Estonia	25.0	57.2	2006 Q1	41.3	43.3
Hungary	26.4	38.0	2005 Q3	35.2	36.8
Kazakhstan	13.6	22.1	2006 Q4	15.5	15.8
Latvia	13.8	35.2	2008 Q1	26.4	26.6
Lithuania	21.2	46.8	2006 Q1	41.0	44.0
Macedonia, FYR	6.3	14.4	2008 Q4	14.4	11.9
Montenegro	..	44.3	2008 Q4	44.3	..
Poland	20.5	23.6	2005 Q3	17.8	18.5
Romania	22.5	46.2	2006 Q4	37.8	37.5
Russian Federation	13.0	20.6	2007 Q3	17.0	..
Serbia	..	47.8	2007 Q4	40.2	39.4
Slovak Rep.	22.3	33.3	2005 Q3	26.4	17.4
Turkey	13.7	19.1	2007 Q1	17.4	18.2
Ukraine	9.9	23.3	2008 Q1	21.9	21.2
Average	16.5	32.9		27.5	26.8
Median	15.2	32.6		26.4	25.3

.. is not available.

Source: BIS and IFS, and authors' calculations.

for the parent originating from local currency is limited.¹⁵ Conversely, what has been referred to above as international claims is more likely to be funded directly by the parent bank, although even this might not be fully correct because some foreign exchange lending might be funded by the subsidiary through deposit-taking operations in foreign exchange. If so, the direction of bias is clear: international claims would overestimate the foreign exchange exposure of the banking system to a home country.

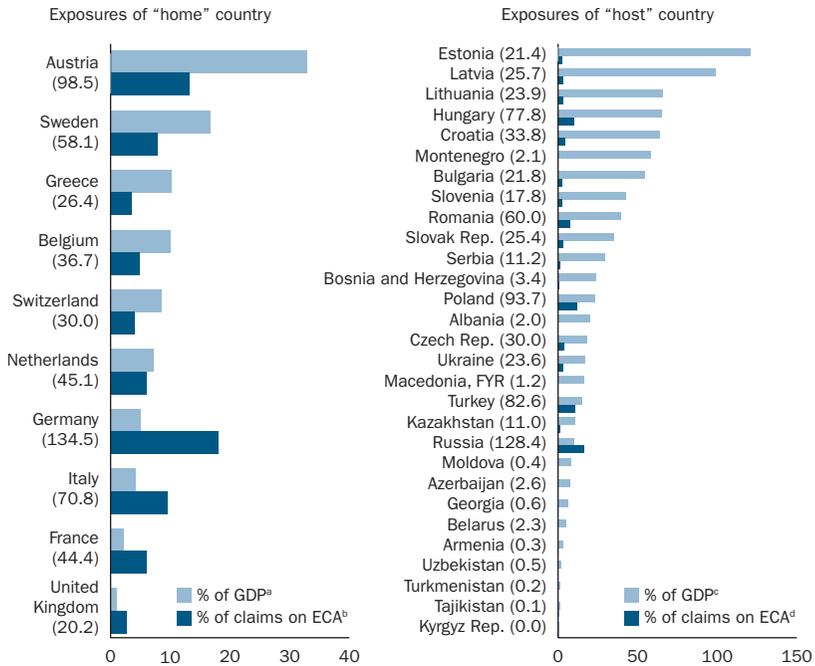
Figure 2.6 provides the absolute magnitudes of international claims as of end-2008 and as a share of GDP, as well as of the exposure to ECA countries.¹⁶

15. Credit operations might take place through two additional channels: claims of domestic banks, which are not linked to parent banks and are not monitored by the BIS, and direct lending that firms might access either through their parent corporate or in domestic and external capital markets. This category is not depicted in figure 2.5.

16. See Árvai, Driessen, and Ötker-Robe 2009 for a discussion of interlinkages and the exposure of parent banks.

FIGURE 2.6

International claims, end-2008

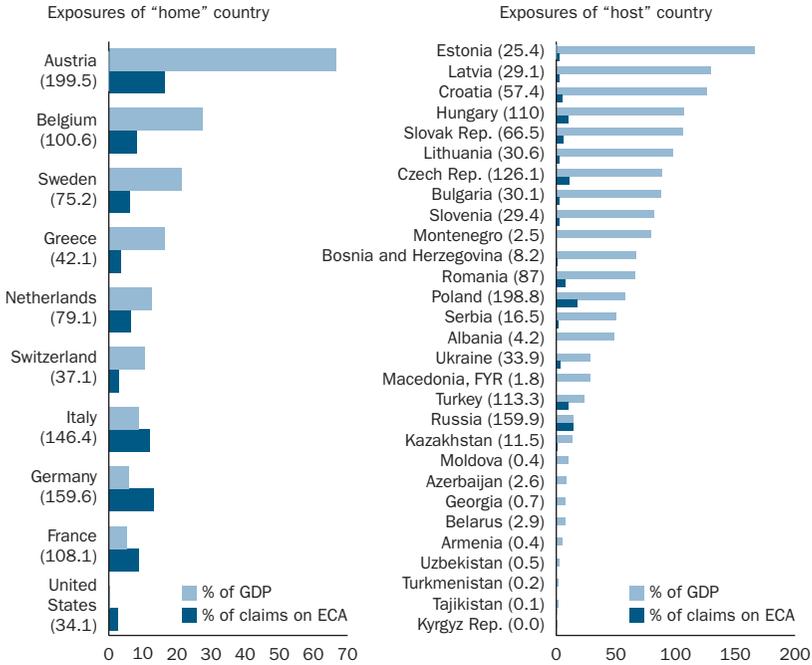


- a. Claims of parent banks in any home (originating) country as a percent of their home country GDP.
 - b. Claims of parent banks in any home (originating) country as a percent of total claims of all parent banks in Western Europe on the ECA region.
 - c. Claims of all home country parent banks in any host (recipient) country as a percent of this country's GDP.
 - d. Claims of all home country parent banks in any host (recipient) country as a percent of total claims of all parent banks in Western Europe on the ECA region.
- Note: Numbers in parentheses are billions of euros.
 Source: BIS and WEO data, and authors' calculations.

Figure 2.7 provides equivalent information for the concept of foreign claims. As an example, it is worth highlighting that international claims by Austrian banks account for 35 percent of Austria's GDP. What is widely cited instead is that Austria's exposure is 70 percent of its GDP—a number that is twice as large and that reflects the foreign claims on Austria (figure 2.7). But this measure of exposure is somewhat misleading because, as noted earlier, it includes lending in local currency by Austria's subsidiaries in ECA countries. As previously explained, these operations are most likely funded by local deposit-taking operations in the host country. Likewise, it could be that some of the foreign currency lending is also funded locally. In other words, the figure of 35 percent could overestimate Austria's exposure as well. Similarly, while

FIGURE 2.7

Foreign claims, end-2008



Note: Numbers in parentheses are billions of euros. The legends in this chart follow those described in figure 2.6.

Source: BIS and WEO data, and authors' calculations.

international claims account for 135 percent of Estonia’s GDP, foreign claims are larger and amount to 180 percent of Estonia’s GDP.

What has been so far the rollover experience in ECA countries? The evidence suggests that the exposure, measured by international claims, has declined (table 2.4). Foreign banks’ positions were the highest at the end of 2008 in only six countries, having peaked earlier elsewhere. There are exceptions; for example, Bulgaria peaked in March 2009. More generally, most countries peaked in early 2008, with a decline in exposure after the collapse of Lehman. The countries where parent banks had committed earlier to maintaining exposure in IMF-supported programs, as in Hungary and Latvia, had stable international claims at end-2008, but exposure in Ukraine and (less so) in Serbia, also a country participating in the Vienna initiative), has declined. Even in countries with IMF-supported programs, there was some decline in the first quarter of 2009. And yet perhaps the most striking result is the decline in the Russian Federation, Croatia, Turkey, Kazakhstan, and the

TABLE 2.4

International claims, by country, 2000–09 (billions of euros)

Country	2000 Q4	Peak	2008 Q2	2008 Q3	2008 Q4	2009 Q1	Change from peak
Albania	0.2	2.2 2009 Q1	1.9	2.0	2.0	2.2	0.0
Armenia	0.1	0.4 2009 Q1	0.2	0.2	0.3	0.4	0.0
Azerbaijan	0.3	2.9 2008 Q3	2.2	2.9	2.6	2.6	-0.3
Belarus	0.3	2.3 2008 Q4	2.0	2.2	2.3	2.2	-0.1
Bosnia and Herzegovina	0.2	4.7 2008 Q1	4.3	4.4	3.4	3.6	-1.1
Bulgaria	1.5	22.2 2009 Q1	20.7	21.9	21.7	22.2	0.0
Croatia	7.8	42.1 2008 Q1	34.9	34.1	33.8	33.8	-8.3
Czech Rep.	12.3	33.1 2008 Q2	33.1	32.8	29.8	28.6	-4.6
Estonia	3.1	21.6 2008 Q3	21.0	21.6	18.7	19.3	-2.4
Georgia	0.2	0.6 2008 Q4	0.6	0.6	0.6	0.6	0.0
Hungary	18.1	76.3 2008 Q4	67.6	73.3	76.3	74.2	-2.0
Kazakhstan	0.8	15.0 2007 Q4	12.0	11.7	10.9	11.3	-3.8
Kyrgyz Rep.	0.2	0.4 2007 Q2	0.0	0.1	0.0	0.0	-0.4
Latvia	1.0	26.0 2008 Q3	25.0	26.0	22.4	21.4	-4.7
Lithuania	2.1	23.3 2008 Q3	22.3	23.3	21.3	22.5	-0.8
Macedonia, FYR	0.2	1.2 2008 Q4	0.9	1.1	1.2	1.1	0.0
Moldova	0.1	0.5 2008 Q3	0.4	0.5	0.4	0.4	0.0
Montenegro	..	2.2 2008 Q3	1.9	2.2	2.1	2.0	-0.3
Poland	26.2	93.9 2008 Q4	81.0	88.6	93.9	88.5	-5.4
Romania	3.3	62.4 2007 Q4	54.2	58.0	60.0	58.9	-3.5
Russian Federation	42.6	143.6 2008 Q3	133.9	143.6	129.9	131.7	-11.9
Serbia	..	11.7 2008 Q1	10.9	11.2	11.3	10.7	-1.0
Slovak Rep.	4.1	25.6 2008 Q4	19.3	22.3	25.6	11.5 ^a	-14.1
Slovenia	4.0	18.6 2008 Q1	18.4	18.4	17.6	17.7	-0.9
Tajikistan	0.1	0.2 2001 Q2	0.1	0.1	0.0	0.0	-0.1
Turkey	46.9	87.1 2008 Q3	81.3	87.1	81.7	84.7	-2.4
Turkmenistan	1.7	1.7 2000 Q4	0.2	0.2	0.2	0.2	-1.5
Ukraine	0.9	25.6 2008 Q3	24.3	25.6	24.0	22.7	-2.9
Uzbekistan	1.9	2.0 2001 Q2	0.5	0.6	0.5	0.5	-1.5

.. is not available.

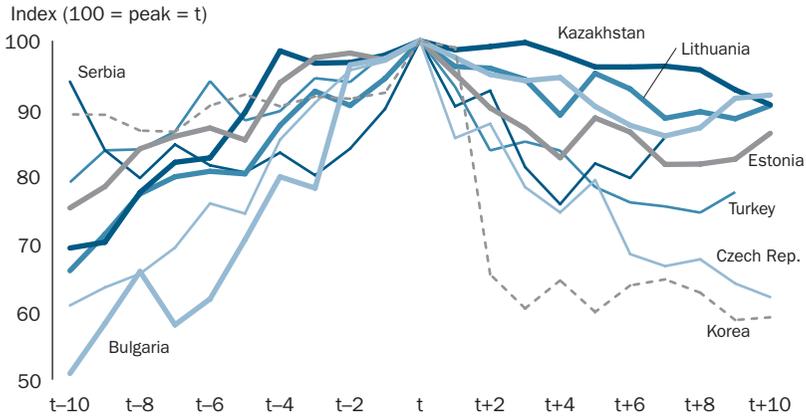
a. The Slovak Republic's decline in international claims might in part reflect the adoption of the euro on January 1, 2009. This means that euro-denominated local claims by subsidiaries were excluded from international claims and treated as local-currency-denominated claims. However, it is worth noting that foreign claims also recorded a decline.

Source: BIS and authors' calculations.

Czech and Slovak Republics. Yet, on a more positive note, the sharp decline in foreign exchange liabilities seen in South Korea has so far not occurred in ECA. Indeed, figures 2.8a and 2.8b present the profile of foreign exchange

FIGURE 2.8A

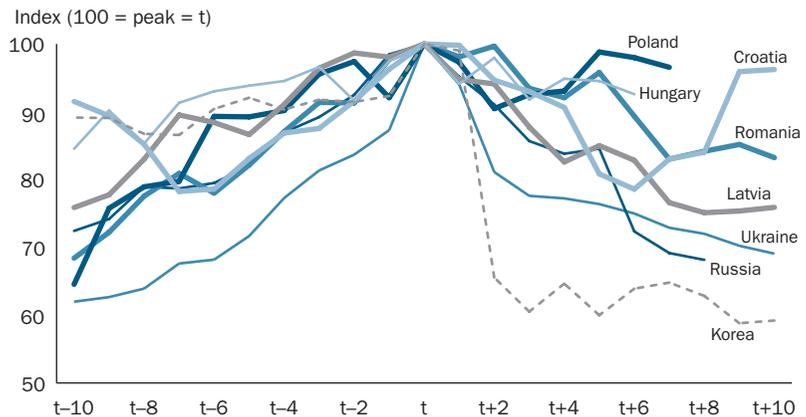
Foreign exchange liabilities, Republic of Korea and financially integrated ECA countries (monthly data; t for the peak of each country—during 1997 for South Korea, 2007 for Kazakhstan, and 2008 for other ECA countries)



Note: The crisis year is represented by t, and t-i and t+i denote the ith month before or after the crisis. Source: IMF, International Financial Statistics.

FIGURE 2.8B

Foreign exchange liabilities, Republic of Korea and financially integrated ECA countries (monthly data; t for the peak of each country—during 1997 for South Korea and 2008 for other ECA countries)



Note: The crisis year is represented by t, and t-i and t+i denote the ith month before or after the crisis. Source: IMF, International Financial Statistics.

liabilities centered on the peak for the East Asian countries and a select group of financially integrated countries. The evidence so far is that the declines in foreign exchange liabilities for South Korea were substantially sharper than those observed in most ECA countries.

Time to redeem promises made in Vienna: determinants of rollover

Rollover rates will dictate the economic adjustment of ECA countries but should not be seen as an aggregate concept. Instead, rollover rates depend on the economic prospects of debtors and on the factors affecting decisions of individual creditors. In the case of ECA countries, a significant share of rollover risk lies in the banking system, and the different funding sources for banks identified in table 2.5 all have different stability features. This section looks in greater detail at the liability structure of the banking system and the particularities of the asset structure of banks that might affect their rollover decisions.

The decision by a parent bank to roll over credit lines to a subsidiary depends on the expected return or loss at the time of the decision, the uncertainty about future returns, and the willingness to bear this uncertainty. If the investment of the parent is a small share of total funding and the subsidiary is liquid, the parent may choose not to roll over because of the certainty that the subsidiary can accommodate this with little consequence. The alternative of waiting would expose the parent to uncertainty about future payoffs, especially if conditions deteriorate and the liquidity and solvency of the subsidiary are called into question. If, by contrast, the subsidiary is not liquid but well capitalized, the parent bank may choose to roll over its credit lines in view of the bankruptcy costs that are likely to be incurred otherwise.

But considerations of solvency and liquidity are not all. If the parent bank accounts for a large share not only of the subsidiary’s funding but also of economy-wide funding, it is likely that withdrawal would lead to a country

TABLE 2.5
Stability of funding sources

Source	Degree of stability
Residents	
Retail deposits	High/medium
Wholesale funding	Low
Nonresidents	
Retail deposits	Medium/low
Wholesale funding	Low
Parent bank funding	Medium
Equity	High

default. Given the systemic impact of the parent bank, its withdrawal will also affect recovery rates and have a substantive impact on macroeconomic performance.

In contrast, the presence of many investors and the inherent maturity mismatch between bank assets and liabilities also affect wholesale funding and nonresident deposits during periods of turmoil. Investors fear who might exit first. Debt might not be rolled over because less informed investors interpret a collapse in a bank's share price as signaling that shareholders who control the bank—and thus should be knowledgeable—have lost confidence in the bank's earning prospects.

Small and uninformed depositors are particularly prone to runs, though typically with a lag. While this has motivated deposit insurance schemes, retail runs may still occur if the schemes are not seen as credible. There can also be some special situations: for example, bank runs can occur when retail depositors wish to transfer their resources from domestically owned banks to foreign-owned banks perceived as more stable.¹⁷

Not all funding sources are equally stable . . .

The relative stability of the sources of funding for banks can be assessed by looking at the evolution of their liability structures.¹⁸ The conclusions from such assessment are revealing. Shortages of liquidity brought on by the turmoil in global financial markets have substantially restricted the availability of wholesale funding. In Bulgaria, Croatia, Estonia, FYR Macedonia, and Lithuania, wholesale funding has declined (figure 2.9). In contrast, domestic deposits held up much better. Even though they declined in the fourth quarter of 2008 and the first quarter of 2009, they were still higher at the end of the first quarter of 2009 than at the beginning of 2008 (figure 2.10).¹⁹ Interestingly, parent bank funding has held well, reflecting the success so far of international coordination efforts (figure 2.11). In fact, parent bank funding has been used to offset declines in other types of funding. And yet it is fair

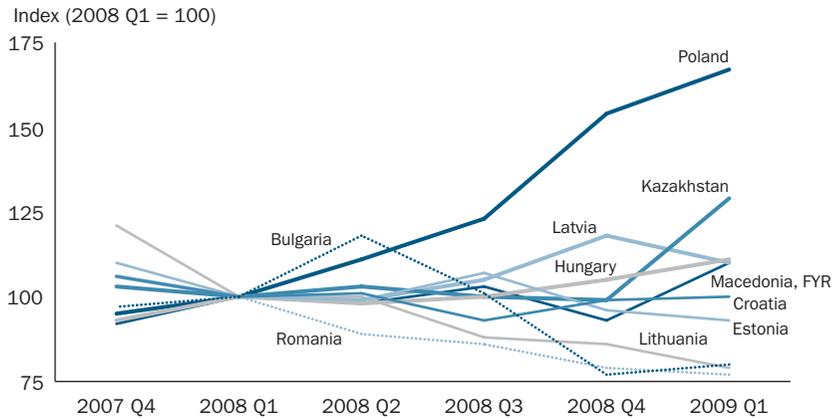
17. This happened in Latvia in 2008, when deposits were transferred from domestically-owned banks to the foreign-owned subsidiaries of Swedish banks following announcements by the Swedish government of support for those banks.

18. The discussion is based on data that was requested from central bank and banking supervision authorities for 12 countries in the region. The data distinguish between alternative funding sources and the maturity, sectoral, and currency composition of the loan portfolio. The authors wish to thank these authorities for this information.

19. The higher stability of retail funding compared with wholesale funding in such cases echoes the case of Northern Rock in the United Kingdom, where wholesale funding rollover needs dried up one month before queues of depositors formed outside the bank's own branches.

FIGURE 2.9

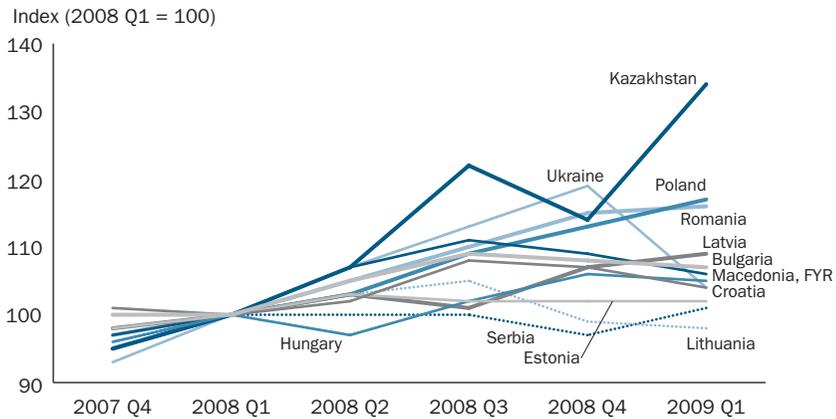
Wholesale funding, by country, 2007-09



Source: Central banks and authors' calculations.

FIGURE 2.10

Resident retail deposits, by country, 2007-09

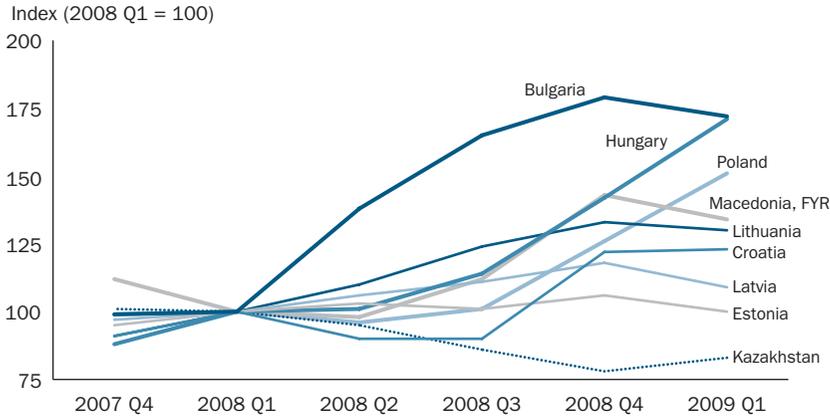


Source: Central banks and authors' calculations.

to say that the growth in parent funding in the past few years is no longer present. The exception is Kazakhstan, though here it has been declining since 2007 Q4 (figure 2.11). Note that foreign ownership and funding structures are quite independent of each other. Some parent banks rely heavily on domestic deposit-taking operation by their subsidiaries, even though the banking system is foreign owned (box 2.5).

FIGURE 2.11

Parent bank funding, by country, 2007–09



Source: Central banks and authors' calculations.

... while some components of the loan portfolio fasten “golden handcuffs” on lenders

The stability of parent bank funding and thus the prospect for a rollover depend also on the composition of assets on the balance sheets of subsidiaries. Indeed, it may have been optimal for some parent banks to secure their claims immediately, particularly where liquidity positions were strong, as in Serbia, where 35 percent of bank assets were held in cash, as opposed to in Estonia and Lithuania, where the corresponding ratio was 10 percent (figure 2.12). In this context, low liquidity buffers in Estonia and Lithuania may have encouraged dominant parent banks to maintain funding in these countries. For instance, one-day funding of parent banks in Lithuania accounts for 25 percent of available cash of local banks. So, nonrenewals would strain an already circumscribed liquidity position.

More generally, bank loan portfolios in ECA countries frequently comprise nonmarketable loans with very long maturities. Of all loans, 60 percent have a contract maturity of more than five years in Lithuania and more than 70 percent in Estonia, reflecting the dominance of long-term mortgage lending. As noted earlier, the average maturity of mortgage loans is 26 years in some Baltic states, and these make up close to 50 percent of the loan portfolio. In contrast, loans with a maturity of more than five years account for only 30 percent of loans in Serbia and Ukraine (figure 2.13). Indeed, while credit to households accounts for about 50 percent of total assets in Estonia

BOX 2.5

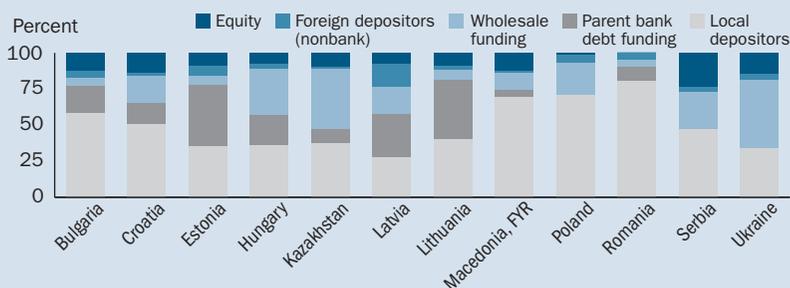
Foreign ownership and funding sources

Ownership has little to do with the banking system’s funding structure. An examination of the liability structure of the consolidated banking system in 12 financially integrated ECA countries shows considerable variation. In Lithuania, where 90 percent of the banking sector is foreign owned, liabilities are dominated by parent bank credit lines and domestic deposits (box figures 1 and 2). In Estonia, where the banking sector is almost fully foreign owned, the dependence on parent bank funding is similar.

But ownership does not necessarily determine the relative importance of different funding sources. In FYR Macedonia, where 85 percent of the banking sector is foreign owned, the liability side of the balance sheet is less diverse, and funding by parents is substantially less important. Croatia, where the banking sector is more than 90 percent foreign owned, presents a more mixed case—it has similar shares of parent and wholesale funding and a large resident deposit base.

BOX FIGURE 1

Liability structure of banking sector balance sheets, by country, March 2009



Note: For Serbia and Ukraine there is no distinction between parent funding and wholesale funding in the data provided by the central bank; the figure combines both sources and refers to it as wholesale funding.

Source: Central banks and authors’ calculations.

BOX FIGURE 2

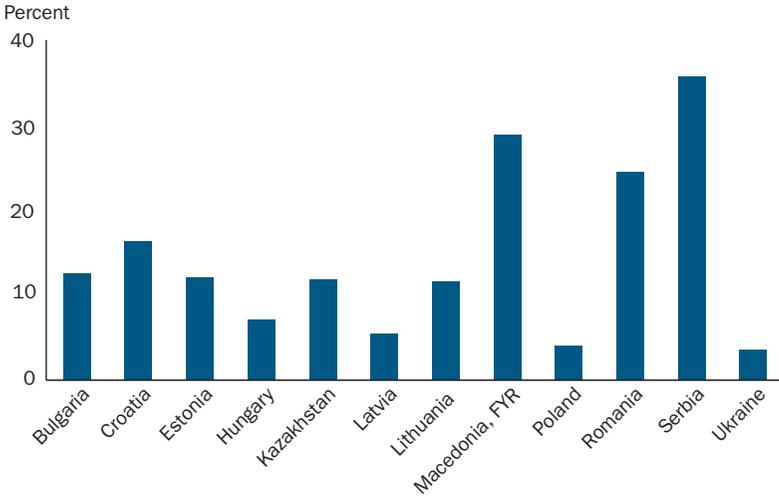
Foreign ownership of banks, by country, 2007



Source: EBRD 2007.

FIGURE 2.12

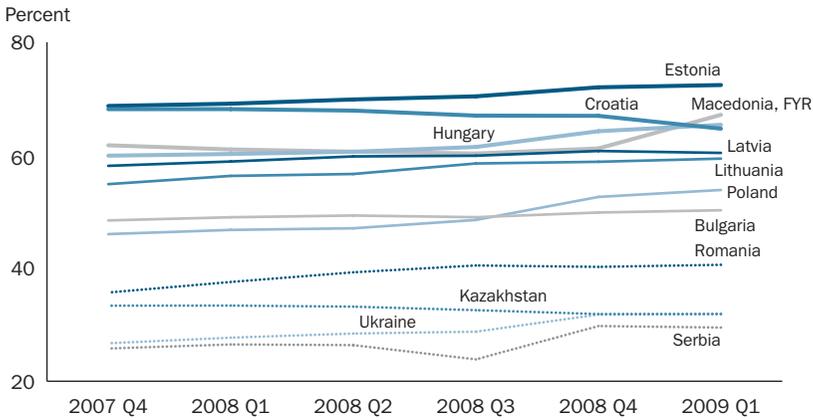
Ratio of liquid assets to total assets, by country, March 2009



Source: Central banks and authors' calculations.

FIGURE 2.13

Loans with a maturity of five years or more, by country, 2007-09

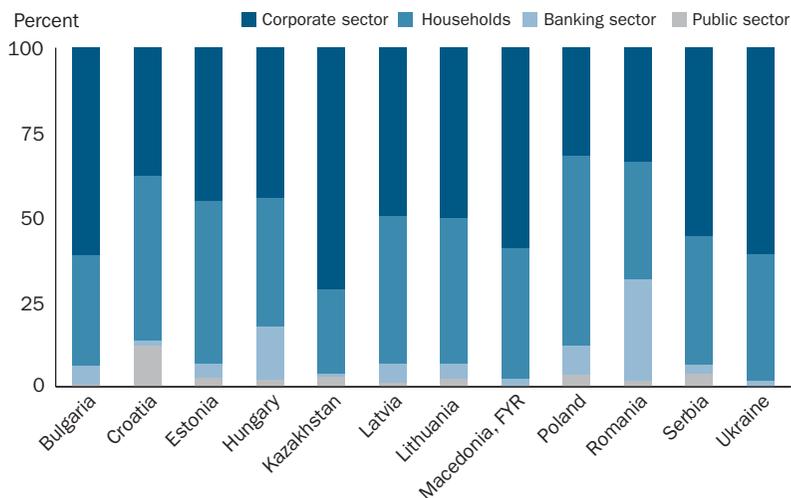


Source: Central banks and authors' calculations.

and Lithuania, it accounts for a much lower share—about 35 percent—in FYR Macedonia, Kazakhstan, and Serbia (figure 2.14)—and in many countries the vast majority of the lending was in foreign currency (figure 2.15). This illiquid asset position associated with long-term mortgage lending may

FIGURE 2.14

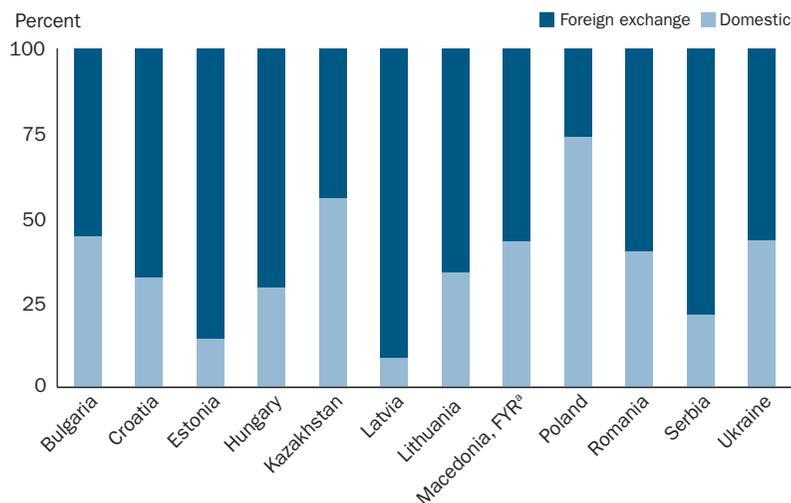
Sectoral composition of loans, by country, March 2009



Source: Central banks and authors' calculations.

FIGURE 2.15

Currency composition, by country, March 2009



a. Data for foreign exchange include foreign exchange loans and loans in denars with foreign exchange adjustment clauses.

Source: Central banks and authors' calculations.

underpin the stability of debt exposures of large parent banks in some ECA countries. In sum, the potential for debt investors to realize assets at little or no cost is lower in the Baltic states than in Serbia and Ukraine. The long maturities in Estonia and Lithuania will encourage parent banks to maintain exposure, while the comfortable liquidity position in Serbia might provide an incentive to cut back on exposure in the knowledge that liquid and marketable assets are available to pay debt investors back without much distress.

Does “home country” concentration matter? . . .

The extent to which a banking system relies on parent banks from a few countries, or many, is also relevant in assessing the stability of parent funding. The underlying assumption is that higher concentration in one home country is likely to result in more stable links, because withdrawing support to the subsidiary could prove costly. Indeed, it is even likely in such cases that home country supervisors would look at home country exposure, as opposed to individual bank exposure: the Nordic countries’ willingness to participate in the IMF-supported program in Latvia with substantial official financing (€1.8 billion, in addition to the support provided for Swedish bank recapitalizations) is consistent with this hypothesis. Moreover, if a bank stays involved, it can capture high profits once the economy returns to some degree of normalcy owing to its likely importance in market share. Indeed, though home country concentration is not equivalent to monopoly power, there is a correlation.

How can the degree of home country concentration be assessed? Through an index of home country concentration of foreign banks’ international claims. A large index number indicates high concentration and thus, potentially, higher funding stability (table 2.6).²⁰ The Baltic states and some Western Balkan countries had high concentration scores. In contrast, Kazakhstan, the Russian Federation, Turkey, and Ukraine had low concentration scores, while countries in Central Europe such as the Czech Republic, Poland, and the Slovak Republic, together with Bulgaria, were in between. In general, the concentration scores for South Korea, Malaysia, Thailand, Philippines, and Indonesia are lower than those observed in some ECA countries, though by no means all.

20. It is akin to the Herfindahl index and is defined as the sum of the squares of the market shares. This is summed over all international claims of foreign banks with claims in a country. The index lies between zero and one. Increases in the index indicate a decrease in competition and an increase of market power originating in one country, while decreases indicate the opposite.

TABLE 2.6

Index of home country concentration of parent bank exposure, international claims

Country	2000 Q4	2008 Q4	2009 Q1
Europe and Central Asia			
Albania	0.35	0.28	0.35
Armenia	0.72	0.33	0.24
Azerbaijan	0.29	0.17	0.18
Belarus	0.50	0.29	0.28
Bosnia & Herzegovina	0.55	0.39	0.40
Bulgaria	0.14	0.16	0.16
Croatia	0.38	0.26	0.26
Czech Rep.	0.28	0.19	0.20
Estonia	0.76	0.83	0.84
Georgia	0.45	0.27	0.29
Hungary	0.14	0.21	0.21
Kazakhstan	0.15	0.11	0.10
Kyrgyz Rep.	0.27	0.25	0.24
Latvia	0.52	0.58	0.58
Lithuania	0.41	0.64	0.64
Macedonia, FYR	0.27	0.46	0.50
Moldova	0.26	0.47	0.44
Montenegro	..	0.59	0.56
Poland	0.17	0.16	0.15
Romania	0.21	0.18	0.18
Russian Federation	0.13	0.12	0.11
Serbia	..	0.18	0.18
Serbia ^a	0.18	..	..
Slovak Rep.	0.14	0.19	0.22
Slovenia	0.31	0.28	0.27
Tajikistan	0.46	0.32	0.33
Turkey	0.13	0.12	0.12
Turkmenistan	0.28	0.71	0.70
Ukraine	0.17	0.14	0.15
Uzbekistan	0.24	0.24	0.24
Mean	0.32	0.31	0.31
Median	0.28	0.26	0.24
East Asia			
	Peak date for claims	Index	
Indonesia	1997 Q4	0.27	
Korea, Rep. of	1997 Q2	0.21	
Malaysia	1997 Q2	0.30	
Philippines	1997 Q4	0.14	
Thailand	1996 Q4	0.44	
Mean		0.27	
Median		0.27	

.. is not available.

a. Includes Montenegro.

Source: BIS and authors' calculations.

TABLE 2.7

**Importance of lending in foreign exchange among parent-subsidiary banks
(foreign exchange lending by parent-subsidiary bank as a percentage of total
group lending)**

Country	2005 Q1	Peak	2008 Q4	2009 Q1	
Belarus	1.00	1.00	2005 Q1	0.79	0.82
Bulgaria	0.68	0.76	2006 Q1	0.72	0.74
Croatia	0.65	0.65	2005 Q1	0.59	0.60
Czech Rep.	0.26	0.31	2006 Q2	0.25	0.24
Estonia	0.83	0.85	2006 Q1	0.82	0.85
Hungary	0.67	0.71	2009 Q1	0.70	0.71
Kazakhstan	0.89	0.96	2009 Q1	0.95	0.96
Latvia	0.79	0.90	2008 Q3	0.87	0.88
Lithuania	0.77	0.84	2005 Q4	0.76	0.79
Macedonia, FYR	0.77	0.77	2005 Q1	0.66	0.68
Montenegro	..	0.85	2008 Q4	0.85	0.78
Poland	0.41	0.53	2006 Q1	0.48	0.48
Romania	0.73	0.76	2005 Q2	0.69	0.68
Russian Federation	0.91	0.93	2006 Q1	0.79	0.82
Serbia	..	0.68	2008 Q4	0.68	0.67
Slovak Rep.	0.42	0.42	2005 Q1	0.38	0.23
Turkey	0.93	0.93	2005 Q1	0.73	0.74
Ukraine	0.89	0.89	2005 Q1	0.70	0.69
Average	0.72	0.76		0.69	0.69
Median	0.77	0.80		0.71	0.72

.. is not available.

Source: BIS and IFS, and authors' calculations.

... yes, but demand matters as well

Home country concentration is a supply-side factor associated with maintaining exposure to host countries, but the demand for international claims in the host country is also important. This is revealed to some extent in a bank's foreign exchange lending. International claims as a share of total parent-subsidiary lending had remained broadly constant at the end of March 2009. On average, two-thirds of lending in the parent-subsidiary group was in foreign currency and one-third in local currency (table 2.7).

The average masks substantial variation. International claims accounted for only 24 percent of total parent-subsidiary lending in the Czech Republic and 23 percent in the Slovak Republic—but 83 percent in the Baltic states. As noted earlier, foreign ownership does not determine lending. The

determinants must be sought instead in the relative attractiveness of borrowing in foreign exchange over borrowing in local currency from the perspective of the borrower (box 1.3).

Three concluding arguments—three caveats

Some deleveraging due to pressures in advanced country financial markets is likely. It is also to a degree needed as rollover gives way to restructuring of bank, household, and corporate debt. But collective action involving regional and international financial institutions, supranational authorities, parent banks and their subsidiaries, and home and host governments—and ECA's unique rollover determinants—can keep this process orderly. Although parent bank funding has for the most part continued, external financing is unlikely to recover its prominent role. Still, rollover in ECA is more probable than it was in previous capital account crises. These factors support this assessment.

First, high home country concentration of parent bank exposure to the host country is likely to create incentives to remain engaged in some countries—though not all ECA countries face the same circumstances. Indeed, where home concentration is low, the incentives to sustain exposure might not be as strong. Estonia and Kazakhstan illustrate opposite cases of the broadly positive association between home country concentration and ease of rollover. But it must be recognized that there are exceptions, such as Ukraine, where home country concentration is low, but rollover has been reasonably secured.

Second, the more illiquid and nonmarketable are the assets held by subsidiary banks, the less likely is the withdrawal of those resources at short notice. Indeed, doing so is in many ways self-destructive, equivalent to a fire sale of assets (housing prices have already halved in some crisis countries). Thus, the commitment of parent banks also depends on their asset structure, particularly the maturity structure and sectoral composition of the loan portfolio.

Third, it is likely that renewing external financing in wholesale funding, syndicated loans, or nonresident deposits will be more difficult—and has so far been the case. In fact, some banks are facing severe difficulties. This is a systemic threat only in some countries, though individual banks in many may falter.

These three arguments, which support a gradual and orderly reduction of exposure, are subject to three caveats. First, subsidiaries are strong partners only to the extent their parents are financially healthy. A faster deleveraging in asset classes viewed as high risk could occur if parent banks face difficulties at home. Some ECA countries—though clearly not all—might be less attractive than less vulnerable emerging markets around the world.

Second, parent banks seem committed to gradually recapitalizing their subsidiaries, assuming that nonperforming loans accumulate gradually. But the foreign exchange exposure of subsidiaries to unhedged borrowers could accelerate the process of recognizing losses in the event of a currency crisis. In such cases, parent bank commitment to their subsidiaries is less clear, and little guidance can be offered from past banking crises.

Third, collective action and the rapid response by the international community has so far prevented contagion, but this also depends on continuing success in restoring countries to sustainable development paths. The risk remains that the adjustment is so large that it could weaken political resolve and popular support. This can be eased only by rollover rates that are higher than were anticipated at the end of 2008 when the crisis first struck. It may need to be complemented by large official financing flows—and for a longer period—to slow down and soften the pain of the adjustment.

Annex 2.1

Description of the Bank for International Settlements (BIS) Dataset

The banking statistics published by the BIS can be divided into two sets: locational (tables 1 to 8 in the statistical annex of the BIS Quarterly Review) and consolidated (table 9 of the same annex) statistics on claims and liabilities. The locational dataset is based on the location of each banking unit. Although this classification is similar to that in national statistics, such as balance of payments, the data are on a gross basis. Therefore, the locational statistics contain the positions against their own affiliates in other countries. The consolidated dataset is based on the nationality of the head office; in particular, it has all inter-bank positions (businesses between different units of the same bank group) on a net basis. These statistics show the risk exposures of banking systems of countries where the head offices are located and are provided in two different ways: immediate borrower (contractual) basis (tables 9a and 9b of the dataset) and ultimate risk basis (tables 9c and 9d of the dataset).

Annex table 2.1.1 summarizes the information on “claims” available in the BIS banking data. It should be noted that the sectoral breakdown is defined differently in each of the two sets of statistics, as shown in annex table 2.1.2. The difference between these stems from where the default risk reside.

ANNEX TABLE 2.1.1

Comparison of information on claims in BIS data

	Locational (gross)	Consolidated (net)	
		Immediate borrower	Ultimate risk
Type of claims			
Foreign claims (FC = IC + LL)		✓	✓
International claims (IC = XB + LF)		✓	
Cross-border claims (XB)	✓		✓
Local claims in foreign currency (LF)			✓
Local claims in local currency (LL)		✓	
Composition of claims		(IC)	(FC)
By currency	✓		
By maturity		✓	
By sector	✓	✓	✓
Starting date of quarterly series	Dec. 1977	Dec. 1999*	Mar. 2005
Number of reporting countries (Dec. 2008)	41	30	24

*Semiannual data available from December 1983 onwards.

Source: BIS 2003, 2005, and 2009; Maechler and Ong 2009.

ANNEX TABLE 2.1.2

Sectoral breakdown in BIS data

	Claims on		
	Banks	Nonbanks	Public sector
Locational	<ul style="list-style-type: none"> • Commercial banks • Monetary authorities • International organizations 	<ul style="list-style-type: none"> • General governments • Public corporations • Nonbank private sector 	
Consolidated	<ul style="list-style-type: none"> • Commercial banks 	<ul style="list-style-type: none"> • Public corporations • Nonbank private sector 	<ul style="list-style-type: none"> • General governments • Monetary authorities • International organizations

Source: BIS 2008a,b.

Numbers on immediate borrower basis capture claims to the country where the original risk lies. This is based on the residence (nationality) of the head office of reporting banks and their claims to nonresidents. Claims are on ultimate risk basis when it takes into account banks’ own internal risk management systems and the difference in risk exposures brought by risk mitigation with, for instance, collateral and credit derivatives. Ultimate risk claims are the ones extended to the country where the final risk lies or the country where the guarantor of a claim resides. In other words, claims are allocated to the country where the counterparty that has the final responsibility of repaying them is located. The difference between the two series is captured by net risk transfers (differences between inward and outward risk transfers). The positive transfers indicate that banks’ risk exposure to the country is increased and, therefore, the country is a holder of an ultimate responsibility for the repayment of the claim. The country risk exposures can be more appropriately captured by the ultimate risk basis, but the series is available only from 2005, and fewer countries report on this basis.

CHAPTER 3

Restructuring bank, corporate, and household debt

Nonperforming loans picked up during 2009 in many ECA countries—up to 20 percent of all loans—particularly construction and mortgage lending.

With a few exceptions, the indebtedness of nonfinancial corporates is not higher than that in comparable countries.

A distinctive feature of ECA's crisis is household debt, which in some new member states of the EU and in Croatia has reached levels comparable to those of Ireland, Spain, and Portugal in the late 1990s.

Household debt is concentrated in the upper-income quintiles.

Questions

- Why is it imperative that ECA countries recognize nonperforming loans without much delay?
- What can be learned from past banking crises about the best way to restructure corporate and household debt?
- What are the main challenges for the future of finance in the region?

Findings

- The outlook for ECA's growth is weak. So, there is urgency to recognizing and restructuring nonperforming loans to ensure that the region's economic recovery is not held back by weak loan portfolios.
- Credit losses (even in a worsening scenario) should be manageable and could range from 7 to 19 percent of country GDP.
- Past crises offer guidance on how to conduct corporate and household debt restructuring. Governments should consider establishing voluntary out-of-court workout mechanisms to avoid overwhelming the judicial system with a large number of debt restructurings.
- Capital adequacy ratios for transition and developing countries should take into account the greater volatility of the shocks affecting them—and thus err on the side of financial stability, even at the expense of some loss in financial intermediation.

Financial institutions, corporations, and households are facing difficulties servicing their debt contracts on the original schedules.¹ Banks are seeing their

1. Laeven and Valencia 2008.

loan portfolio deteriorate as firms are hit by the collapse of demand and unemployment rises. Two of ECA's hardest hit countries (Latvia and Ukraine) had nonperforming loans (defined as substandard, doubtful, and lost) at around 20 percent of all loans at the end of the first quarter of 2009. Although the lower income countries of the CIS have not been directly affected by a sudden stop in capital flows, their banking sectors are also hurting: nonperforming loans stood at over 6 percent in the Kyrgyz Republic and nearly 14 percent in Georgia in early 2009. By comparison, nonperforming loans in earlier capital account crises peaked at 32 percent of total loans in Indonesia, 35 percent in Korea, 30 percent in Malaysia, and 23 percent in Thailand during the East Asian crisis—and at 20 percent in Argentina, 40 percent in Ecuador, and 36 percent in Uruguay during their crisis earlier this century.²

Nonperforming loans are particularly high in trade and construction. This is due to the devaluation of the local currency and a plunging real estate market, and the impact of these developments on mortgage loans. For instance, 25 percent of all mortgages in Ukraine were in default in mid-2009, up from 1 percent in late 2008. In Latvia, the proportion of loans to companies that have real estate as their business and are more than 90 days overdue was nearly 30 percent in March 2009.

On the liability side of the balance sheet, banks with high loan-to-deposit ratios have seen their funding dry up. This is particularly evident in the wholesale and interbank markets (chapter 2). And in most countries, banks have faced a withdrawal of resident deposits because of a loss of confidence. In Ukraine, for example, there was a deposit flight of 25 percent from hryvnia deposits and 18 percent of foreign exchange deposits between October 2008 and April 2009. In other countries, the shift has been from local to foreign exchange deposits.

Financial systems need to be fixed

As in previous capital account crises, restoring the financial system to health is important because both consumption and investment depend on credit. Policy responses to systemic banking crises typically distinguish between a containment phase (primarily related to the liability side of banks' balance sheet), where the priority is to restore confidence by depositors and investors in the banking system, and a resolution phase (primarily related to the asset side of banks' balance sheets) focusing on the financial restructuring of banks

2. The increases observed in past capital account crises reflect increased and widespread corporate distress, as well as the introduction of better loan classification standards for financial institutions.

and their borrowers. The distinction is not hard and fast, since steps to contain the crisis shape the landscape for formulating resolution policies.

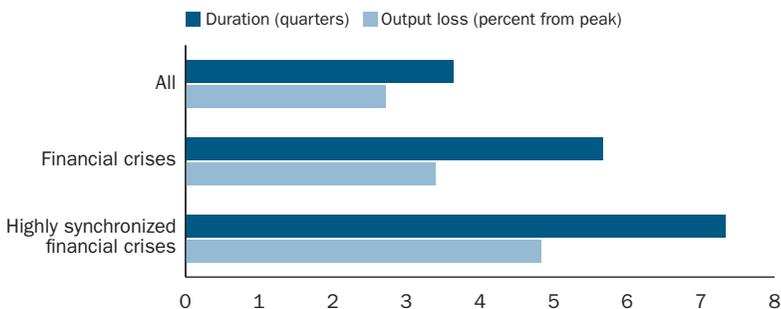
... particularly when growth is expected to be sluggish

Restoring the financial system to health is more difficult when the profile of recovery and growth is likely to be sluggish. The expectation of weak growth is based on three considerations.

- First, recessions associated with financial crises that are synchronized across the world, as they are today, have had declines in real GDP from the previous peak that are deeper (5 percent), take longer to arrive at the trough from the previous peak (almost 8 quarters), and require more time for real GDP to recover from the new trough to the previous peak (about 7 quarters). This is the case both when compared with recessions caused by other types of shocks (fiscal policy contractions, monetary policy tightening, oil shocks) or those following financial crises that are not synchronized across the world (figures 3.1a and 3.1b). The reasons are simple. Net trade is much weaker and exports are thus less likely to be a source of recovery. In addition, credit growth and the increase in prices of assets, such as real estate and equities, during the expansion preceding a financial crisis are higher than during other expansions, and household savings out of disposable income in the pre-crisis period is lower. These factors necessitate a large increase in savings rates after the crisis strikes, which in turn implies a much deeper decline in private consumption. Indeed, private consumption typically grows more slowly than during other recoveries, while private investment actually continues to decline even after passing the recession's trough.

FIGURE 3.1A

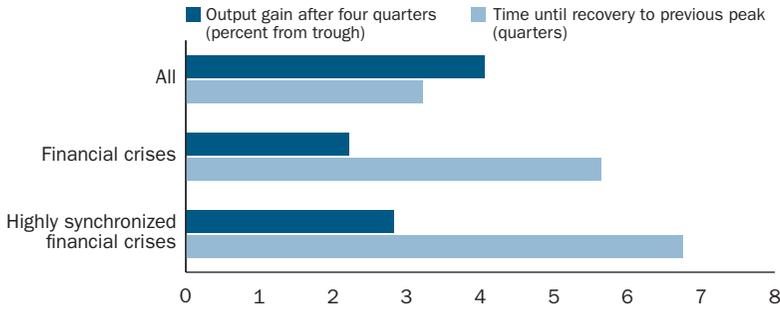
Average duration and change in output of recessions, by type



Source: IMF *World Economic Outlook*, April 2009.

FIGURE 3.1B

Average duration and change in output of recoveries, by type



Source: IMF *World Economic Outlook*, April 2009.

- Second, writedowns remain to be fully recognized in the Western European financial sector, and leverage ratios in the banking sector are high. The IMF estimates that financial institutions in Western Europe (including the United Kingdom) will face around \$1.5 trillion in writedowns through 2010, but just around 40 percent had been recognized by the end of the second quarter of 2009.³ The leverage of Western European banks prior to the crisis was also too high. A reduction of leverage to reach a ratio of tangible common equity to tangible assets of 4 percent would require a capital injection of around \$550 billion for Western European (including United Kingdom) banks.⁴ However, high fiscal deficits in Western Europe may constrain governments’ ability to do so rapidly.
- Third, growth in ECA was underpinned by abundant liquidity that is unlikely to continue at the pace in the pre-crisis years. This implies inter alia a possible slowing of convergence to Western European living standards. Since recognizing losses in Western European banks will require substantial deleveraging, which would typically include some retrenchment from subsidiaries, the growth of credit to some ECA countries is likely to be more limited—so too the excess of imports over exports. In this context, if financing is not rapidly restored, this could compromise growth. There is room to run public imbalances without crowding out private activity—public debt is low and the private sector needs to adjust. But public imbalances cannot be maintained for long without raising sustainability issues (box 3.1).

3. IMF 2009c.

4. Tangible common equity is total equity less preferred shares and intangible assets; tangible assets are total assets less intangible assets.

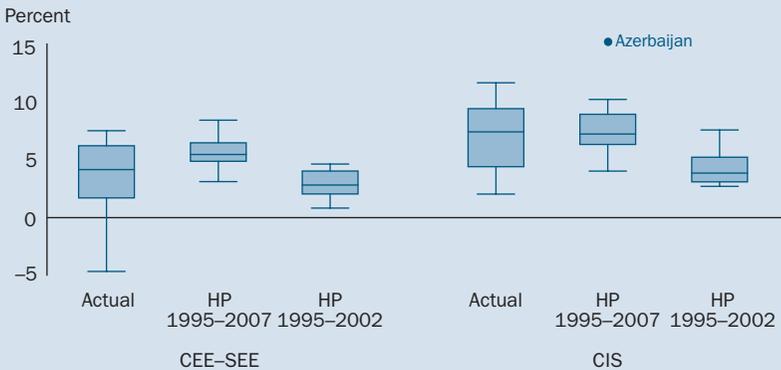
BOX 3.1

ECA's growth prospects—green shoots? Maybe. High growth rates? Unlikely

How can one assess the region's growth prospects? Quantifying potential growth is always difficult, more so in a region where the role of unusually high external financing in growth is not well understood. Moreover, the full impact of this crisis on GDP in 2009 and 2010 is still playing out. Notwithstanding the caveats, a crude estimate of potential growth can be derived by using filtered series, such as Hodrick-Prescott techniques. This is far from a theory of growth, but it highlights the unusual features of growth in the region over the past five years. Specifically, the box figure presents two estimates in addition to the actual GDP growth rate for 2008.¹ The first estimate is based on growth rates interpolated from country-specific data for 1995–2007. The second estimate is based on growth rates interpolated from 1995–2002. Among the CEE-SEE group, there is a 3 percentage point difference between the interpolated growth rate derived using HP filtered series based on different sample periods. Among the CIS, this difference is even higher—slightly more than 4 percentage points. Clearly, the concern that growth rates might not rapidly return to past levels is valid. The potential effects on fiscal sustainability remains to be seen, but they could obviously be important as the revenue performance of recent years benefited from the unexpectedly high growth rates in real GDP.

BOX FIGURE 1

Potential growth (in percent)



Note

1. The full distribution for CEE and SEE countries (including Turkey) and CIS countries is represented through the use of box-and-whiskers charts. The whiskers represent minimum and maximum values. The boxes represent the 25th and 75th percentile. The line in the box is the median for the group. An observation beyond the whisker occurs when there are outliers in the data (more than 1.5 times the interquartile range away from the neighboring observation).

Source: World Bank *World Development Indicators* and authors' calculations.

Against this background, this chapter attempts to answer three questions. First, what can be learned from past banking crises about the best way to contain and resolve problem banks? Second, why is it important to recognize non-performing loans without much delay, and what is the best way to restructure corporate and household debts? Third, what are the more important aspects of bank regulation and supervision that need to be reformed to absorb the lessons from the present crisis and make banking sectors in ECA countries less vulnerable to future crises? Issues include strengthening capital requirements and cross-border banking supervision.

For the lenders: bank restructuring

Containment: restoring confidence

The containment phase is intended to restore public confidence in the banking system and limit its adverse effects on the real sector. Numerous instruments are available to the authorities, most targeted at stabilizing the liability side of banks' balance sheets. These policy measures include:

- *Liquidity support in local currency.* Liquidity support includes a reduction in reserve requirements, access to overdraft facilities, and the use of repos and reverse repos against broader types of collateral. But this needs to be done under closely monitored conditions to prevent recipient banks from shifting assets abroad. And liquidity support should not be extended to banks that are reportedly insolvent. Both have occurred in some middle-income CIS countries. For the poorer countries of the former Soviet Union, liquidity injections were put in place in Georgia and Tajikistan, reserve requirements were reduced in Georgia, and deposit insurance coverage was extended in the Kyrgyz Republic. Monetary policy will need to stand ready to sterilize excess liquidity where liquidity support put pressure on the exchange rate, though the risk of currency depreciation has been reduced with global monetary easing and associated declines in world interest rates.
- *Liquidity support in foreign currency.* The ability of the central bank to provide liquidity support in foreign exchange is limited by the availability of reserves. Countries can benefit from temporary arrangements, such as a swap line to provide euro liquidity. For instance, this was made available to Estonia by the Swedish Riksbank, and to Poland by the IMF's approval of a flexible credit line, which is extended only to countries with a track record of sound macroeconomic management. Countries without access to such swap lines have opted for high-access IMF arrangements that require policy reform.

- *Government guarantees.* Some countries have introduced guarantees for third-party funding of banks. For example, guarantees have been extended for interbank credits in Hungary and Latvia, bank-issued securities used to roll over or refinance domestic banks' funding needs in Hungary, and new debt issuance by banks in Slovenia.
- *Deposit insurance.* Countries have raised maximum limits on bank deposits covered by deposit insurance and increased deposit insurance premia—the uncoordinated increase in deposit insurance in the eurozone in 2008 and its effects on the new member states of the European Union that do not belong to the eurozone were addressed later.

The provision of liquidity support and deposit and government guarantees should be accompanied by intervention in banks deemed insolvent. This was the case, for example, with the second largest domestically owned bank in Latvia, where liquidity support was not enough to stop a bank run—and with 17 banks in Ukraine, where temporary administrators imposed a freeze on household deposits and a moratorium on repayment of liabilities to allay concerns about the banking system's soundness.

Resolution: restructuring banks

The resolution phase of a systemic banking crisis seeks to restore the normal functioning of the credit system and calls for the restructuring of financial institutions. The response to a crisis requires that banks be recapitalized to protect depositors and taxpayers from losses arising from deteriorating asset quality. Bank supervisors must make a judgment about the viability of individual banks based on the best available, if typically incomplete, information and a view of its future prospects. This forms the basis for a triage depending on capital adequacy ratios and bank viability, with banks classified as those that are viable and meet regulatory requirements, those that are viable but undercapitalized, and those that are nonviable and insolvent. Solvent and undercapitalized banks need to be capitalized on a timetable agreed with regulators. Unless market players are prepared to absorb the assets of fragile banks prior to bankruptcy, nonviable and insolvent banks need to be taken over by regulators (or “intervened”) and a decision taken on their future.

- If a bank is to be closed: Deposits need to be transferred to a healthy bank, and creditors should share in the losses based on existing banking and bankruptcy laws.
- If a bank is to be kept open: The range of options includes recapitalizing the bank with public funds, selling it, possibly with some government

guarantee on asset values, and merging it with a healthy bank, possibly with some enhancement of the balance sheet.

While recapitalization of private banks should be done using private funds, crisis situations might call for public capital. In such cases, the government should acquire preferred shares in return for representation on the board, and existing shareholders should suffer a dilution. For undercapitalized subsidiaries of cross-border banks in ECA, the burden of recapitalization should rest with parent banks. For example, Romania has asked parent banks to preemptively recapitalize their subsidiaries.

Countries have also used the crisis to give supervisors the broad authority to respond to systemic risks in the banking sector. Kazakhstan now has a banking resolution framework that allows regulators to intervene, with appropriate powers, in cases of bank distress. Latvia has sought improvements in the legal framework for bank resolution, including intervention in troubled banks. Hungary has strengthened bank regulation and supervisory powers to allow forward-looking actions to preempt systemic distress. It also seeks to renew the focus on onsite verification of banks' safety and soundness and requires onsite inspections of the largest banks to evaluate asset quality, loan loss provisions and reserves, collateral values, capital solvency and governance; to calculate required adjustments to capital and provisions; and to recommend corrective action.

In Ukraine, legislation is being sought to allow revaluating shareholder capital; transferring the assets and liabilities of a bank, whether before or after revocation of its license without the prior approval of creditors, including depositors; simplifying the grounds for introducing temporary administrators in problem banks; and giving the central bank the authority to charter a bridge bank, tasked with administering the assets and liabilities of failed banks.

Similar actions are being taken in the low-income and lower middle-income countries of the former Soviet Union—with regular stress-testing of banks in Armenia and Georgia, increased provisioning in Georgia, requiring existing shareholders to inject capital in banks in the Kyrgyz Republic, with the authorities taking equity stakes when needed. Bank supervision is being strengthened in Armenia, the Kyrgyz Republic, and Tajikistan. All the low-income and lower middle-income countries of the former Soviet Union have made sure that the supervisory authorities have necessary powers of intervention.

Avoid regulatory forbearance

Some previous episodes of systemic banking distress, such as Argentina 2001, Bulgaria 1996, Ecuador 1999, Indonesia 1997, Korea 1997, Malaysia 1997,

Mexico 1994, the Russian Federation 1998, and Thailand 1997 have also seen regulatory forbearance. Specifically, to help banks recognize losses and allow corporate and household restructuring to go forward, the government might exercise forbearance either on loss recognition, which gives banks more time to reduce their capital to reflect losses, or on capital adequacy, which requires full provisioning but allows banks to operate for some time with less capital than prudential regulations require.

But regulatory forbearance has risks. First, a financial institution might use the period of forbearance to engage in risky lending in an effort to recover its capital position, increasing the costs of an eventual failure. So, forbearance should be allowed only for financial institutions whose long-term viability seems reasonably assured, and progress toward capital adequacy should be time-bound and monitored. Second, some types of forbearance on loss recognition may encourage the overvaluation of restructured debt or converted equity and thus discourage follow-on operational restructuring. It could also discourage loss-averse financial institutions from liquidating nonviable companies, selling to a strategic investor, or making forced sales of overvalued collateral. Third, forbearance on loss recognition may impede private recapitalization of banks since investors might be reluctant to invest in an institution with murky loan classifications and unclear provisioning rules. So, forbearance should focus on capital adequacy instead of loss recognition, be limited in applicability and duration, and be closely monitored.

More important, postponing bank restructuring has little to recommend it, since the global recession is expected to be more protracted than its recent predecessors. The likelihood of capital inflows recovering to pre-crisis levels is low, so there will be greater reliance on domestic savings. If problem loans are not recognized early and addressed swiftly, this could discourage efficient financial intermediation and hold back the region's growth recovery.

ECA's credit losses: substantial but manageable

Given that the full impact of the crisis on asset quality is still unknown, past banking and currency crises offer a rough guide to assess underlying risks. The focus is on banking crises, accompanied by a currency crisis that had GDP declines exceeding 5 percent in the year following the onset of the crisis. In such cases, the nonperforming loans on average rise to 30 percent (table 3.1). These are assumed to be a proxy for the probability of default. In addition, recovery rates are assumed to be roughly 40 percent on mortgages, in line with the marked declines in housing prices, and 15 percent on loans to firms, which broadly

matches the average assumption by the Swedish Riksbank on the exposure of Swedish banks to the Baltic states.⁵ A preferable approach no doubt would be to calibrate the recovery rate by sector and country depending on country-specific bankruptcy resolution frameworks and other institutional characteristics that impact recovery rates, but such data are only available to banking supervision authorities of each country. The shares of households and firms in the total loan portfolio—a measure of exposure—are provided by a broad characterization of the consolidated banking sectors in ECA countries. Expected credit losses are the product of exposure, the probability of default, and the recovery rate.

TABLE 3.1

Countries with banking and currency crises and nonperforming loans as a share of total loans

Country	Crisis year	Nonperforming loans (percent of total loans)	Country	Crisis year	Nonperforming loans (percent of total loans)
Banking and currency crisis			Banking crisis only		
Argentina	1980	9.0	Argentina	1995	17.0
Argentina	1989	27.0	Bolivia	1994	6.2
Argentina	2001	20.1	Colombia	1982	4.1
Brazil	1994	16.0	Colombia	1998	14.0
Bulgaria	1996	75.0	Croatia	1998	10.5
Chile	1981	35.6	Czech Rep.	1996	18.0
Dominican Republic	2003	9.0	Finland	1991	13.0
Ecuador	1998	40.0	Japan	1997	35.0
Estonia	1991	7.0	Latvia	1995	20.0
Indonesia	1997	32.5	Lithuania	1995	32.2
Jamaica	1996	28.9	Nicaragua	2000	12.7
Korea, Rep.	1997	35.0	Norway	1991	16.4
Malaysia	1997	30.0	Paraguay	1995	8.1
Mexico	1994	18.9	Sri Lanka	1989	35.0
Philippines	1997	20.0	Thailand	1997	33.0
Russian Federation	1998	40.0	Vietnam	1997	35.0
Sweden	1991	13.0	Average		19.4
Turkey	2000	27.6	Median		16.7
Ukraine	1998	62.4			
Uruguay	2002	36.3			
Venezuela	1994	24.0			
Average		28.9			
Median		27.6			

Source: Laeven and Valencia 2008.

5. Sveriges Riksbank 2009.

The results of the analysis suggest that credit losses could, in a worsening scenario, be substantial but manageable. They vary from 7 percent of GDP in Belarus and Turkey to 21 percent in Estonia, with an average of some 13 percent for the financially integrated ECA countries (table 3.2). The variation across countries is largely accounted for by the size of the loan portfolio—that is, the share of credit in GDP. Note that despite sharp declines in real estate prices, this is somewhat compensated for by the better recovery rates for these loans given the collateral underlying mortgage lending—and indeed despite the sharp declines in real estate prices of the past year. Of course, the scenario could be more optimistic about recovery rates. For example, housing prices in many countries in the region have not declined as much, and banks might choose not to proceed immediately to sell these assets to avoid worsening the housing market. In a scenario with recovery rates in mortgages averaging 75 percent, credit losses would range from 6 to 16 percentage points of GDP.

For the borrowers: corporate and household debt restructuring

Corporate debt: how much of a problem?

With a few exceptions, nonfinancial corporates in ECA are only moderately indebted. Indirect evidence comes from these facts:

- Financial development (private credit to GDP) was still lagging economic development (GDP per capita)—but the gap has closed only recently relative to 1995 (see annex 1.2).
- Small and medium-size enterprises in ECA's transition countries (excluding Turkey) relied more on retained earnings and informal finance than external finance to fund fixed investment, than did developing market economies, a gap that closed for the richer transition economies only in 2008, on the eve of the crisis.⁶
- The growth of credit to nonfinancial corporates was considerably lower than that to households in many financially integrated ECA countries (see table 1.3).

Direct evidence comes from the evolution of corporate leverage—the ratio of total debt to total assets—for large nonfinancial corporates (table 3.3). Although leverage increased sharply in Hungary and, to less extent, in Turkey in 2008, it was still about half the elevated levels in East Asia during its crisis in

6. The sample of firms is drawn from the World Bank's Investment Climate Assessments for 2000–08 for developing countries and the Business Environment and Enterprise Performance Surveys for 1999–2008 for the ECA transition countries (see chapter 5).

TABLE 3.2

Credit losses—extrapolating from past crisis events

Country	Share of lending to		Outstanding private credit		Assumptions	Losses (including nonperforming loans)	
	Households	Firms	Billions of local currency units	Percent of GDP		Billions of local currency units	Percent of GDP
Belarus ^a	0.25	0.75	37,159	29	Nonperforming loans ^b	8,632	7
Bulgaria	0.35	0.65	50	74	29.50	11	17
Croatia	0.50	0.50	222	65		48	14
Czech Rep.	0.40	0.60	1,947	53	Loss recovery given default, household ^c	431	12
Estonia ^d	0.50	0.50	245	99	0.40	52	21
Hungary	0.40	0.60	18,527	69	Loss recovery given default, firms ^e	4,099	15
Kazakhstan ^a	0.25	0.75	7,972	50	0.15	1,852	12
Latvia ^d	0.50	0.50	15	90		3	19
Lithuania ^d	0.45	0.55	70	63		15	14
Macedonia, FYR	0.40	0.60	175	44		39	10
Montenegro	0.40	0.60	3	81		1	18
Poland	0.40	0.60	633	50		140	11
Romania	0.40	0.60	194	38		43	9
Russian Federation ^a	0.30	0.70	17,102	41		3,910	9
Serbia	0.40	0.60	1,072	38		237	8
Turkey ^a	0.30	0.70	310	33		71	7
Ukraine ^a	0.30	0.70	700	74		160	17
Average				58			13
Median				53			12

a. Assumes a lower share of household lending; loans to corporates still dominate.

b. Nonperforming loans are assumed to match the levels observed in the Laeven and Valencia database for cases with a currency crisis; in effect this is broadly equivalent to cases where the decline in GDP in period t+1 is at least 5 percent.

c. Assumes loan-to-value ratios of 1 and a recovery rate of only 40 percent given the decline in housing prices.

d. Assumes somewhat higher role of mortgage lending given developments in housing prices.

e. The loss recovery given default is set at the average level observed during the Asian crisis.

Source: IMF *International Financial Statistics* and authors' calculations.

1997–98 and was also generally lower than in Argentina (2001), Brazil (1998), Mexico (1995), and Turkey (2001) in the years of their crisis. Corporate leverage is notably higher in Greece, Ireland, Portugal, and Spain (the EU cohesion countries), reflecting their deeper and more liquid financial markets.

TABLE 3.4

Median nonfinancial corporate leverage, by country, 2008 (percent)

Country	Number of firms	Corporate leverage
Europe and Central Asia countries		
Bulgaria	142	16.4
Croatia	201	26.5
Czech Rep.	13	10.8
Estonia	14	26.2
Hungary	24	19.5
Latvia	23	25.6
Lithuania	34	29.4
Macedonia, FYR	30	18.6
Poland	247	14.8
Romania	151	18.5
Russian Federation	713	23.5
Slovak Rep.	11	13.7
Slovenia	41	31.9
Turkey	219	20.6
Ukraine	193	17.5
Other countries		
Korea, Rep.	116	27.8
Thailand	364	24.9
Indonesia	244	30.2
Argentina	78	21.2
Brazil	313	28.0
Mexico	83	23.5
Portugal	53	41.1
Ireland	44	26.9
Greece	255	33.5
Spain	115	27.5

Source: Bloomberg.

should be recognized. But it should be placed alongside the indirect evidence cited earlier about ECA's financial shallowness, the importance of households rather than nonfinancial corporates in rapid credit growth in many ECA countries, and the dominance of retained earnings as a source of financing for fixed investment giving way only recently to bank financing in a large sample of small and medium enterprises from across the region (chapter 5).

The sustainability of corporate financial structures during the year of crisis is of somewhat more concern in some countries. Some indication of the extent to which nonfinancial corporates have a sustainable financing structure is the

TABLE 3.5

Median interest coverage in nonfinancial firms, Europe and Central Asia countries and EU Cohesion countries, 1999–2008, and comparator countries for years of crisis (percent)

Country	Number of firms ^a	Period (t is crisis year)										
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	
Czech Rep.	33	1.7	4.0	3.8	4.6	6.1	8.1	6.6	11.7	14.1	22.3	
Hungary	34	5.5	5.9	5.7	4.7	4.8	3.4	4.1	5.1	4.2	1.3	
Poland	240	3.6	2.1	1.5	2.1	3.7	6.0	6.4	9.4	11.5	4.8	
Turkey	194	1.7	2.3	1.2	1.8	3.2	3.1	3.7	3.3	4.5	2.2	
Greece	281	6.0	5.8	3.9	3.1	2.9	3.2	2.9	3.1	3.0	1.7	
Ireland	70	4.4	3.8	2.0	1.4	2.6	3.1	3.7	4.0	4.4	1.5	
Portugal	65	4.1	2.9	2.4	1.8	2.0	3.1	3.2	3.0	2.5	1.3	
Spain	166	7.2	5.8	4.5	3.8	5.0	5.8	5.9	4.6	3.5	2.3	
			t-3	t-2	t-1	t	t+1	t+2	t+3			
Korea, Rep. (1997)	436	1.4	1.4	1.2	1.1	1.1	1.7	1.8				
Thailand (1997)	259	4.1	3.2	2.2	1.2	1.6	1.0	1.5				
Indonesia (1997)	169	4.2	3.3	2.6	1.0	0.1	1.8	0.6				
Argentina (2001)	468	3.3	1.9	1.4	1.2	0.1	1.6	2.2				
Brazil (1998)	255	1.6	1.6	1.8	1.3	0.9	1.4	1.2				
Mexico (1995)	73	3.2	2.7	1.1	1.8	3.1	3.1	1.7				
Turkey (2001)	170	2.4	1.7	2.3	1.2	1.8	3.2	3.1				

a. Average over period.

Source: DataStream (WorldScope).

interest coverage ratio—the ratio of EBIT (earnings before interest and tax) to total interest expense (table 3.5). It fell sharply in Hungary between 2007 and 2008 to reach a low of 1.3 in 2008, a figure comparable to the lows in East Asia during its crisis and in Turkey in 2001. For a wider set of countries, it is the lowest in Croatia, followed by Slovenia, Turkey, Latvia, and Hungary (table 3.6). The highest interest coverage ratios are for the Czech Republic, the Russian Federation, Estonia, Poland, Romania, and the Slovak Republic (table 3.6). The table also reports the proportion of firms that had interest coverage less than unity—that is, where EBIT did not cover interest costs.

Household debt: the crisis hits home

Much of the rapid expansion of credit in the years preceding the crisis was driven by the household sector.⁷ The ratio of household lending to corporations

7. Part of the material in this section draws on Tiongson et al. (2009).

TABLE 3.6

Median interest coverage ratio in nonfinancial firms, by country, 2008 (in percent; median values)

Country	Number of firms	With interest coverage ratio less than 1 ^a	Interest coverage ratio (percent)
Europe and Central Asia countries			
Bulgaria	123	34	2.1
Croatia	204	52	0.8
Czech Rep.	16	6	33.3
Estonia	13	15	5.5
Hungary	14	50	1.5
Latvia	24	38	1.5
Lithuania	31	32	2.8
Macedonia, FYR	30	50	1.1
Poland	319	28	4.2
Romania	186	28	3.5
Russian Federation	705	19	5.5
Slovak Rep.	9	33	3.3
Slovenia	38	32	2.0
Turkey	214	45	1.3
Ukraine	46	41	2.0
Other countries			
Korea, Rep.	1,550	39	2.2
Thailand	397	33	3.5
Indonesia	243	20	2.7
Argentina	83	24	3.1
Brazil	157	27	2.6
Mexico	96	19	3.9
Portugal	49	37	1.5
Ireland	51	35	2.1
Greece	256	31	2.1
Spain	81	23	3.1

a. Proportion of firms with an interest coverage ratio less than 1.

Source: Bloomberg.

doubled in most countries between 2005 and 2008 (see table 1.3). And mortgage lending as a share of lending to households increased sharply in some countries. Despite this growth, household indebtedness is still significantly lower than in the EU15 and reflected a pattern similar to that in the cohesion countries during their financial integration.

- Household debt represents on average more than a quarter of GDP in the new member states of the European Union (EU10), but there is significant

cross-country variation, with the number reaching more than 40 percent in some countries (figure 3.2). These ratios are below the average of about 65 percent of GDP among EU15 countries, and closer to those for Ireland, Italy, Portugal, and Spain in the late 1990s (figure 3.3).

- As household financial positions have grown, there has been a shift toward housing loans or mortgages on the liability side of the balance sheet and an increasing share of equities and pension and mutual funds on the asset side. Still there is much variability. Housing loans accounted for the bulk of

FIGURE 3.2
Household debt, by country, 2008

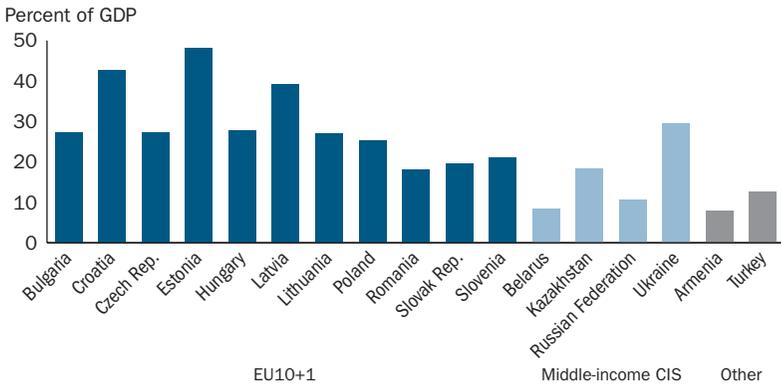
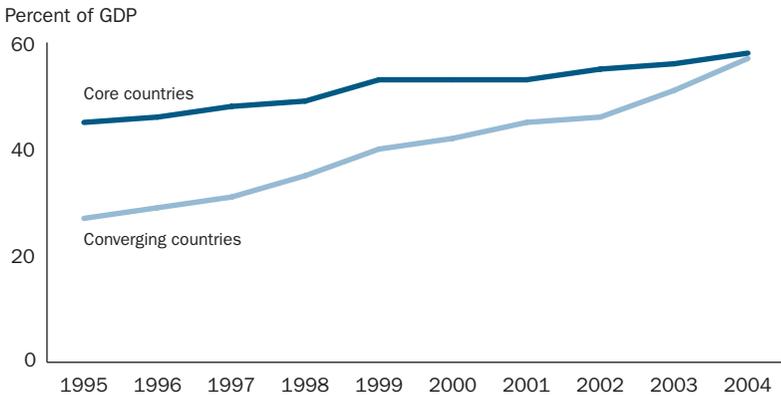


FIGURE 3.3
Household debt, earlier EU members, 1995–2004



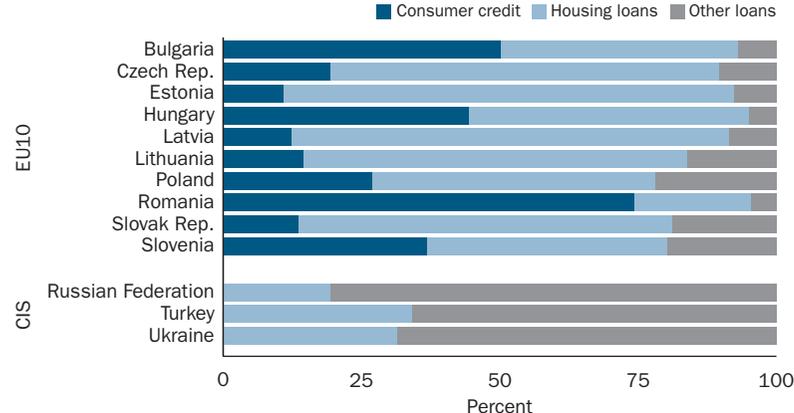
Note: The chart displays averages for each country group. Core countries includes Austria, Belgium, Finland, France, Germany, Luxembourg, and the Netherlands. Converging countries include Ireland, Italy, Portugal, and Spain.

Source: Gaspar and Fagan 2006.

household credit in the Baltic states, the Czech Republic, Hungary, and the Slovak Republic, while the opposite was the case in Romania, the Russian Federation, Turkey, and Ukraine (figure 3.4).

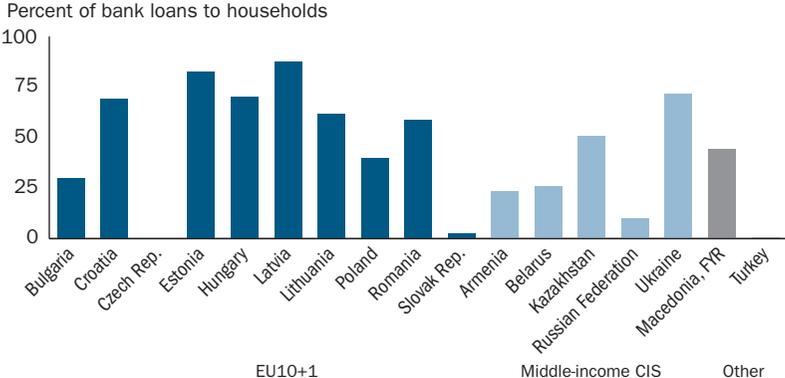
- A large share of household debt is denominated or indexed to foreign currencies. This has exposed households to recent exchange rate depreciations to the extent that the currency composition of their assets, particularly

FIGURE 3.4
Composition of household debt, by country, end-2008



Source: European Central Bank and other national central banks.

FIGURE 3.5
Foreign currency-denominated loans, by country, 2008



Note: Foreign currency-indexed loans are included for Croatia and FYR Macedonia.
 Source: MNB and other national central banks.

labor income flows, leaves them unhedged. But again, there is considerable variation across countries (figure 3.5).

- In some EU10 countries, mortgages with variable (adjustable) interest rates account for the largest share of lending, thus exposing households to interest rate shocks (figure 3.6).

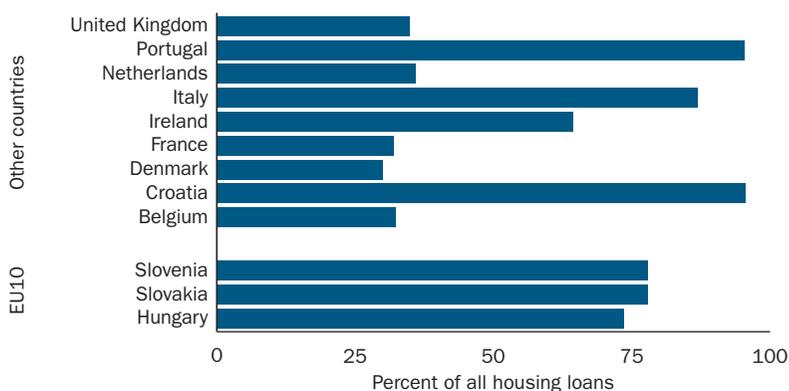
More detailed information on the characteristics of household debt across income quintiles, including the burden of servicing these debts, can be derived from household surveys. These surveys contain information on either interest debt service or total debt service (interest and principal payments combined). Some surveys cover only mortgage debt and some refer only to total debt (mortgage plus consumer debt). For example, the columns per income quintile in figure 3.7 report data for new EU member states on mortgage interest payments from the EU Survey of Income and Living Conditions (EU-SILC) for 2007. The lower lines show the share of income devoted to mortgage interest payments. In contrast, figure 3.8 is derived from household budget surveys issued by statistical offices and jointly reports principal and interest debt service. In particular, it refers to total household debt. Here, too, the columns reflect the percentage of households holding debt at each income quintile, and the lower line in each figure is the share of income devoted to servicing debts—except that in this case this refers to both interest and principal payments.

Two patterns to highlight from figures 3.7 and 3.8 are:

- *Share of indebted households.* Only a fraction of households in each quintile hold debt, and that share expectedly increases in the higher quintiles.

FIGURE 3.6

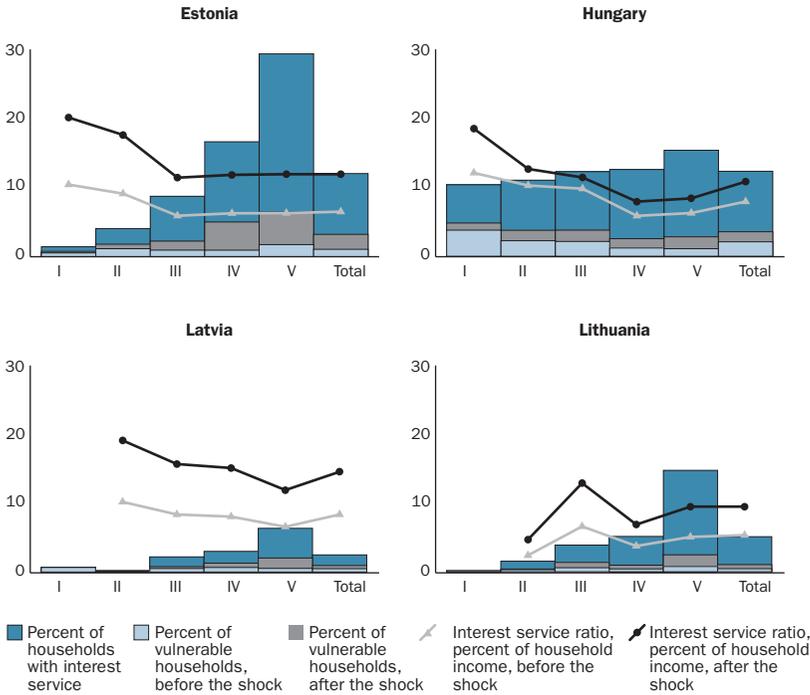
Mortgage loans with adjustable interest rates, by country, 2006



Source: IMF, OECD, and national central banks.

FIGURE 3.7

Mortgage interest service and interest rate shock, by income quintile (vulnerability defined by a 20 percent income threshold)



Note: The quintile distribution of the household survey in Latvia and Lithuania has few households in the lowest quintile and thus provides unreliable results for the interest service ratio—it is thus excluded.

Source: EU Survey of Income and Living Conditions.

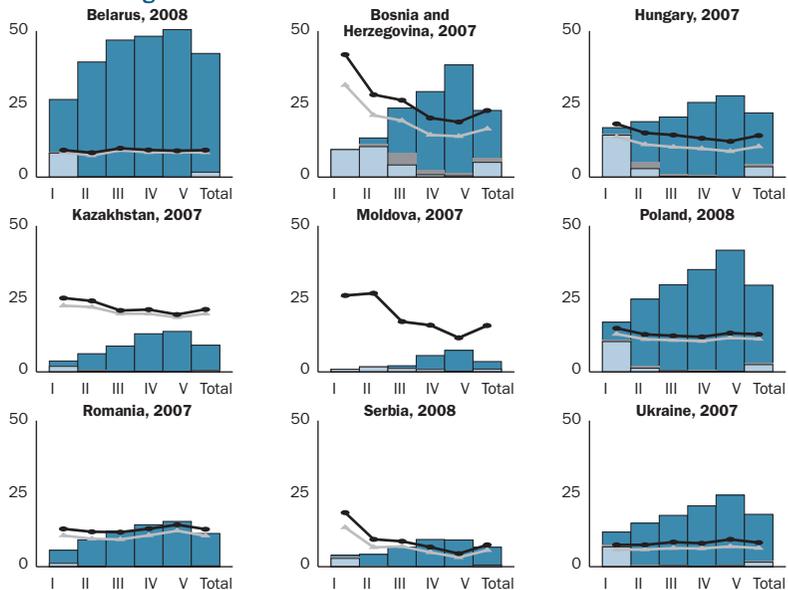
Among the new EU member countries (except in Hungary), fewer than 5 percent of households in the first quintile appear to have a mortgage, suggesting that few low-income households would benefit from mortgage restructuring schemes that include use of public funds. The pattern for total debt in figure 3.8 suggests great variability across countries, with more than 40 percent of households holding some debt in Belarus and some 20 percent in Bosnia and Herzegovina, Hungary, and Poland. So, financial deepening has so far been concentrated in relatively few households.

- *Burden as a share of income.* Debt service (mortgage interest service in figure 3.7 and total debt service in figure 3.8) as a share of income generally decreases with income. More important, debt service (total or mortgage only) is a small share of income. But there are some exceptions. Debt service is 5 percent of household income in the poorest quintile in Ukraine but 13 percent in Serbia, 25 percent in Moldova, and 30 percent in Bosnia

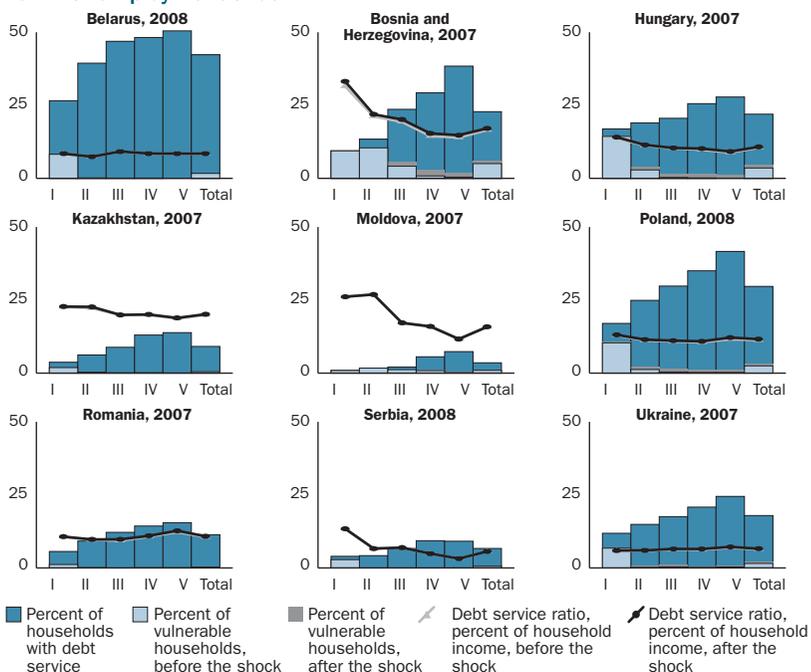
FIGURE 3.8A

Total debt service under shocks (vulnerability defined as a financial margin)

Panel A: Exchange rate shock



Panel B: Unemployment shock



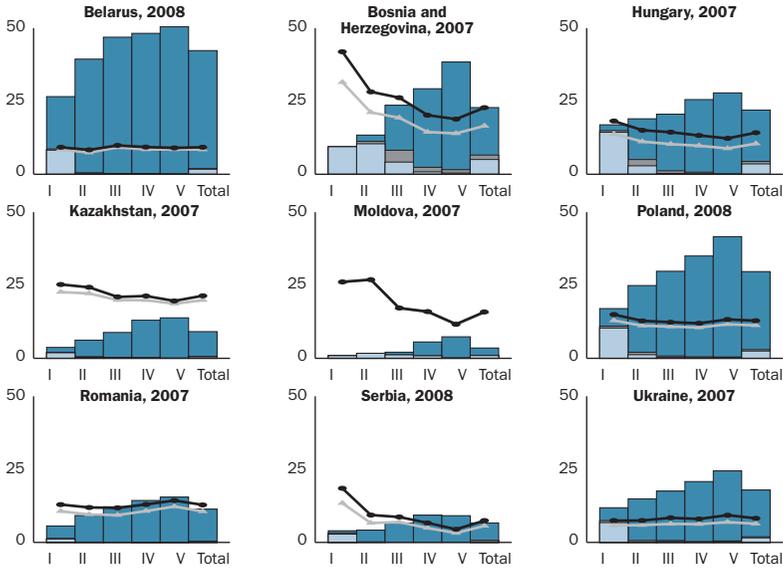
Note: In the case of Bosnia and Herzegovina, the results of the simulation are the results of abandoning the exchange rate peg.

Source: Household Budget Surveys.

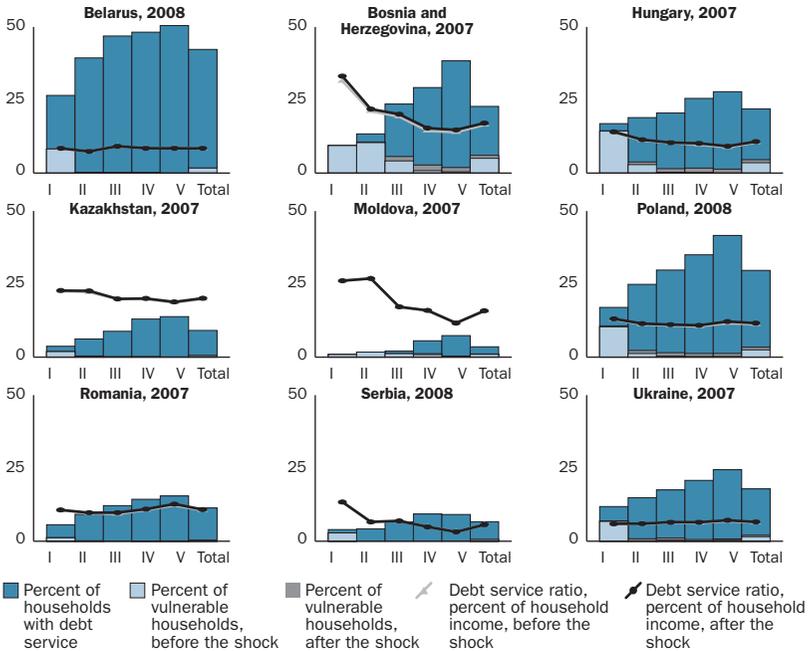
FIGURE 3.8B

Total debt service under shocks (vulnerability defined as a 30 percent income threshold)

Panel A: Exchange rate shock



Panel B: Unemployment shock



Note: In the case of Bosnia and Herzegovina, the results of the simulation are the result of abandoning the exchange rate peg.

Source: Household Budget Surveys.

and Herzegovina. But only a small fraction of these households carry such a burden in Moldova (2 percent) and Bosnia and Herzegovina (10 percent). In contrast, mortgage interest is 7–13 percent of household income in the poorest quintile in the EU countries, but the fraction of households with mortgages is similarly small.

Figures 3.7 and 3.8 also estimate the effects of economic shocks on households' capacity to service their debt obligations. The simulations affect household welfare and shed light on the probability of loan default. Three shocks are assessed.⁸

- An increase in 5 percentage points in the interest paid on mortgages with variable interest rates. This shock is more accurate when applied only to data on mortgage interest debt service, so it is limited to the EU-SILC (figure 3.7).
- A change in the foreign currency–local currency exchange rate of 35 percent. This is best applied to figure 3.8 because it affects both the interest and principal components of debt service.
- The effect of unemployment on the combined income of working household members. An increase of 5 percentage points in the unemployment rate is used for all countries. This shock has a limited impact on debt service capacity because it is applied to household members without taking into account that these households may or may not hold debt.

Assessing the impact of economic shocks on a household's capacity to service its debt obligations depends on the threshold for vulnerability—and this choice is specific to each survey.⁹

An arbitrary mortgage interest debt burden threshold (interest debt service payments in percent of income) is used for the calculations based on the EU-SILC database. The threshold is based on work for advanced economies.¹⁰ A household is considered vulnerable at 20 percent debt service as a share of income, and this is applied without distinction across quintiles—clearly a limitation.¹¹

8. In all three cases the shock is relative to the country-specific level in 2007. Because data on loan characteristics are not household-specific, random draws are needed to assess the impact of economic shocks on a household's debt service capacity. More precisely, 1,000 random draws are used to choose which loans are foreign currency–denominated or have variable interest rates, and which household members become unemployed.

9. The methodology on stress testing household debt holdings and on assessing the share of vulnerable households follows Holló 2007, Żochowski and Zajączkowski 2008, Johansson and Persson 2006, and Vatne 2006. The analysis here extends work by Tiongson et al. (2009) by introducing income quintiles.

10. Johansson and Persson 2006, among others.

11. This is not justified because higher income households can devote higher shares of their income to housing services. The differences become clearer when comparing the results for the EU-SILC and the household budget survey in Hungary. Thresholds specific to income quintiles would be worth pursuing further.

In contrast, two different thresholds are applied when using household budget surveys: an arbitrary total debt burden threshold of 30 percent¹² and a financial margin threshold given by

$$\text{Financial margin (FM)} = \text{disposable income (DI)} - \text{basic living costs (BLC)} - \text{total debt service expenditure (DSE)}.^{13}$$

A household is considered at risk if its financial margin is negative.

What are the findings? Both figures 3.7 and 3.8 show the impact of different shocks under different assumptions on the threshold values defining vulnerability. The lowest area within each column is the percentage of households within each quintile considered vulnerable even before any economic shock simulation occurs, referred to as vulnerable at origination. The shaded area on top of this lower area reflects the households in each income quintile that become vulnerable after an economic shock is applied; and the remaining area of each column shows the households that are not vulnerable. So, vulnerable households after the simulation include those that were already at risk before the shock plus those that became vulnerable after the shock. Note that vulnerability depends on the threshold that best applies to each type of household survey. Only a 20 percent income threshold for mortgage interest debt service is applied in figure 3.7, and both the financial margin and a 30 percent threshold on total debt service are applied in figure 3.8. The higher lines reflect the interest (or total) debt service ratio after the shocks.

The results of the analysis of EU-SILC data (figure 3.7) suggest that an interest rate shock can expand the pool of households unable to service their mortgage debt obligations. Specifically, a severe 5-percentage point interest rate shock in Estonia increases the share of total vulnerable households or borrowers at risk from less than 2 percent of all households to 4 percent, and raises the average interest debt service (interest service ratio) from 10 percent of income to almost 20 percent. Although many of the vulnerable households are in higher income quintiles, the proportion of vulnerable households is smaller than in lower quintiles. Also, vulnerability is partly tied to the choice of threshold. Indeed, high-income households are more likely than poorer households to spend a larger share of their income on housing services. In

12. This follows work by Beer and Schürz 2007.

13. The basic living costs data reflect what is referred to as subsistence level income. This is adapted to household size following a classification used by EU-SILC where an equivalized household size is the sum of the first adult plus 0.5 times the number of other adults in the household plus 0.3 times the number of children, where adults are defined as people aged 14 years and over, and children are those aged 13 years and younger. The BLC is monthly and per person, and is converted for each household j by $\text{BLC}_j = \text{BLC} * \text{equivalized household size in household } j * 12$.

contrast, Hungary appears to have a large share of vulnerable households in lower income quintiles, perhaps reflecting the more even distribution across all five quintiles of households with mortgage debt. Latvia and Lithuania are more mixed, though the lower quintiles are proportionally more vulnerable.¹⁴ More worrying is that low-income quintiles with such debt can be considered vulnerable even before the shock. For example, the few households in the first quintile are all vulnerable in Latvia and Lithuania, and about half of households in the first quintile are vulnerable in Estonia and Hungary. But very few of these households are at risk due to an interest rate shock. Instead, they are risk borrowers at loan origination, suggesting that compensating government financial support might fail to restore repayment capacity.

The analysis of household budget survey data in figure 3.8 provides additional insights. First, the effect of exchange rate shocks suggests a more limited impact on household welfare when using a financial margin threshold—and, as would be expected, vulnerability declines with income (figure 3.8a). The financial margin remains positive given that the BLC is applied to all households irrespective of their income quintile—and, by definition, BLC might be quite small, allowing households to avoid financial distress as income rises. Second, as with mortgage debt, many lower quintile households are vulnerable before the shocks. Indeed, vulnerability appears to change little once shocks are imposed. This does not mean that households in the bottom quintile are unaffected. Figures 3.7 and 3.8 show only a change in household status from nonvulnerable to vulnerable so, even though few households become vulnerable in the lowest quintile, many of them were already vulnerable before the shocks are simulated. Finally, using a 30 percent arbitrary threshold suggests more households at risk among the higher income quintiles (figure 3.8b). Yet, very large economic shocks seem to affect proportionally more households in low-income quintiles.

The premise that all households should be compensated for the increase in debt service burden arising from economic shocks is not justified by the distribution of indebted households across quintiles. In fact, the evidence suggests that households have room to confront important economic shocks—with one caveat. It might be worth developing a simulation for simultaneous shocks to incomes and liabilities—such as sharper increases in unemployment and declines in nominal wages—to sharp depreciations of the exchange rate. Notwithstanding these caveats, it would be sensible to target eligibility of a government financial support program based on loan size and to households

14. As noted in the notes to figure 3.7, however, the data for the lowest-income quintile is not reliable.

with incomes below a certain income threshold—and it would be best to keep income eligibility criteria simple and monitorable. Also, the cost of compensating households for their income losses is modest. For instance, the largest estimate of the household income losses in the poorest quintile in Central Europe is about 6 percent for the interest shock. Bearing in mind that 10 percent of that quintile's households would be affected, and using a share of that quintile's income in GDP of 2.5 percent, yields 0.015 percent of GDP as the necessary compensation for this subgroup of poor households.

What have countries done to alleviate household debt distress? In Hungary, the authorities entered “gentlemen's agreements” with banks to convert foreign currency–denominated loans to households into local currency loans without penalty, capitalize the increase in mortgage payments arising from the conversion, and possibly extend the term of the loan for creditworthy borrowers. But the option has not been widely exercised because forint interest rates are substantially higher than euro interest rates. Hungary has introduced legislation to provide temporary state guarantees for mortgage payments of the unemployed and also to expand the mortgage debt servicing guarantee scheme for the unemployed to other debtors whose payment capacity has been impaired by the financial crisis because of either a reduction in income or an increase in debt service burden due to revaluation effects. In such cases, the lender would be asked to rephrase the loan to temporarily lower the payment burden, and the government would guarantee the rephased portion of the loan, subject to restrictions. Romania has sought an agreement with commercial banks to facilitate the restructuring of debt contracted in foreign currency by adjusting the maturity and repayment schedule of the debt, including offering the option to voluntarily convert it into domestic currency. In Latvia, a partial state guarantee for restructured mortgage loans is being considered under guidelines intended to relieve borrowers' debt service to a level commensurate with their capacity to pay. And banks participating in Serbia's financial sector support program have been asked to facilitate the voluntary conversion of foreign currency and foreign currency–linked loans into local currency loans and work with the central bank to develop loan workout programs.

Lessons on restructuring from previous banking and capital account crises

The East Asia and Latin America crises saw a sharp increase in nonperforming loans, reflecting increased and widespread corporate distress as well as the introduction of better loan classification standards for banks and other

financial institutions.¹⁵ In fact, it took considerable time for firms in East Asia to reduce corporate leverage and build more viable financial structures. Banks were weakly capitalized and had limited incentives to write off debts and could continue to carry loans at low provisioning requirements. Asset management companies were not much more effective. The experience from earlier crises suggests that these companies were useful for taking distressed debt off banks' books but not always at engaging in corporate restructuring.

Commercial banks and asset management companies, lacking the skills to manage equity, opted for rolling over claims rather than reducing principal, converting debt to equity or proceeding with more active operational restructuring. So, high rollover rates, while creating breathing space when confidence is being rebuilt, can subsequently mask a reluctance to restructure among creditors as well as debtors.

It is appropriate for financial sector restructuring to precede corporate restructuring in order to arrive at an assessment of the ability of banks to absorb losses, but it is also important that corporate restructuring not be delayed. Banks have two options in dealing with nonperforming assets: to financially restructure the loans or to take a total or partial writeoff on these loans early on. The latter could also involve selling their claims to a specialized institution, such as an asset management company for more efficient management and resolution. The operational restructuring that follows, at least for corporate-related assets, depends on the management control that emerges from the transfer of assets. In some cases, the earlier involvement of outside investors can facilitate operational restructuring. The challenge in ECA is also unique in that bank distress is linked in part to household debt, which was not so in previous crises.

Facilitating debt restructuring

Countries typically have insolvency frameworks to deal with bankruptcy, reorganization, and liquidation, but fledgling judicial systems can be overwhelmed in a systemic banking crisis. To expedite debt restructuring, governments in countries as diverse as the Czech Republic, Indonesia, Korea, Malaysia, Mexico, Thailand, and Turkey have been active in setting up out-of-court voluntary workouts between debtors and creditors. While the workouts lie outside the formal insolvency framework, their success depends on the quality of that framework.

15. The reader interested in the experience with debt restructuring is directed to work by Claessens (2005), Lieberman et al. (2005), and Lieberman and Mako (2009), who examine in particular the experience during the East Asia crisis and more recent experiences.

The “London approach” . . .

In the variant directed at dealing with corporate restructuring, the so-called “London approach” is based on three broad principles. It seeks, first, to minimize losses to creditors from unavoidable company failures through well prepared workouts. Second, it aims to avoid unnecessary liquidation of viable companies, through reorganization and preservation of employment and productive capacity. Third, it finds ways to provide financial support to companies deemed viable in cases where creditors cannot agree to the terms for concluding a workout.

Armed with these principles, creditors cooperatively—likely in the form of a coordinating lead bank and a steering committee comprising those with the largest exposure to the borrower—agree to a limited standstill (30–90 days in Korea, 90 days in Malaysia, and a maximum of 90 days plus three 30 day extensions for a total of 180 days in Turkey). During this period, the debtor can continue to operate normally, and information about the debtor’s assets, liabilities, and prospects can be collected and shared with all creditors, with a view to developing proposals that can resolve the debtor’s financial difficulties. During the standstill, creditors refrain from taking steps to realize their claims against the debtor while the debtor refrains from taking actions that would adversely affect any creditor. Proposals to resolve the debtor’s financial difficulties and the order of addressing creditors’ claims are in accord with the law.

Any new money needed in the event of a liquidity shortfall during the standstill may be provided by all existing lenders, by specific lenders with priority arrangements, or through the release of asset disposal proceeds subject to priority considerations. A workout plan agreed to by a majority of creditors—the thresholds for agreement can vary—is then implemented. In the event of disagreement, an arbitration committee set up as part of the workout resolves differences between the debtor and creditors, as well as disputes among creditors on the allocation of losses and risks.

. . . adapted to mortgage restructuring

The resolution of widespread household debt distress—which has a negative social impact and threatens to overwhelm the existing legal and institutional framework for individual restructuring—may call for governments to establish a mortgage restructuring protocol. A model applied in industrial economies is known as the UK preforeclosure protocol. The goal is to facilitate negotiations between creditors and debtors by setting clear objectives and options on how to restructure mortgage loans. Discussions between the parties may

include extending the term of the mortgage, changing the type of mortgage, deferring the payment of interest due, or capitalizing arrears. Assessing the creditworthiness of borrowers should be left to banks since they are better placed to judge a household's repayment capacity. The protocol should set out minimum requirements for restructuring loans, define which restructuring methods should not be pursued, and provide guidelines for the regulatory treatment of restructured loans.

Programs of support to mortgage holders (such as government guarantees) should be limited and well targeted, adequately assessing the incidence of subsidy. State guarantees should be looked at very carefully to avoid excessive costs and abuse and stress-tested to a variety of scenarios—for eligibility—to avoid unsustainable liabilities. In addition, any default should remain recoverable by the banks. In sum, government support instruments, should be a possible option where other solutions do not work and where households meet rigorous criteria. In particular, they should be informed by the depth of the beneficiaries' poverty and not distort the incentives of banks and borrowers to perform.

The insolvency framework matters . . .

The success of an out-of-court system of voluntary workouts depends on the ability of creditors to impose losses on debtors. Without the threat of a court-imposed loss under the country's insolvency laws, there is not enough incentive for corporate debtors to agree to such measures as asset sales, dilutions of equity, and diminution of management control. Indeed, an important requirement for an out-of-court process is a credible threat of seizure of assets and liquidation under a normal insolvency or bankruptcy regime. Creditors cannot otherwise force debtors to participate in workouts in good faith.

But a workable insolvency framework also needs to balance carrots and sticks. Debtors should feel encouraged to seek protection in court-supervised restructuring as an alternative to liquidation. The courts should also allow a mutually satisfactory restructuring plan—worked out between a debtor and a majority of its creditors—to be “crammed down” on a holdout minority of creditors and then converted into a court-supervised liquidation if interim milestones and reasonable deadlines are not met.¹⁶

Insolvency laws did not always have these features.¹⁷ The lack of adequate protection made court-supervised restructuring unattractive for creditors

16. Kawai, Lieberman, and Mako 2000.

17. A variant on the theme is a prepackaged bankruptcies (“prepacks”), workouts agreed to by a debtor and its creditors and then taken to the courts for approval, usually through an expedited procedure. They

during the East Asia crisis. But in countries where insolvency frameworks were functioning well, the out-of-court systems were stronger as well. The crisis and its aftermath in East Asia gave countries an opportunity to improve on their insolvency legislation, including the introduction of specialized bankruptcy courts. Informed by the experience in past systemic banking crisis, the authorities in Latvia and Romania have begun legislative and regulatory reforms aimed at removing obstacles to out-of-court corporate restructuring, allowing pre-packaged recovery and settlement agreements between debtors and creditors, and introducing further flexibility and easier access to insolvency proceedings.

... and any approach should be adapted to local conditions

Countries should look at many options in deciding the way forward. Whether voluntary out-of-court mechanisms are appropriate will vary from country to country, depending on the quality of the insolvency legislation, but also on the availability of specialized and skillful mediators who can broker deals between debtors and creditors. Indeed, countries that have used out-of-court workouts have adapted the London approach to suit local circumstances. Some industrial countries with greater human resource capacity have chosen to work instead with specialized creditor courts that are easier to implement within their existing legal frameworks. Both approaches require specialized skills and the institutional infrastructure of accounting, classification, and provisioning rules that provide incentives for restructuring.

Incentives to restructure: banks

Since most creditors are either domestic or foreign headquartered banks, corporate and household debt restructuring efforts in ECA are likely to be bank-led. Foreign-owned banks, by engaging in restructuring and better risk management, have been reducing the share of nonperforming loans in ECA, maintaining high capital adequacy ratios, and increasing provisioning against loan losses up to 2007, before the crisis (table 1.2). If that track record is maintained, those banks can be expected to be adequately recapitalized in the light of the undertakings provided by parent banks during the European Banking Coordination initiative—and to increase provisions in the light of crisis-induced increases in nonperforming loans. In such a situation, foreign-owned banks have every incentive to collect what they can on provisioned loans, since that adds to their profits.

prevent dissenting creditors or minority shareholders from using the courts to sue over the outcome of a workout, as in some countries in East Asia during the 1990s.

Foreign creditors have generally resisted participating in the voluntary workout between debtors and creditors in previous crises. In Turkey, foreign banks did not join the Istanbul process and were paid off instead. In Korea, the government negotiated a medium-term repayment agreement with foreign bank creditors of Korean banks that had been intervened by the banking supervision authorities. This is different from the situation in emerging Europe, where a substantial proportion of corporate and household debt is owed to in-country subsidiaries of foreign-owned banks—and, to less extent, directly to cross-border banks in home countries.

It is to be expected is that subsidiaries would fall within the ambit of insolvency laws in the host country and thus be covered by voluntary workout processes set up by the government. But the host government may not have the power to require cross-border banks to submit to in-country processes, whether court-supervised or voluntary. Since cross-border banks for the most part are from Western Europe, a supranational authority such as the European Commission could consider establishing a framework that can facilitate the participation of cross-border banks, with a view to ensuring broad uniformity of treatment across member states and discouraging cross-border banks from shopping across borders to secure more favorable treatment.

The incentives for restructuring are less clear for domestically owned banks. Those banks could delay recognizing losses from interest rate concessions or grace periods, debt equity conversions that leave banks with illiquid or low value shares, and sales of the noncore assets of borrowers. The incentive to do so is that recognizing losses could push their capital below regulatory requirements. Recapitalizing banks will dilute existing shareholders and risk ceding management control to others or, if public funds are used, the government.

Incentives to restructure: corporates and households

It is not only creditors who need to be nudged by the government into taking losses. Debtors may also delay entering restructuring inasmuch as the insolvency laws that govern a court-supervised process or backstop a voluntary out-of-court process might lead to asset sales, dilution of equity, and diminution of management control. So, a country's insolvency laws, or a threat of their invocation, will be needed to force debtors to accept losses as well. As in some crisis-hit countries in East Asia, insolvency legislation may need to be strengthened. But the difficulty of strengthening laws to provide more credible threats to debtors in the middle of an economic downturn should not be underestimated. For households, recognizing losses is complicated by the fact that this might also represent foreclosure on their home. Furthermore,

operational restructuring is not in the lexicon, highlighting the importance (and difficulty) of the systemic banking crisis challenges facing ECA countries.

Incentives to restructure: small and medium-size enterprises

Much of the restructuring in previous crises took place outside voluntary workouts and formal in-court processes. Small and medium enterprises typically lose access to finance during the credit crunch that follows a period of rapid credit growth and have to dispose of their assets, shed labor, or close down. Inasmuch as many low-income families depend on such enterprises, governments may wish to roll over credits, recapitalizing interest past due, extending grace periods for repayment, and injecting liquidity for working capital. The financial costs of stabilizing small and medium enterprises are modest relative to the social and political costs of allowing thousands of them to fail. But restructuring small and medium enterprises case-by-case is not viable either, due to the high transaction costs relative to the value of the firm..

Capacity constraints in the number of bankruptcy judges, bank workout staff, and government employees limit the scope of a systemic out-of-court workout process. Apart from small and medium enterprises, corporate distress may have to be segmented into:

- Mid-cap and large companies, which produce the bulk of employment and exports and which can be helped to realize a supply response through the provision of working capital, and which generally form the core of a voluntary workout program.
- Very large firms that must be dealt with case-by-case to prevent a secondary crisis spilling over into the banking sector.

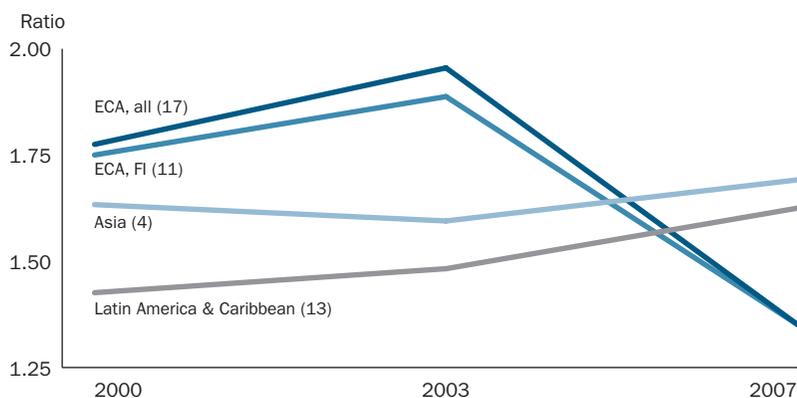
International workout teams will typically be needed to help major banks build capacity in this area. The specialty is also required in confronting household debt restructuring where the complications are many and the political economy of a systemic banking crisis is more important.

Lessons for strengthening bank regulation and supervision

The ECA countries need to strengthen bank regulation and supervision to reflect the lessons learned from the crisis.¹⁸ Better bank regulation and supervision would not have averted the crisis owing to the abundance of global liquidity and the buildup of external imbalances. But by arresting the

18. The material in this section was contributed by James Hanson.

FIGURE 3.9A

Ratio of actual to minimum required capital-asset ratio (median, risk-weighted)

Note: The number of countries within each group is in parentheses. ECA FI refers to the financially integrated countries discussed in chapter 1 that also responded to the Barth, Caprio, and Levine questionnaire.

Source: Barth, Caprio, and Levine 2008.

deterioration in lending standards, they might have put countries in a stronger position to deal with its consequences. Banks in most ECA countries were neither exposed to toxic assets, although some parent banks were, nor part of a shadow banking system. This implies that improvements in regulation and supervision should be tailored to the problems facing ECA countries at their current stage of development and likely to arise as their systems of financial intermediation develop further. While this agenda does not apply immediately to many low-income and lower middle-income countries in the region, they have much to learn from early comers into transition.

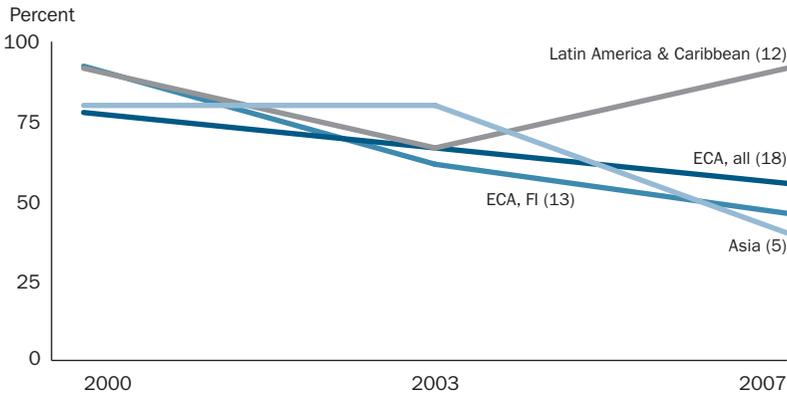
With progress in banking supervision and regulation issues until the early 2000s, it is surprising that reform efforts then weakened. ECA countries experienced declines in the ratio of actual to required capital adequacy ratios (figure 3.9a) and in the share of countries responding that the supervisory agency has legal authority to declare a bank insolvent (figure 3.9b). And many of them still face a basic agenda of supervisory and institutional improvement, which owes little to the crisis but nevertheless needs to be addressed (box 3.3 discusses some of these institutional features).

Strengthening capital requirements

Higher capital requirements for financial institutions—an integral part of the proposed regulatory changes in industrial countries—would be desirable in

FIGURE 3.9B

Supervisory agency can legally declare a bank insolvent (percent of countries that answered yes)



Note: The number of countries within each group is in parentheses. ECA FI refers to the financially integrated countries discussed in chapter 1 that also responded to the Barth, Caprio, and Levine questionnaire.

Source: Barth, Caprio, and Levine 2008.

ECA countries.¹⁹ Higher overall required ratios of capital to risk-weighted assets—larger than the minimum 8 percent under Basel I and Basel II—have been recommended for countries that face volatile capital movements and corresponding volatile output and relative prices (see box 3.4 for definitions of capital). These requirements apply to foreign bank subsidiaries and domestic banks alike and thus do not conflict with EU requirements that specify a minimum capital adequacy ratio for member states.

Protect against operational and capital risk. Capital to protect against operational risk and market risk is part of Basel II and would also be desirable for the ECA countries. Operational risk, such as losses from failures of systems and internal processes and from fraud, is an issue in most developing countries. Currently, market risk and capital requirements against it do not appear to be an important issue in most ECA countries. Even so, capital requirements against market risk may prove desirable as the financial system becomes more complex. Moreover, harmonizing capital requirements for market risk, if not already in effect, is probably desirable in the near future, to prevent the risk of a shift of a foreign bank's

19. For example, de Larosière, Recommendation 1, page 8; also in Financial Services Authority 2009, Recommendation 1, page 7.

An agenda for modern banking sector institutions in ECA countries

Although there is no painless route to institutional reform, transforming the ownership of banks has been important. And it is at times quite useful to have a policy anchor. For instance, accounting and auditing standards were driven in Central Europe by the EU accession process and by foreign banks' demand for information for basing credit decisions. Similarly, credit registries have had a positive effect on firm financing by increasing availability and lowering costs. The remainder of this box focuses on three sets of institutional reforms: building credit information systems, improving the framework for collateral and the associated legal framework, and strengthening accounting and auditing.¹ The box also includes some summary findings of the many FSAPs and ROSCs in the region.

Building credit information systems

A good credit registry makes important contributions to financial development and credit access. It provides easy, prompt, reliable access to a potential borrower's credit history, both positive and negative. This reduces the cost of obtaining such information by an individual bank, especially for small borrowers, and thus reduces the costs of financial intermediation as well as nonperforming loans. A good credit registry also increases competition for creditworthy borrowers. And it creates important incentives that improve sustainable financial development—increasing the cost of default and allowing borrowers to build up a nontangible asset, a good credit record. All these reasons may explain why there is some evidence that credit registries give a better return than improving the contractual framework, for example,² and that banks in transition countries with credit registries face lower default risk.³

ECA countries initially lagged somewhat in the worldwide trend to set up credit registries, but in recent years there has been a rush to establish credit registries across the region. In 2004, only 13 countries in the region had credit registries; now all but two have one. Most registries include positive information (whether a borrower has repaid loans) and negative information (defaults). But the young life of many of these registries means that credit histories are short and that the coverage of the credit bureaus is low (box figure 1). These problems can be addressed by: broadening coverage by including nonfinancial payments (such as utilities and cell phones and including data from nonbank financial intermediaries), allowing the existence of private credit bureaus (many ECA countries have done so), and strengthening the system's reliability by assigning each potential borrower a unique identifier number.

Improving the collateral framework and the associated legal framework

Collateral can be crucial in lending. Indeed, its definition and the quality of its execution—creditor rights—determine how well the financial system functions. Firms, whether large or small, provide collateral. Similarly, mortgages

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An agenda for modern banking sector institutions in ECA countries

involve the collateral of the building and associated land as a guarantee of the loan—in other words, an incentive to pay and a guarantee for the lender.

The problem with collateral begins with titles in the ECA countries. Land is the main collateral, but land titling is often weak, and cadastres still need reform in many ECA countries. Furthermore, land to which the state may still have title cannot be used as collateral. Many land registries are updated infrequently, and registries of other types of collateral are usually nonexistent. Registries for movable property would expand the types of assets that could be collateral.

A second problem with collateral is the weakness and cost of the execution of collateral in a default. Creditor rights have improved substantially in many ECA countries, as measured by the laws and regulations, but some countries still have room for improvement (box figure 2).

More important than the laws is how they work. An indicator of how laws work with respect to collateral is provided by the estimates of the cost of contract enforcement relative to the cost of a debt contract (box figure 3). Costs vary widely across the countries. It appears that lenders in some countries with high legal creditor rights nonetheless encounter high costs in enforcing a contract. These costs reflect the slow execution of collateral through the courts.

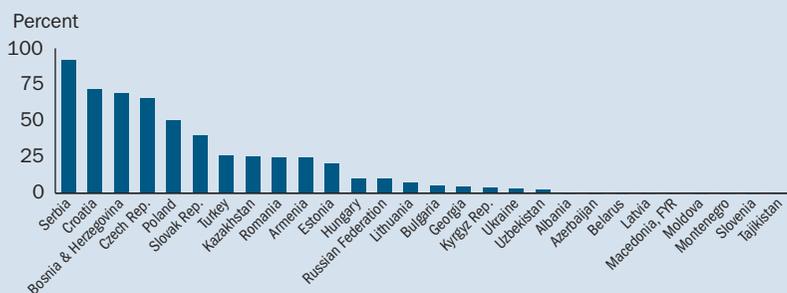
A related issue is the unsatisfactory bankruptcy procedures in many countries, frequently noted in FSAPs and ROSCs. Problems occur in the length of the process, which often allows the firm owners to strip the firm assets. There are also problems with the treatment of creditors, minority shareholders, and, in the case of banks, depositors.

Improving accounting and auditing

Financial statements are a second element of the information framework that needs to improve. They are critical in assessing creditworthiness of the larger potential borrowers, since small and medium borrowers generally have weak

BOX FIGURE 1

Private credit bureau coverage, by country, 2008



Note: Percentage of adult population covered.

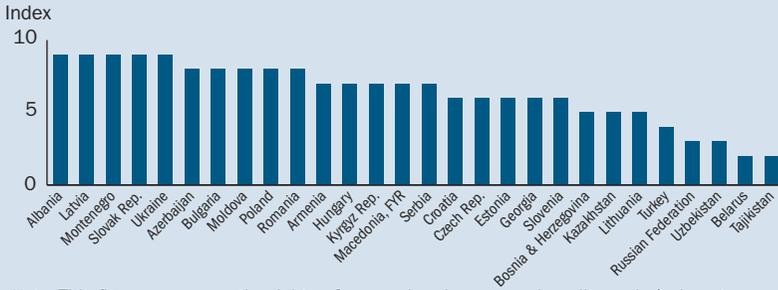
Source: IFC and World Bank 2008.

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BOX FIGURE 2

Legal rights index, by country, 2008

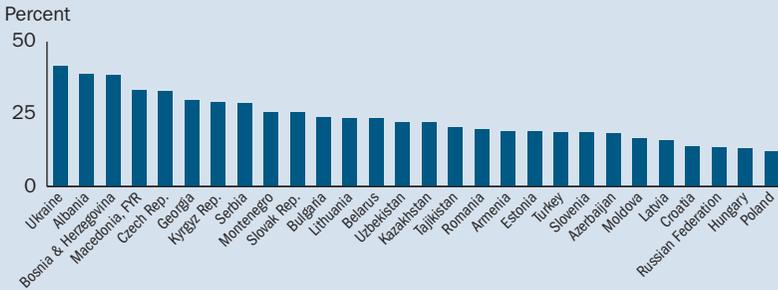


Note: This figure measures the rights of secured and unsecured creditors vis-à-vis enterprises. Higher numbers indicate stronger protection.

Source: IFC and World Bank 2008.

BOX FIGURE 3

Cost of contract enforcement, by country, 2008



Note: This measure indicates the cost of enforcing a contract through the court system, relative to the average amount of a debt contract.

Source: IFC and World Bank 2008.

accounting and usually need help to even bring it to reasonable levels. Financial statements are also critical in any development of capital markets. Yet another problem is that the accounting statements, like many other pieces of financial information, do not identify the true controllers and owners of firms. Lack of this information complicates financial development in many ways, from raising risk on loans that are excessively concentrated in interlinked conglomerates, to reducing investor interest in funding parts of these firms.

There has been international support for improving the accounting standards, and many ECA countries report adopting the International Financial Reporting Standard (IFRS). But firms and banks often maintain their own systems and have been slow to fully adopt this standard. Accounting and auditing are considered weak, and local auditing firms are often small and considered

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An agenda for modern banking sector institutions in ECA countries

unreliable by foreign investors. Some progress has been made through pressures from EU accession, at least in Central and Eastern Europe, and from foreign banks, which require good information.

Recommendations from World Bank and IMF FSAPs and ROSCs

The World Bank-IMF Financial Stability Assessment Program (FSAPs) and the Reviews of Standards and Codes (ROSCs) provide numerous recommendations on how to improve bank supervision in ECA countries—and many of these are identified in the “de Larosière” report as also being necessary for industrial countries in the EU. Among those recommendations:

- Bank supervisors need greater legal powers to monitor compliance with rules.
- Bank supervisors must have independence, legal protection and adequate safeguards against malfeasance.
- Supervision departments need to be funded better.
- Pay for bank supervisors has to be more competitive to avoid losing talent to the banking industry.
- Technical capacity of bank supervisors to evaluate solvency and liquidity risks needs to be strengthened.
- Evaluation of loans and liquidity needs should be carried out both statically as well as looking forward.
- Bank supervision should include an evaluation of banks’ internal risk and liquidity management systems.
- An improved regulatory structure for dealing with weak banks (and their intervention and closure) is an important part of bank regulation and has a major role in limiting the future impact of crises.
- Transparent, prompt, and monitorable corrective actions are needed—should be applied automatically.
- Corrective actions need to be time-bound requirements to force the owners to put in new capital, or to merge or close down such banks in order to prevent the problem from spreading.
- Institutional responsibilities and triggers for intervening a bank need to be defined and provided with legal backing—in some countries the courts have intervened to reverse interventions.
- Consolidated supervision needs strengthening—for example, to ensure that regulatory limits on single exposures by banks and exposures to bank owners can be enforced.
- Improve the ability to identify bank and corporate owners—existing ownership structures are often opaque and preclude an assessment of fit and proper when issuing banking licenses.

Notes

1. A recent survey of finance in the transition countries provides valuable analysis and information (Beck 2009).
2. Djankov, McLeish, and Shliefer 2007.
3. Haselmann and Wachtel 2007.

Source: Based on background work by Thorsten Beck and James Hanson.

Capital—what is it and why require it?

Capital consists of owners' equity and retained earnings (Tier I) and general provisions, revaluations of assets, subordinated debt, hybrid equity-debt instruments, and other funding instruments (Tier II). Tier I must be at least as large as Tier II. Both the de Larosière and Turner reports recommend a harmonization of instruments considered to be capital.

Capital requirements on banks represent a buffer against shocks for depositors and the deposit insurance agency. They limit owners' leverage and thus reduce risk. They also represent an incentive to owners to monitor activities as their own funds are at risk. Without such requirements, owners would be tempted to leverage massively, leaving depositors and deposit insurers at risk. Furthermore, the collapse of undercapitalized institutions would have systemic effects. Regulation and supervision attempt to ensure that banks, which are difficult institutions for investors to analyze, maintain the required capital. A bank's market access to loans and capital may depend on maintaining capital in excess of required levels.

Under Basel II, total capital must be at least 8 percent of risk-weighted assets, plus, effectively, the estimated value at risk in the institution's proprietary market activities and the estimated operational risk, which cover the probability of loss from internal fraud, failures of systems, internal processes, and the like.¹ The Basel II standard approach suggests risk weights for various types of assets; for example, 100 percent for standard loans, 150 percent for substandard loans, 0 for government debt.² The ratio of capital to assets may be greater or less than the ratio of capital to RWA depending on market and operational risk.

Notes

1. Specifically, the definition of risk-weighted assets is adjusted to require capital, in addition to the capital for risk-weighted assets, that is equal to the amounts of market and operational risks.
2. Basel II includes two other ways to calculate risk-weighted assets, but the experience of the crisis has led most observers to recommend a return to the standard approach.

activities to a subsidiary in a country with lower requirements—international regulatory competition—a shift that might prove costly to the host country.

Protect against foreign currency loans. Additional capital requirements, through higher risk weights, may be desirable for bank loans in foreign currency (or indexed to it), which are important in many ECA countries. These loans are financed from the banks' substantial liabilities in foreign exchange, whether in large loans from parents of subsidiary banks, borrowing in the wholesale and interbank markets, or foreign currency deposits. Countries in Latin America and East Asia also have a large fraction of their loans in foreign

currency, But the funding source is more likely to be domestic deposits in foreign currency.²⁰

Current experience and that from earlier crises in Latin America and East Asia suggest that bank lending in foreign currencies is risky. Foreign currency loans imply that the borrowers take a currency risk and the banks a credit risk, assuming that the loans are funded by foreign currency liabilities. The borrowers accept the currency risk because the lower interest rates on foreign currency loans make loans more affordable and offer a better cash flow profile.²¹ Exchange rate risk was viewed as small either because the countries had hard pegs and an exit strategy (euro adoption) or because the countries were expected to experience an appreciation of the exchange rate as part of the convergence process.²² However, a devaluation increases their debt service burden relative to their incomes because they are in local currency. Even if there is no devaluation, a stabilization program to maintain an exchange rate can generate significant unemployment and losses of income, making it difficult to cover the debt service.

Given these risks on loans in foreign currency, it would be desirable to establish higher risk weights for them, implying that more bank capital would be required to make such loans. This policy would increase the buffer against these risks, force the banks' owners to have more at stake on such loans, and raise the cost and reduce the attractiveness to the borrower of such loans. Some ECA countries imposed such a risk weighting toward the end of the credit boom. In some cases, they exempted loans to borrowers with access to foreign exchange. Although this idea seems attractive, it is difficult to measure access to foreign exchange. In addition, a borrower's access may drop suddenly, or the borrower may simply refuse to use this access to repay an obligation in a sharp devaluation, as in East Asia for exporters who sold foreign exchange forward. Another option to create a buffer against the risks of such loans, reduce their attractiveness, and raise their cost would be to increase required general provisions on such loans, which would imply an increase in Tier II capital.

20. In Latin America, depositors wished to hold foreign currency (FX) deposits as insurance against inflation. Beginning in the 1980s, foreign currency deposits were legalized because without them, deposits (and bank loans) would have been even lower than their comparatively low ratios to GDP; in East Asia, the foreign currency deposits can probably be explained as insurance against currency risk—the share of such deposits in East Asia is much smaller than in Latin America.

21. Less of the loan plus interest obligations needs to be repaid in the earlier years of the loan, though the present value of the payments is the same.

22. These risks are not eliminated by using a currency board to maintain the exchange rate, as Argentina suggests. Even Hong Kong suffered substantial shocks as a result of maintaining its currency board.

... and parent bank funding in foreign currency. Although foreign currency inflows from parent banks to their subsidiaries present a risk, the use of capital requirements on such liabilities would be unusual. These inflows could be withdrawn in the event of problems in the parent bank or concerns that the subsidiary may prove unprofitable because of macroeconomic developments.²³ But capital is a buffer to protect the providers of funds. Instead, as suggested above, reserve requirements could be and have been used to limit such capital inflows, especially if they are short term. A differential reserve requirement would reduce the interest rate paid on such deposits or loans and thereby reduce their attractiveness and the risks to banks. Such policies for foreign currency loans and deposits would tend to slow overall credit growth only temporarily, until borrowers shift to less regulated parts of the financial system or go to offshore banks directly.

Monitor liquidity. Consideration could also be given to introducing a “core funding ratio.” Banks that rely heavily on volatile finance and market funding are risky in terms of liquidity, as the current crisis has indicated once again. One approach might be to adapt the proposals for the industrial countries, suggesting that regulators and supervisors should monitor liquidity carefully and consider defining a “core funding ratio” to ensure the sustainability of balance sheet growth.²⁴ Such measures would be desirable in ECA countries that have large foreign inflows relative to GDP.²⁵

Provisioning goes dynamic

Another set of proposals involve making the capital adequacy regime countercyclical.²⁶ Since a constant capital to risk-weighted asset ratio, whatever the state of the business cycle, could create a sudden credit crunch and add to problems in the event of a slowdown in the economy, the proposal is to vary the capital adequacy over the cycle. One approach would be to use dynamic provisioning, as in

23. Note that the incentive of taking currency exposure by lending in local currency and borrowing from abroad would be curbed by capital requirements against net foreign currency exposure.

24. G20 Communiqué, Tasking of Ministers and Experts; de Larosière, Recommendation 1; and Financial Services Authority 2009, page 7.

25. Regulatory actions may substitute or complement monetary policy to limit credit volatility. Requiring higher ratios of capital to lending will limit bank lending. To some extent, such regulatory actions have similar effects on credit growth as limits on capital inflows, and thus may be at least a temporary solution to the “trilemma” problem of the inconsistency between fixed exchange rates, open capital accounts, and effective monetary policy. All the various proposals try to create barriers against the international flow of capital into banks; these are motivated by the desire to limit risk in banks, but do not involve barriers to capital flows.

26. G20 Communiqué: Tasking of Ministers and Experts; de Larosière, Recommendation 1; and Financial Services Authority 2009, page 7.

Taking the rough with the smooth—dynamic provisioning in Spain

Dynamic provisions are a mechanism to accumulate reserves in the good times so that they can be spent in the bad times. In the standard system, bank provisions depend on contemporary bad loans: in the good times, when credit grows and there are few bad loans, provisions tend to be low, and this fuels further credit growth. In the bad times, credit declines and bad loans increase, so that banks have to make a greater provisioning effort, which ultimately feeds back into credit contraction.

In contrast, the idea behind dynamic provisioning is very simple: to reduce the tendency of the financial system to amplify credit fluctuations, it makes sense to smooth the provisioning effort along the cycle. Until recently, this system had been adopted only in Spain. The Bank of Spain introduced this mechanism in 2000, shortly after euro adoption. Having lost monetary policy and the exchange rate as macroeconomic tools, the central bank saw with concern how higher economic growth than in other Euro area economies induced high credit growth and further inflationary pressures. Unable to use the traditional instruments of monetary policy, the Bank of Spain used a “macro-prudential” tool to try to fight the overheating of the economy.

The system, introduced in 2000, was initially based on three types of provisions: specific (a function of contemporary bad loans), generic (a function of the credit stock), and the new statistical provision (depending on credit growth). A fund was accumulated, with the intention of using it in the downturn. In 2004 the statistical provision was subsumed in the generic provision according to:

$$\text{Generic provisions} = \alpha \Delta \text{Credit} + \beta \text{Credit} - \text{specific provisions}$$

where the parameters α and β vary with the riskiness of the assets: $0 \leq \alpha \leq 2.5$ and $0 \leq \beta \leq 1.64$.

The 2004 reform also introduced limits to the Fund between 33 percent and 125 percent of credit weighted by α . These limits were a response to concerns that the accumulation of provisions could become excessive, and put Spanish banks at a competitive disadvantage in the single European market.

How has the system worked compared to expectations? In a context of very strong growth and low risk aversion, dynamic provisioning hardly discouraged credit growth between 2000 and 2007. After the 2004 reform, most entities rapidly reached the ceiling of the Fund, and in 2006 credit grew again above 25 percent. While the dynamic provisioning had little impact on credit growth, it helped create a buffer that was useful when the crisis hit in 2008—specifically, the ratio of provisions to bad loans in December 2007 was above 200 percent in Spain, compared with an EU average of 70 percent. After the crisis started, the Spanish banking system used the funds to mitigate the impact of delinquencies on total provisions. The decrease in generic provisions fully compensated for

(continued)

BOX 3.5 (CONTINUED)

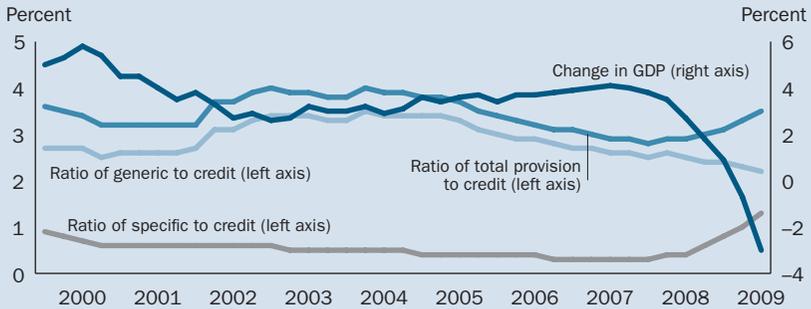
Taking the rough with the smooth—dynamic provisioning in Spain

the increase in specific provisions. For the period as a whole dynamic provisions did not eliminate the procyclical pattern of total provisions (box figure 1).

In sum, the Spanish dynamic provisioning model did not prevent the credit and housing boom or the subsequent bust. But it allowed financial institutions to distribute the provisioning effort more evenly along the cycle. The system can certainly be improved as more information is accumulated in calibrating the economic cycle. But it is preferable to the standard model, which explains why the Financial Stability Board has opened a discussion on dynamic provisioning, including the possibility that capital requirements (Basel II) should also be designed more countercyclically.

BOX FIGURE 1

Provisions over credit and GDP, 1999–2009



Note: Provisions are corrected for the impact of the new accounting regulation in 2004.

Source: Fernandez de Lis and Herrero 2009; Fernandez de Lis, Pagés, and Saurina 2001; and Financial Stability Board 2009.

Note

1. In late 2008, the Peruvian banking regulator adopted a similar system aimed at smoothing provisions along the cycle. The Peruvian system is based on GDP growth instead of credit growth and is thus systemwide as opposed to institution-specific.

Spain (box 3.5). The required annual rate of general provisions would increase during periods of rapid credit growth, and the stock of such provisions—part of Tier II capital—would be run down during slowdowns. Countercyclical capital requirements might also be considered. In either case, care would be needed in defining the appropriate cycle for the measures to take effect.

Strengthening capital requirements should be phased in carefully to avoid sudden declines in bank lending as the current crisis winds down. Parallelism with EU requirements will occur naturally for the new member states.

Supervising foreign banks

The dominant role of cross-border banks in many ECA countries raises important issues of supervision for both the host and home countries as well as parent banks. Host country supervision is important since, at the most basic level, bank supervisors must have legal powers, including sanctions, to ensure that banks comply with applicable rules. Moreover, subsidiary banks represent a potential obligation to the deposit insurance agencies and the government budget of their host countries, in the event of failure of either the subsidiary or the parent bank. Even so, there is probably a tendency for many ECA host countries to rely on the effectiveness of supervision in the home country, in part because of the difficulties of supervising a bank belonging to a bank in another country. This is quite complicated, however, because supervisors of different countries may have different views on major issues.

Improving the supervision of subsidiaries is difficult for several reasons.²⁷ First, home country supervision depends on the quality of its consolidated supervision, including supervisor scrutiny of the subsidiaries, both of which may vary across states. Second, the subsidiaries may generate much of the income of banks that own them.²⁸ Correspondingly, they represent potential problems if there is an economic deterioration in one or more of the subsidiaries' host countries. Problems in the home country or with the subsidiaries could affect not only the home country but also other ECA host countries, through removals of funds from the host countries by the parent bank or deposit shifts away from subsidiaries in the host countries.

A typical approach to improving the supervision of international banks is to improve the exchange of information. Cross-border supervision has traditionally focused on improving information-sharing through memoranda of understanding between supervisors. The World Bank-IMF FSAPs in various ECA countries have often noted the lack of such memoranda of understanding. But memoranda of understanding may not always lead to sharing critical information.

If an institution is systemically important in both countries, countervailing incentives that will help supervision are at work. To some extent, incentives exist to share information and reach common solutions to problems. But there are also incentives keeping the supervisors apart—for host countries

27. See also de Larosière, annex III.

28. For example, Raiffeisen Zentralbank Österreich AG (RZB) holds 70 percent of the shares of Raiffeisen International Bank Holding AG that operates fully consolidated bank subsidiaries in fifteen transition countries. In 2008, according to its annual report, the non-Austrian subsidiaries accounted for about 75 percent of RZB's income.

to “ring fence” subsidiaries to protect depositors and ultimately to limit the potential costs to the deposit guarantee system and the government budget, which may represent a legal obligation, and for home countries to centralize a bank’s assets and keep liabilities decentralized. These issues will worsen as the situations of the parent and the subsidiary bank diverge. Both authorities may need to rely on the incentives and willingness of the other authority, which may not have the flexibility to provide a solution, because the home and host countries are not accountable to each other in an insolvency. The management of the Fortis-group serves as real example of this case.²⁹ These cross-border issues are even more complicated for ECA countries outside the EU.

The cost to the host countries’ deposit guarantee scheme could be substantial in the extreme case of a failure of a group with a large subsidiary. The legal obligations of consolidated groups to foreign subsidiaries vary even among EU member states. The group owner may simply choose to withdraw funds from or abandon a failing large subsidiary, again at a cost to the host country’s deposit guarantee scheme. This option is complicated for the subsidiary owner by the risk that such a failure would lead to deposit runs against other subsidiaries and perhaps even in the home country. But the group might view this risk as less important than the cost of resolving the subsidiary. In any case, the cost of a failing bank subsidiary can be high, and improved national regulation and supervision of them will be important, particularly for non-EU member states, as well as participation in coordinated actions to the extent possible, as in the current crisis.³⁰ Finally, the fiscal support for weak or failing global institutions has so far been organized in the current crisis by the home country, and this support may be constrained by both national and EU laws.

The global character of the current crisis has led to numerous proposals for improving supervision across borders. The de Larosière report has gone beyond simply recommending better sharing of information and proposed a new financial architecture for the EU, comprising:

- A new EU body, the European Systemic Risk Council (ESRC), to pool information relevant for financial stability and issue macro-prudential warnings for the EU and to deal with national supervisors.

29. See a discussion in de Larosière, p. 73.

30. One example is the “gentlemen’s agreement” of the European Banking Coordination Initiative (see box 2.1), which has signed up international banks to maintain their exposure in host countries and set up stress testing arrangements. Another is the EBRD, World Bank, and EIB initiative to lend to banks in the region, in addition to the various measures for greater international exchange of supervisory and macro-prudential information. These initiatives are in addition to the various proposals for greater international sharing of information.

- A European System of Financial Supervision—for banks, nonbanks, and financial markets. It would also intensify efforts in training and coordinate the application of national supervisory standards. It would set up supervisory colleges for major cross-border financial firms. And it would develop a consistent, strengthened set of supervisory standards; and ensure that appropriate information flows to the ESRC.

National supervisory authorities would remain responsible for day-to-day supervision, but the proposal would eventually entail adoption of binding supervisory standards, legally binding mediation between national supervisors, and licensing specific EU institutions such as credit rating agencies and trading infrastructures. But the issue is complicated because legally binding arbitration and burden sharing among the countries would have implications for fiscal expenditures. The EU is considering these proposals, and it remains to be seen how they will develop and apply to ECA countries.

CHAPTER 4

Scaling up social safety nets

The sharp output declines expected in most ECA countries in 2009 and the possibility of a slow recovery will have a significant impact on the poorest and most vulnerable households.

Existing safety net programs, if they have a good track record of targeting benefits, can be expanded to reach these groups.

Virtually all ECA countries operate a mix of safety nets today, but the spending, coverage, and ability to target resources vary greatly.

Questions

- Does every country possess at least one well targeted program that could be scaled up to channel additional resources to the poor cost-effectively?
- In which situations is the need simply to scale up the program financially and in which is it critical to improve efficiency by consolidating programs and improving targeting?
- How important is the income transfer of some well targeted programs to poor households?

Findings

- Of the 24 ECA countries examined, 15 have a well targeted program that could be scaled up. Encouragingly, the potential to build on an existing well targeted program is not limited to middle-income countries—several lower income countries are among the 15.
- In some of the other countries, spending is adequate but effectiveness is compromised because of weak targeting and implementation.
- The income transfer of some of the targeted means-tested programs is significant as reported by households in the poorest quintile. In several ECA countries—including some of the lower income ones—the transfer amounts to more than 30 percent of their consumption.

The significant output declines expected in most ECA countries in 2009 and the possibility that output recovery may be a slow process will hit the poorer and most vulnerable. Reduction in real wages and employment, increases in food prices due to currency devaluations, and declines in social services as public revenues dwindle are some of the mechanisms likely to hurt the poor. Declines in workers' remittances in some of the poorer ECA countries will have

a disproportionate impact on the poor. For families already below the poverty line, these events will be particularly serious, especially for those with restricted coping mechanisms, such as the elderly and those with young children.

Latest available data confirm these developments. Registered number of unemployed workers, as reported by public employment offices providing unemployment benefits, increased sharply in several countries between March 2008 and March 2009. The number more than doubled in the Baltic states. The increase was also significant in other countries: about 60 percent in Moldova and Turkey, and between 20 and 40 percent in the Czech and Slovak Republics, Romania, the Russian Federation, Slovenia, and Ukraine. Differences in these rates partly reflect incentives to register and generous benefits. Notwithstanding these caveats, the data suggest that unemployment is increasing in many ECA countries. Poverty is also on the rise: the Russian statistical agency Rosstat reported in late August 2009 that the population below the national poverty line increased by almost one-third—from 13.4 percent of the population in the last quarter of 2008 to 17.4 percent during the first quarter of 2009—or, an additional 6 million individuals in poverty.

Safety nets or social assistance programs (other than contributory pension programs and contributory unemployment benefits programs) can be leveraged to reach the poor. But the ability to respond quickly depends critically on the quality of the existing programs. A rapid response would focus on expanding existing safety nets that have a proven track record in targeting social benefits to the poorest fifth of households. This chapter shows that most countries in the region have at least one well targeted safety net program that can be scaled up in times of crisis. Well targeted programs should be protected and even expanded, either in coverage or by “topping-up” benefits.¹

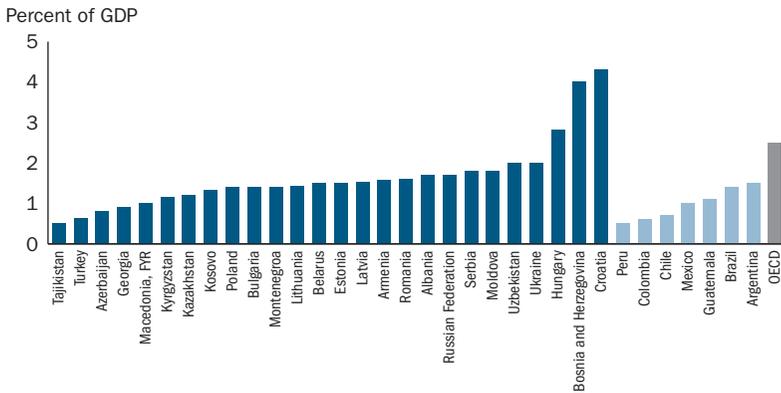
Existing social assistance programs

Total spending on social assistance averages 1.7 percent of GDP in the region but there is substantial variation across countries, ranging from 0.5 percent of GDP in Tajikistan through 2.0 percent in Ukraine to around 4.0 percent in Croatia and Bosnia and Herzegovina (figure 4.1). Spending on benefits for war veterans is significant in the former Yugoslav republics. About half of ECA countries spend about the same as or more than Argentina and Brazil—middle-income countries in Latin America with the highest spending as a share of GDP—but most ECA countries are below the OECD average of 2.5 percent of GDP.

1. This chapter is based on the material developed in Lindert (in progress) and Nguyen, Sundaram, and Tesliuc (in progress). Data on comparator countries comes from Lindert et. al 2006.

FIGURE 4.1

Spending on overall safety nets, by country, 2006–08



Note: Spending data for Latin America are for 2000–04.

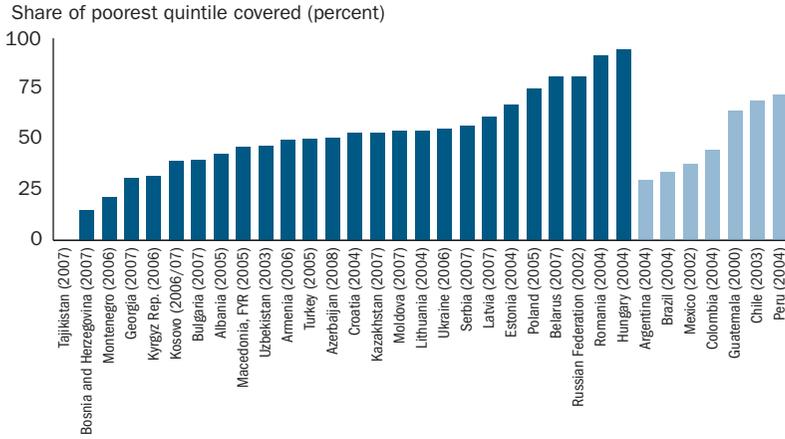
Almost all ECA countries operate some mix of safety nets programs. The mix is similar to that of the OECD countries, with an emphasis on family allowances such as child allowances and birth grants, noncontributory pensions, heating and housing allowances, and targeted antipoverty programs. Some countries are still reforming such programs, such as monetizing and consolidating a range of “privileges”, including so-called categorical benefits that target particular categories of individuals (such as war veterans, teachers, and judges). In some cases a proliferation of multiple programs fragments and duplicates benefits.

Coverage—the share of households in the poorest quintile of the population reached by social assistance programs—also varies sharply across countries, with more than half the countries having coverage rates between 40 and 60 percent (figure 4.2). Hungary and Romania have the highest coverage rates, followed by Belarus, Poland, and the Russian Federation, through moderate rates in Armenia, Azerbaijan, and Turkey, falling off in the low-income CIS countries, reaching only 30 percent of the poorest quintile in Georgia and the Kyrgyz Republic and barely 1 percent in Tajikistan.

Coverage is not always correlated with spending. Bosnia and Herzegovina is among the highest spenders but has rather low coverage, because many benefits are “rights based” rather than “needs based.” More than three-quarters of cash transfers are rights-based transfers. Safety nets in Croatia have a similar feature. Many of its programs cover war veterans, children’s allowances, and other family benefits that are not targeted. But Croatia also operates a well targeted guaranteed

FIGURE 4.2

Coverage of overall safety nets, by country, various years



Note: Performance indicators for ECA countries are calculated using a standardized methodology so as to facilitate comparison across countries. This methodology ranks households into quintiles based on harmonized consumption aggregates (World Bank 2005) and pre-transfer consumption per capita. Azerbaijan, Bosnia and Herzegovina, Kyrgyz Republic, Moldova, the Russian Federation, Tajikistan, and Uzbekistan are yet to be updated using the standardized methodology. Since this book went to press, data in 2007 for Armenia have become available. Moreover, the standardized methods have since been applied to Bulgaria and Serbia. For Bulgaria, coverage of social assistance increases from 40 percent to 54 percent and targeting accuracy from 28 percent to 50 percent. For Serbia, coverage of social assistance increases from 56.7 percent to 60.3 percent and targeting accuracy from 56 percent to 63 percent. These changes have been reflected in figure 1 in the overview. The indicators of the rest of the countries are being updated with the standardized methodology.

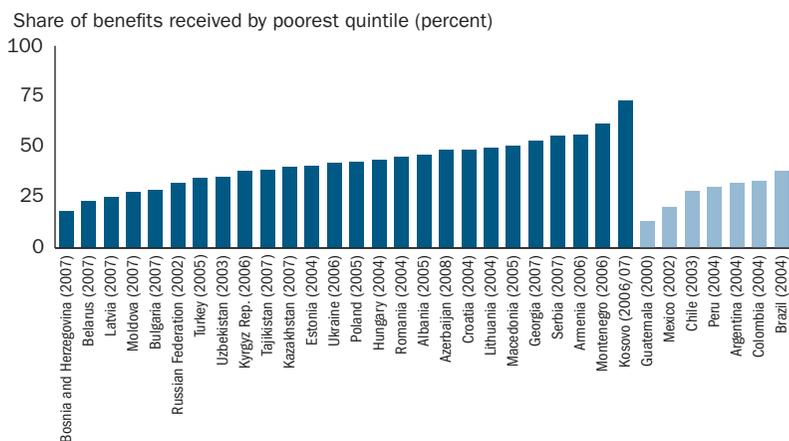
minimum income program as its core poverty safety net. By contrast, Azerbaijan spends relatively little, but its new Targeted Social Assistance Program is quite effective in basing eligibility on income testing and home visits.

The targeting accuracy of social benefits—the share of benefits going to the poorest quintile of households—varies across the region, but most ECA countries perform better than comparable countries (figure 4.3). However, in several countries the poorest quintile receives less than a third of the safety net benefits. Note that the ranking of countries has changed relative to figure 4.2. For example, at 80 percent, the Russian Federation has relatively good coverage, but only 30 percent of benefits go to the poorest quintile. The main reason for this gap is that the per child transfer out of the children allowance program, the main benefit received by the poorest quintile, is very low.

In Georgia, by contrast, only about 30 percent of the poorest quintile receives benefits, but those benefits account for more than 50 percent of the total value transferred by the safety net system. Targeting accuracy is

FIGURE 4.3

Targeting accuracy of overall safety-net benefits, by country, various years



Note: See note to figure 4.2.

significant and on par with several OECD countries. It is largely achieved by the new Targeted Social Assistance Program, implemented in 2006 after careful preparation (box 4.1).

Safety nets: ready to be scaled up?

Countries are classified in two categories by asking the question: “Does the country possess at least one well targeted program that could be cost effectively scaled up to channel resources to the poor in a crisis.”

Figure 4.4 classifies countries by income level and (in parentheses) the specific program with the potential to be expanded. They are generally means-tested programs. Figures 4.5 and 4.6 show the targeting accuracy and coverage of such means-tested programs. The classification in figure 4.4 is not based on the performance of the overall safety net but on the existence of at least one well targeted program with minimal coverage that could be scaled up to reach the poorest households. Many countries that have such a means-tested program nevertheless require significant reform of their overall safety net.

Countries with at least one well targeted means-tested program

Most countries operate at least one well targeted safety net that could be scaled up in times of crisis. In many ECA countries the targeting accuracy compares favorably with that in Latin American. Interestingly, the potential to build on such programs is not limited to middle-income countries; several lower income countries are in the group.

Aiming high to serve the poor: Georgia's new Targeted Social Assistance Program

The TSA, launched in July 2006 after 18 months of intense preparation, has several features worth noting.

- *The team:* The authorities appointed a team of national experts to develop a targeting mechanism, examining experiences in several countries, including Mexico, Chile, and Turkey.
- *Targeting method:* A “proxy means test” (complementing data on income with information of possession of durables, quality of the dwelling, education level of the household, and so on) was selected because of the high informality of the Georgian economy. The test was then finetuned through additional surveys. The formula accommodates differences in consumption across geographical locations. It combines both objective (measurable) variables and subjective assessment of the household situation by social workers.
- *Administrative arrangements:* The application process has two stages. First, households register and give their consent to further collection of information. The blank registration forms can be obtained at many points across Georgia. In the second phase, the Social Service Agency visits the household to collect the additional information. The data are entered in the database and locked for changes. Further processing is done centrally, including information verification and cross-checks, as well the assignment of the proxy score. The entire process is automated to assure objectivity and minimize the risk of bribery.
- *Informing households:* Each “scored” household is issued a card with the case number and score, allowing households to find out immediately whether they qualify for assistance.
- *Program flexibility:* The program is open-ended. Households can apply—at any time—if their score is below the cut-off point they automatically become included in the program. This poses a challenge for forecasting the required resources and calls for budgetary flexibility.

Several low-income to lower middle-income countries have developed some elements of effective safety nets. Typically, these countries have a single well targeted program focused on poor families, such as the Unified Monthly Benefit in the Kyrgyz Republic, the Ndhima Ekonomike Program in Albania, the Targeted Social Assistance Programs in Azerbaijan and Georgia, the Family Benefit Program in Armenia, and the Last Resort Program in Ukraine. Depending on the country, further improvements could come from geographic targeting with poverty maps, verifying income-testing with hybrid proxies, and strengthening implementation, registry administration, and oversight. Coverage is typically low, however—generally less than 35 percent

FIGURE 4.4

How ready are ECA's safety nets for rapid crisis response? A typology of countries

Countries with at least one well targeted program, though often with low benefit values	Countries with no programs or with programs that have very low coverage or weak targeting accuracy
<p>Low-income and lower middle-income countries</p> <ul style="list-style-type: none"> • Albania (NE Program) • Armenia (FPB) • Azerbaijan (TSA) • Georgia (TSA) • Kyrgyz Rep. (UMB) • Macedonia, FYR (SFA) • Ukraine (Extension Poor program) <p>Middle-income and upper middle-income countries</p> <ul style="list-style-type: none"> • Bulgaria (GMI) • Croatia (Social Welfare) • Montenegro (MOP) • Poland (TSA) • Romania (GMI) • Serbia (CA) • Kosovo (SA) • Turkey (CCT, Green Card) 	<p>Low-income and lower middle-income countries</p> <ul style="list-style-type: none"> • Moldova (no program) • Bosnia and Herzegovina (CPA) • Belarus (New program, 2008) • Uzbekistan (SA) • Tajikistan (no program) <p>Middle-income and upper middle-income countries</p> <ul style="list-style-type: none"> • Estonia (subsistence benefits) • Hungary (regular social assistance) • Kazakhstan (TSA) • Lithuania (social benefit) • Russian Federation (child allowance)

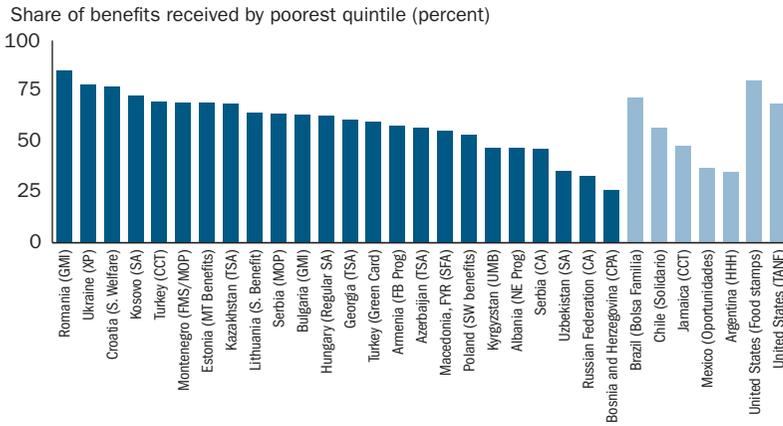
(figure 4.6). It could be expanded with increased fiscal effort, possibly from consolidating other legacy “privileges” and improving outreach to the poor.

Several middle-income countries also operate some well targeted means-tested programs, often as a complement to extensive social protection systems. More than 80 percent of the benefits of the Romanian GMI program accrue to the poorest quintile of households. Eligibility for these programs is usually determined by means testing (and in a few cases, proxy means testing), with targeting outcomes ranging from reasonable to strong. Except for the Turkey Green Card, which has both good coverage and targeting accuracy, coverage of these specific programs is fairly low. The poor in these countries also tend to benefit from other universal or categorical social assistance programs. In many cases, countries are also implementing “second-generation enhancements” to their safety nets—linking beneficiaries to “activation” programs, such as job search assistance or professional training, and introducing “exit strategies,” such as time limits, to discourage welfare dependency.

Although the existence of at least one fairly well targeted program positions these countries for a faster crisis response, most are underfunded and have modest coverage. Special effort is needed to expand these programs during the

FIGURE 4.5

Targeting accuracy of means-tested programs, by country, 2004–08



Note: Since this book went to press, the standardized methods have been applied to Bulgaria and Serbia. For Bulgaria, coverage of GMI increases from 6 percent to 14 percent, and targeting accuracy from 64 percent to 77 percent. For Serbia, targeting accuracy of the MOP program increases from 64 percent to 77 percent, while coverage remains basically the same. These changes have been reflected in figure 1 in the overview. The indicators of the rest of the countries are being updated with the standardized methodology.

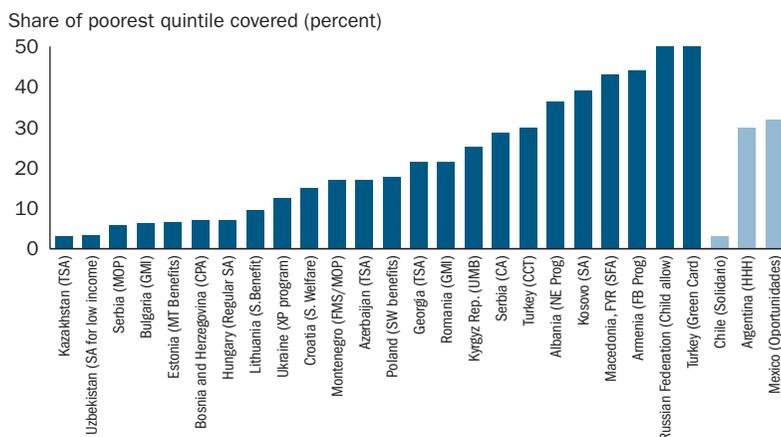
present crisis by raising benefits and expanding coverage by enhancing outreach, such as proactive registration of potentially poor households, communications campaigns, and social worker involvement. This is critical because preliminary data from a few countries show the opposite trend—coverage has declined during the last twelve months.

Countries where spending is adequate but programs are not well targeted

Several ECA countries allocate enough resources to social assistance programs, but their ability to reduce poverty or cost-effectively channel resources to the poor is compromised by weak targeting and implementation. Fortunately, only a few countries fall into this category (figure 4.4). Moldova spends about 1.8 percent of GDP on about 15 untargeted programs. Bosnia spends 4 percent of GDP on untargeted categorical benefits for civilians and war veterans. And the Russian Federation spends 1.7 percent of GDP on categorical benefits and weakly means-tested subsidies—and suffers from implementation and design challenges (box 4.2). Belarus may also fall into this category, spending 1.5 percent of GDP on social assistance. But it has recently introduced a targeted program, and an assessment of its effectiveness awaits household survey data. In these cases, significant reforms are generally needed to:

FIGURE 4.6

Coverage of means-tested programs, by country, 2004–08



Note: See note to figure 4.2.

- Consolidate programs and eliminate most untargeted privileges.
- Refocus design and eligibility criteria, or introduce a new poverty-focused program within the available spending envelope.
- Develop and apply targeting tools.
- Improve implementation arrangements.
- Strengthen oversight, monitoring, and evaluation.

How important are safety nets in transferring income?

How much of the consumption by the poorest quintile is accounted for by income transferred by safety nets, and what would it cost to increase such transfers? To answer this question, households are sorted into quintiles based on pretransfer consumption.² In table 4.1 panel A, each cell contains the total transfer amount to beneficiary households in the poorest quintile divided by the total of post transfer consumption of beneficiary households in that quintile. Table 4.1 panel B shows the total transfer to beneficiary households in the poorest quintile divided by the total consumption of all households, including those not receiving the transfer. The first column of each panel shows the

2. Household surveys which include detailed modules on consumption and income, including income from various social protection programs are used in producing these tables. The detailed consumption data are used to produce harmonized consumption aggregates (using the same basket of goods) across the various countries so as to facilitate comparison. Households are ranked into quintiles based on pre-transfer consumption levels.

Enough bang for the buck? Safety nets in the Russian Federation

The overall spending on non-contributory social assistance programs and subsidies in the Russian Federation stood at about 1.7 percent of GDP in 2007, making the Russian Federation a “moderate spender” in the region. This includes three types of programs: subsidies and cash compensation for privileged citizens (specific categories); income-tested programs (mainly housing and utility allowances, and child allowances); and institutionalized care. The Russian Federation does not operate a “last-resort” poverty-targeted program at the federal level, other than means-tested housing, utility, and child allowances.

Despite spending enough, the impact of the safety net on poverty reduction is low. The share of funds that actually reach the poor is substantially smaller in the Russian Federation than elsewhere in the region. There are two reasons for this. Most privileges are assigned to broad categories of the population and are not income-tested or needs-based—thus only 16 percent of payments of privilege benefits reached the poor in 2006. And even the income-tested programs have poor targeting—only 33 percent of child allowances and 30 percent of housing benefits reached the poorest quintile in 2006.

The reasons for weak targeting include:

- Program design flaws, such as very low child allowance benefits, which do not appear to justify the higher administrative costs associated with means-testing;
- Delegation of delivery and financing of income-tested programs to sub-national governments, which over-stretches the capacity of poorer regions that have larger share of the poor populations and fewer resources
- Implementation challenges, particularly in the measurement of income and in sharing information among government bodies.

Thus the ability of the Russian Federation’s safety nets to protect the poor cost-effectively from the impact of the crisis is limited. Reforms to strengthen the safety net are needed, in program design, targeting, and implementation. The federal government might consider introducing a new federally funded program with a stronger targeting instrument to identify the truly poor. Developing a targeting instrument—such as a Hybrid Means Testing tool—could happen fairly quickly. A new program could be introduced 6–9 months later—say in early 2010—using budget reallocation options and regional implementation capacities. The program should include strong federal oversight, monitoring, and evaluation to ensure program effectiveness and minimize fraud and error.

transfers received from overall social safety nets, while the second column includes only income transfers out of the targeted means-tested programs.

The difference between panels A and B is important. Panel A shows the consumption impact only on households that receive the transfer, whereas

panel B averages the total transfer across all households in the quintile—irrespective of whether they received it or not (the denominator is larger). Figures in panel B are generally smaller, reflecting smaller household consumption in the beneficiary households or the fact that only a share of households in the quintile receives the benefit. This difference can be large: for instance, in Croatia, the average transfer value per beneficiary of its means-tested program is 28.8 percent (panel A). But it declines to 4.4 percent of consumption when the consumption of all households (both beneficiary and nonbeneficiary) in the poorest quintile is included (panel B). The reason is that Croatia’s means-tested program covers only 15 percent of households in the poorest quintile. Equal declines are observed in the Baltic states, Hungary, and Serbia.

There is considerable variation across countries in the transfer effect of the overall safety net (table 4.1, column 2). This variability can be seen even among the new member states of the European Union. In Hungary and Estonia, the safety net transfers per individual (relative to consumption) are significantly larger than in the other countries, such as Poland and Latvia. There are also strong differences in the former Soviet Union. In Georgia the transfers are the largest of all ECA countries (52 percent) and are twice the values in Ukraine and Kazakhstan.

Means-tested programs account for an important share of all safety net programs. They appear to have a good impact when expressed per beneficiary—which is exactly what these targeted programs are expected to do. In theory, they target the most vulnerable within the poorest quintile, as well as other vulnerable groups in other quintiles.

There are 10 countries in the group where these programs transfer at least a fifth of the equivalent (posttransfer) consumption level of the household receiving the transfer.³ The highest transfer is again in Georgia, followed by Kosovo and Estonia. (For details on Georgia’s program, see box 4.1).

Cost of expanding means-tested programs

How much would it cost to expand means-tested programs? This can be calculated by taking the ratio of the cost of such programs over the cost of overall safety nets and multiplying it by the cost of safety nets as a share of GDP (the latter figure derived from figure 4.1). Table 4.2 shows an approximation of the ratio of means-tested safety net transfers to total safety net transfers. It is an approximation because it does not incorporate administrative costs, which may be higher for the most targeted program. The ratio is small for the Baltic states and Hungary (means-tested transfers are less than one-fifteenth of

3. This is equivalent to one quarter of the pretransfer consumption.

TABLE 4.1

Transfer to beneficiaries in the poorest quintile, by country, various years (percent)

Country	Year	Panel A		Panel B	
		Share of consumption of beneficiary households in poorest quintile		Share of consumption of all households in poorest quintile	
		Safety net (all social assistance)	Targeted program (means tested)	Safety net (all social assistance)	Targeted program (means tested)
Albania	2005	19.2	9.7	8.4	3.5
Armenia	2006	33.1	32.7	17.7	15.6
Bosnia and Herzegovina ^a	2007	24.9	11.9	..	..
Croatia	2004	26.5	28.8	15.1	4.4
Estonia	2004	42.0	40.2	28.4	3.1
Georgia	2007	52.0	48.0	19.2	12.2
Hungary	2004	45.8	26.9	43.3	2.0
Kazakhstan	2007	20.6	13.2	11.5	0.4
Kosovo	2006–07	na ^b	43.4	na ^b	18.2
Kyrgyz Rep.	2006	10.1	9.4	3.3	2.4
Latvia	2007	15.6	3.7	9.8	0.2
Lithuania	2004	35.4	20.4	20.5	1.8
Macedonia, FYR	2005	29.2	26.9	13.4	11.5
Moldova ^c	2007	9.4	na ^d	5.2	na ^d
Montenegro	2006	47.9	.. ^e	12.2	.. ^e
Poland	2005	11.2	9.2	8.5	1.6
Romania	2004	33.1	32.1	30.5	6.9
Serbia ^c	2007	39.3	22.2	23.1	1.0
Turkey	2005	15.8	.. ^f	.. ^f	.. ^f
Ukraine	2006	23.5	17.2	13.6	2.2

.. is not available.

na is not applicable.

a. These computations use per adult-equivalent national consumption aggregates.

b. All social assistance in Kosovo is targeted.

c. Calculations use national consumption aggregates rather than harmonized consumption aggregates.

d. Moldova has no means-tested program.

e. Although Montenegro has a means-tested program called MOP, the 2006 HBS did not ask about it.

f. Turkey has two means-tested program, CCT and Green Card, but survey data do not distinguish them.

Source: Nguyen, Sundaram, and Tesliuc (in progress).

total safety net transfers in these countries), higher in Poland, Romania, and Ukraine (between a tenth and a fifth), and significantly higher in the low-income and lower middle-income countries of the Western Balkans and the former Soviet Union (between half and three-fourths).

The ratios in table 4.2, in conjunction with the magnitudes in figure 4.1, estimate what it would cost to double total spending on means-tested programs as a share of GDP. In the lower income countries of the Western Balkans and the CIS, it would cost between 0.50 and 0.75 percent of GDP. In most of the new member states of the European Union and Ukraine, the cost ranges from 0.10 to 0.40 percent of GDP. An exception is Croatia, where doubling the last resort program would cost a further 0.77 percent of GDP; but those costs could be reduced if the expansion of the last-resort program were accompanied by significant reforms of the overall safety net.

An opportunity for further reform

Crises can present an opportunity for further reforms, as public pressures for an effective response can increase the political will for action. Reforms cover both policies that can be adopted in the immediate or short run, and actions which require more time, such as technical and institutional measures to strengthen safety net systems. Since this crisis is expected to be protracted, the second set of actions also merits consideration.

Immediate reform measures could typically include the following:

- Eliminating, reducing, or at most maintaining nominal values of untargeted benefits.
- Removing automatic indexation of benefits to wages.
- More ambitiously, consolidating benefits into fewer well targeted schemes and introducing new targeted programs (such as conditional cash transfers or workfare), though their development and implementation will require more time.

Measures to strengthen the overall safety net for the medium run require additional technical inputs:

- Developing and introducing improved targeting and eligibility mechanisms, such as hybrid means testing.⁴
- Strengthening and improving household registries and management information systems, which typically involves technical, institutional, and IT investments, as well as capacity-building at central and local offices.

4. Targeting in times of crisis can be challenging. Family circumstances change more frequently, increasing the need for repeated recertification for eligibility. Participation in the informal economy generally expands, making measurement of “needs” (incomes) more difficult. Finally, policymakers face the dilemma of prioritizing vulnerable populations: the “old poor” versus the “new poor.” While political pressures often come from those who face sudden income losses in times of crisis (some becoming “newly poor”), the chronic poor tend to suffer the most adverse consequences of shocks due to their low asset base and inability to smooth consumption, many with irreversible consequences for human capital (reduced schooling, child health and nutrition).

TABLE 4.2

Percentage of transfers through means-tested programs to overall safety net transfers, by country, various years

Country	Year	Percent of means tested transfers in total safety net transfers
Albania	2005	39.50
Armenia	2006	56.75
Croatia	2004	17.84
Estonia	2004	5.99
Georgia	2007	54.02
Hungary	2004	2.98
Kazakhstan	2007	1.83
Kosovo	2006–07	100.00 ^a
Kyrgyzstan	2006	59.56
Latvia	2007	2.68
Lithuania	2004	6.44
Macedonia, FYR	2005	77.38
Poland	2005	14.86
Romania	2004	11.27
Serbia	2007	3.61
Ukraine	2006	8.58

a. All social assistance in Kosovo is targeted.

Source: Nguyen, Sundaram, and Tesliuc (in progress).

- Strengthening payment, monitoring, and oversight and controls mechanisms.
- Overhauling, rationalizing and consolidating the overall safety net in countries where it is weak—to improve targeting, effectiveness, efficiency, and administrative feasibility.

Introducing new programs

Countries without well targeted programs can introduce new ones. It takes 12 to 18 months to develop basic targeting, registry, and safety net systems—consonant with the expected duration of the downturn—but considerably longer for lower income countries with weaker institutional capabilities, where the need for them is likely to be particularly great. But there could still be value in using the crisis to introduce a new, well-targeted program, as Turkey did in 2001 with its conditional cash transfer scheme. Some programs to be considered include:

- Direct cash transfers, which have low administrative costs and do not distort prices. If they are targeted and have adequate coverage and generosity,

these advantages make them an attractive option. Requirements include developing a targeting mechanism, building up a household registry (data collection, database management), identifying payment channels, and introducing basic monitoring, oversight, and control mechanisms. “Near cash” instruments such as food stamps are an alternative, but their administrative costs tend to be significantly higher than cash transfers, as are those for in-kind transfers.

- Conditional cash transfers (CCTs), which have additional administrative requirements as direct (unconditional) cash transfers but also require some sort of monitoring of education and or health conditionalities or both. As mentioned, Turkey introduced such a scheme, and it has been quite effective. FYR Macedonia is developing a CCT focused on youths (secondary school) and young infants (health for those 0–18 months). CCTs may need to adapt conditionalities for greater relevance, given the region’s human capital profile—for example, by focusing on secondary-school enrollment, attendance and graduation or early childhood development.
- Public works schemes, such as workfare and cash-for-work, could be introduced as crisis response mechanisms and might be especially relevant for countries facing an influx of returning migrant workers or a spike in unemployment. These programs can have lower net costs than direct transfer programs since they could improve key infrastructure. Self-targeting should ensure that the program benefits the poorest, by setting cash payments (workfare wages) lower than average wages. Programs can encourage female workers, particularly those entering the workforce temporarily to smooth household income, for example, by offering onsite child care and nearby employment.

CHAPTER 5

Prioritizing structural reform

Capital flows to transition (and developing) countries are likely to be considerably lower than before the crisis. That makes it important for rescue and stabilization, which have dominated the policy agenda since the global economic crisis hit the region, to give way to structural reforms and make the business environment attractive to investors.

Questions

- What are the most important bottlenecks to growth?
- What sectoral and institutional changes occurred in the ECA countries during the years of abundant capital flows?
- Have institutions that underpin the business environment by providing public goods converged to those in nontransition economies at similar per capita incomes two decades after the fall of the Berlin wall?

Findings

- The three years preceding the crisis (2005–08) saw the socialist legacy of high endowments of infrastructure and labor skills disappear. Concerns about those inputs constraining firm expansion became greater than in nontransition economies.
- The record of building market economy institutions has been mixed. Concerns about tax administration and customs regulation—traditionally higher than in nontransition economies—fell to the levels in nontransition economies. But concerns about the legal environment and corruption rose and are now higher than in nontransition economies.
- The structure of financing for fixed investment in transition economies has converged toward nontransition economy norms: the reliance on retained earnings has fallen and that on bank finance has risen. This occurred in parallel with a decline in the use of informal finance, reflecting a shift to the formal economy.

Rescue and stabilization have dominated the policy agenda since the global economic crisis struck the region. While the precise contours of the future are uncertain, capital flows to transition and developing countries will likely be considerably lower due to the reduced appetite for risk and will go to countries with the most attractive business environment. Indeed, evidence of

greater discrimination among countries is already in country spreads (annex 1.1). Policymakers thus need to reinvigorate structural reforms. They need to address constraints to growth that firms identified as the tightest on the eve of the crisis. But two decades since the fall of the Berlin wall, it is also instructive to ask whether the business environment in the transition economies still retains elements of the socialist legacy—or whether it has converged to that in nontransition economies at similar per capita incomes.

Interpreting business environment surveys

How the business environment in ECA's transition countries evolved during the years leading up to the crisis and how it compares with nontransition countries after two decades of transition are based on the responses of 10,000 firms in 28 transition countries to the fourth Business Environment and Enterprise Performance Survey (BEEPS) by the World Bank and EBRD, for the most part in 2008, and around 51,000 firms in 74 nontransition countries to the World Bank's Investment Climate Assessments over the last decade.¹ The other economies surveyed ranged from very poor countries with a GDP per capita of \$250 or less to major industrialized countries with a GDP per capita above \$15,000.

While the surveys provide a rich description of how managers perceive the costs of their business environment, their interpretation requires a conceptual framework. To illustrate the approach most simply, figure 5.1 measures GDP per capita on the horizontal axis. The vertical axis measures how costly firms in a country report the impact of inadequacies in elements of the business environment on their ability to operate and expand their business. Those elements include regulation, physical infrastructure, availability of skilled labor, macroeconomic conditions, and the rule of law, all of which resemble public goods. The level of the constraint is rated on a scale of 1 (not important) to 4 (severe). Since the supply of public goods is common to all firms in the economy, the firm's response on its severity is a measure of the cost imposed by the constraint on the operation and growth of its business.

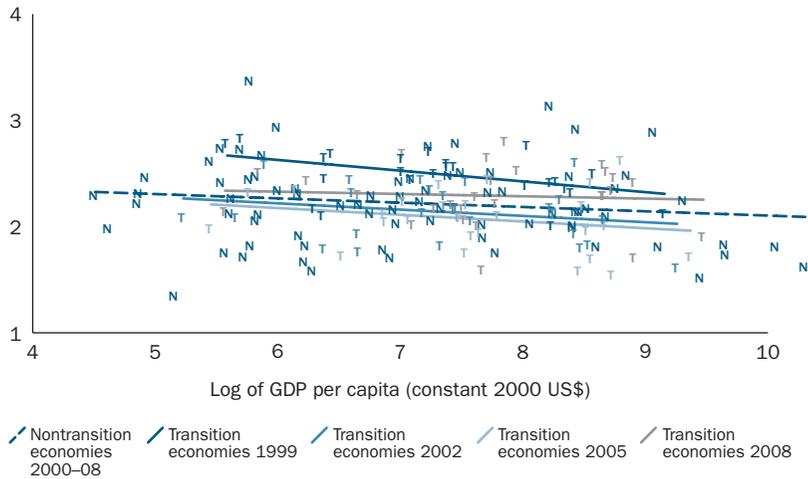
The reading on the vertical axis is the average of firm responses for the country. It can generally be assumed that countries provide more public goods as they get richer. But firms in richer countries are also more demanding of those public goods. If the provision of public goods as countries get richer outruns the greater demands made upon them, which is usually the case, the

1. For a full presentation of the analysis summarized here, see Carlin and Schaffer (2009) and Carlin, Schaffer, and Seabright (2009).

FIGURE 5.1

Average business environment constraint: transition economies in 1999, 2002, 2005, 2008, and nontransition economies

Constraint level, conditional means



cost of the business environment in a country as reported by firms will decline with per capita income, the situation in figure 5.1. But if the supply of public goods as countries get richer cannot keep pace with demand, the cost of the business environment will increase with per capita income

Table 5.1 presents the average rating of constraints for the transition countries covered in BEEPS 4 and comparable figures for earlier waves of the BEEPS surveys in 1999, 2002, and 2005 and for surveys of firms in non-transition economies.² The table reports two types of business indicators.

- The first is the response to the question asking managers to evaluate the importance of each business environment constraint for the operation and growth of the firm. Answers are scored from 1 (minor) to 4 (very severe). This is referred to below as a measure of the “level” of the constraint.

2. When comparisons are made between transition and nontransition economies, the data for non-transition economies refer to the pooled surveys (Investment Climate Surveys and a few BEEPS surveys of nontransition economies) conducted over 1999 to 2008. Whereas the same transition countries have been surveyed four times (1999, 2002, 2005, and 2008) and the evolution of constraints over time can be investigated, this is not possible for nontransition countries, which were typically only surveyed once. Although there were concerns that the data from BEEPS 4 might be contaminated by the early effects of the financial crisis, there is no evidence of this. While the average complaint level across all dimensions of the business environment rises in 2008 compared with 2005, it is close to the 1999–2005 average (table 5.1). However, the 2008 complaint level for problems relating to finance remains broadly similar to 2002 and 2005. This evidence from the finance question suggests that the responses from BEEPS 4 should be interpreted as “the eve of the financial crisis” rather than “early in the financial crisis.” In two of the ECA surveys (Albania and Croatia), some firms were surveyed in 2007.

TABLE 5.1

Levels and priorities of constraints on business in BEEPS 4 and other surveys

	Level of constraint (conditional means)					Priority of constraint (conditional means)				
	Nontransition economies 2000–08	BEEPS 1 1999	BEEPS 2 2002	BEEPS 3 2005	BEEPS 4 2008	Nontransition economies 2000–08	BEEPS 1 1999	BEEPS 2 2002	BEEPS 3 2005	BEEPS 4 2008
Average (6)	2.24	2.51	2.16	2.13	2.35					
Infrastructure	1.68	1.99	1.51	1.43	2.18	0.22	0.25	0.12	0.12	0.38
Telecoms	1.60		1.48	1.38	2.10	0.19		0.12	0.11	0.35
Electricity	2.38		1.67	1.58	2.51	0.45		0.20	0.18	0.49
Transport	1.94		1.45	1.44	2.01	0.30		0.13	0.12	0.31
Land access	1.80		1.51	1.57	2.05	0.24		0.15	0.17	0.32
Skills	2.22		1.91	1.97	2.54	0.39		0.30	0.32	0.50
Tax rates	2.70	3.55	2.80	2.78	2.96	0.59	0.91	0.71	0.70	0.69
Tax admin.	2.37	2.97	2.53	2.47	2.38	0.45	0.71	0.59	0.57	0.44
Finance	2.46	3.02	2.49	2.41	2.51	0.49	0.68	0.55	0.52	0.50
Labor regulation	2.01	1.84	1.73	1.87	1.91	0.29	0.19	0.19	0.25	0.24
Customs	1.83	2.00	1.99	1.85	1.82	0.25	0.28	0.33	0.28	0.24
Licenses	1.92	1.95	1.97	1.93	2.04	0.25	0.24	0.31	0.29	0.28
Legal	1.88	2.06	2.03	2.03	2.15	0.25	0.27	0.33	0.33	0.34
Corruption	2.48	2.42	2.20	2.10	2.53	0.47	0.41	0.39	0.36	0.51
Crime	2.18	2.31	1.85	1.72	2.27	0.36	0.35	0.23	0.19	0.38

- The second is a relative measure of the “priority” of a constraint, where the priority for a responding firm is defined as a value above the average of the firm’s answers for the six constraints common to BEEPS 4 and most of the decade’s surveys.

To compare countries, it is necessary to control for the fact that the samples of firms for different countries will vary by characteristics such as firm size, their sector, and the nature of ownership, whether domestic or foreign. For instance, if a country has a dominance of energy-intensive firms in the survey, the answers to electricity as an obstacle to doing business might be quite important—and more so than those from a country that lacks such economic sectors. To make the responses comparable, these differences are corrected for, and the results presented for a benchmark firm.

The ratings in table 5.1 are those of the benchmark firm, which is a firm in manufacturing employing 30 persons,³ privately owned with no state-owned

3. In the full set of all surveyed firms, median employment was 28 persons and mean log employment was 33 persons.

predecessor, with less than 10 percent foreign ownership, exporting less than 10 percent of its sales, and with no reported change in employment in the previous three years. These ratings for the benchmark firm are referred to as conditional means because they are corrected for sample composition. Table 5.1 reports conditional means for constraint levels and priorities for individual elements of the business environment as well as the average business environment.⁴ Figure 5.1 presents conditional means for the level measure of the business environment. Annex 5.2 discusses how the evaluations of the business environment change for firms that vary in different dimensions from the benchmark firm, and annex 5.3 present estimates of those variations (called “marginal effects”).

Overview of results

The survey evidence from 2008 reveals three important changes in the growth process as it impinged on the constraints facing existing businesses. First, the results show a dramatic turnaround from 2005, the year of the previous survey (BEEPS 3), in infrastructure and skilled labor constraints. The legacy of communism of high endowments of these inputs that characterized the first decade and a half of transition had disappeared by 2008. Second, strong economic growth appears to have increased the cost of weak market economy institutions, especially the legal environment and corruption. But other institutions of the market economy—such as tax administration and customs regulation, which have traditionally ranked high among the concerns in transition economies—are seen as less constraining for business. Third, in the context of appreciating real exchange rates and growth oriented toward nontradables during 2005–2008, the complaints of exporting firms, measured by the average across all aspects of the business environment, increase. The average constraint reported by exporters rises from below average in 1999 to well above the average for nonexporting firms—and in 2008 is well above the level reported by firms in nontransition economies.

The survey results thus provide a micro-based picture of important dimensions of the physical and institutional infrastructure during the phase of rapid growth. There are also some important variations according to a country’s level of development. Taking the business environment as a whole, the upper middle-income transition economies appear to experience a tightening of constraints in 2008. The evidence highlights emerging shortfalls of

4. To permit comparability with the earlier BEEPS surveys, the average constraint is defined using a relatively narrow set of six indicators: tax rates, tax administration, labor regulation, licenses, corruption, and crime.

investment in physical infrastructure, especially in the upper middle-income transition economies, and education, especially in the low-income and lower middle-income countries.⁵

In addition, despite improvements in some aspects of the institutional environment—as measured, for example, in the EBRD Transition Indicators⁶—firms report that the costs of weak institutions had risen since 2005. This may also have resulted from the period of fast growth, as firms and economies outgrew the capacity of institutions to provide the necessary public goods. This is especially evident in the lower middle-income group of transition economies for labor regulation and the legal system—and for both the low-income and lower middle-income groups for corruption. A pattern of growth fueled by large capital inflows, with increasing emphasis on nontradables, is also suggested by the growing complaints from exporters in the higher income transition economies.

The evidence is consistent with the hypothesis that strong private sector growth in transition economies before 2008 led firms to encounter capacity constraints in physical infrastructure and skilled labor for the first time since the transition began. It points to underinvestment in infrastructure and education over the transition. It is also consistent with the macroeconomic evidence presented in chapter 1 on rapidly increasing current account deficits, in some transition economies to extraordinarily high levels, and appreciating real exchange rates.⁷

The pattern of economic growth, especially in some upper middle-income countries in the years preceding the crisis, favored nontradable sectors. Exporting firms in the upper and lower middle-income groups of transition economies report higher costs of their business environment in 2008 than in earlier years and than in countries outside the transition. For the average business constraint measure, there is no tendency of exporting firms outside the transition to complain more than nonexporters.⁸ The biggest concern for exporters in the upper middle-income group of transition economies in 2008

5. The standard World Bank classification toward the beginning of the period under consideration—July 2005—is used. Slovenia is a high-income country. The upper middle-income countries are Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, the Russian Federation, and the Slovak Republic. The lower middle-income countries are Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, FYR Macedonia, Georgia, Kazakhstan, Kosovo, Montenegro, Serbia, and Ukraine. The low-income countries are the Kyrgyz Republic, Moldova, Tajikistan, and Uzbekistan.

6. EBRD 2008.

7. See, for example, IMF 2009a, chapter 2.

8. It is natural (and reassuring) to see that exporting firms in and outside transition countries complain more than nonexporters about customs regulations.

is infrastructure, especially electricity and access to land, where the effects are large on both the levels and the priority measures, though they also complain more than nonexporters about tax administration and labor regulation (levels measure only). In the lower middle-income group, exporters' heightened concerns are concentrated on corruption and in the low-income group on tax administration.

The 2008 surveys also provide evidence of the convergence of financing patterns for fixed investment in transition economies toward those characteristic of nontransition economies. In particular, reliance on bank finance, which was below that in nontransition economies in 1999, increases, and the gap is almost closed by 2008.

In summary, on the eve of the financial crisis, transition economies experienced a pattern of development in which some benefits inherited from the planning era had finally disappeared, while other unfavorable aspects of the legacy persist, in part those that required new market institutions. The evolution of institutional constraints is quite complex. In 2008, there is a sharp rise in the priority accorded to problems associated with corruption and crime. On the positive side, concerns about customs regulations and tax administration converge with those of the nontransition economies in 2008.

Growth bottlenecks

Physical infrastructure and skills

A striking finding in the 2008 survey is the increase in complaints about infrastructure and skilled labor. All the evidence is consistent with, or does not contradict, the hypothesis that higher reported constraints result from growth causing capacity constraints to be encountered or relative price effects, or both. The likely importance of domestic infrastructure rather than external price shocks, such as the increase in oil price in the years preceding the global crisis, is highlighted by the stronger correlation between power outages and electricity as a constraint in 2008 than in previous years in the transition economies. And unlike the transition economies, there is no increase in infrastructure complaints in 2008 in Turkey (which was also surveyed in 2008 as part of BEEPS 4), supporting the conclusion that this is a transition-specific phenomenon and not a reflection of world energy prices. Additional support comes from the fact that expanding firms complain more about electricity.⁹

9. The fact that higher complaints by expanding firms appear more strongly in the absolute than in the relative measures is probably explained by increased numbers of complaints at the lower end of the scale.

Whether measured by the level of complaints or by its priority among the set of business environment constraints, there is a clear upward shift in reported concerns—and thus the cost on the operation and growth of businesses—about infrastructure and skills in transition economies in 2008.¹⁰ This shift is from levels that were below those reported by nontransition economies from 1999–2008. The jump in 2008 puts most infrastructure complaints in the richer transition economies above their comparators, whereas in the poorer transition economies, the jump reduces the gap but still leaves them less constrained than the comparable nontransition economies. And while complaints about infrastructure generally decline as GDP per capita rises in nontransition countries (as seen by the downward sloping dotted lines in figures 5.2–5.4), this is less clearly the case in the transition economies.

In electricity and transport, the complaint levels rise from well below to close to or just above those in nontransition economies (figures 5.3 and 5.4). When the surveys are split into three country groups by income, complaints about electricity and transport in the upper middle-income transition economies in 2008 rise significantly above those in nontransition economies. And in the low and lower middle-income country groups, complaints rise to the level of comparable nontransition economies in electricity but remain lower in transport.

Infrastructure bottlenecks affect firms adjusting their level of employment more than firms not adjusting. The results in table 5.1 and figure 5.1 refer to the benchmark firm that has seen no change in employment in the previous three years and is therefore a “nonadjusting” firm. Moving away from the benchmark and looking instead at firms that are identical, except that they have adjusted employment over the previous three years, reveals that complaints about electricity rise more in expanding firms in the poorest transition countries on both the levels and the priority measures. In transport, there are sharp increases in the reported costs of constraints on both measures from both expanding and contracting firms relative to nonadjusting firms in the second lowest income group, and there is evidence of a similar effect for expanding firms in the lowest income group.¹¹ There is some indication

10. Complaints about infrastructure in 1999 were higher in nontransition economies than in transition economies because the legacy effects of the infrastructure endowments were not apparent until the phase of transition known as “disorganization”, the disruption of the organizational arrangements governing production and trade under central planning, was over. For a discussion of disorganization, see Blanchard (1997).

11. The second and third columns of annex table 5.3.4 indicate the change in the severity of a business constraint for expanding and contracting firms relative to the benchmark (nonadjusting) firm in transition economies.

FIGURE 5.2

Infrastructure composite bottlenecks, 1999–2008

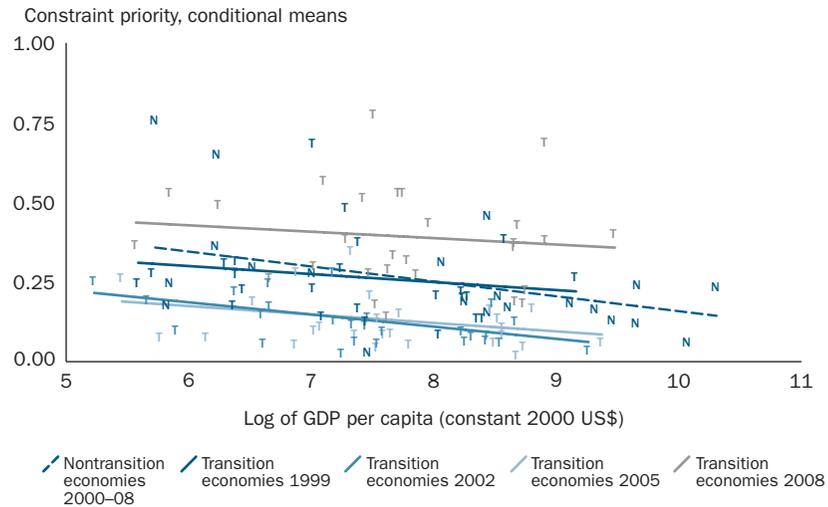
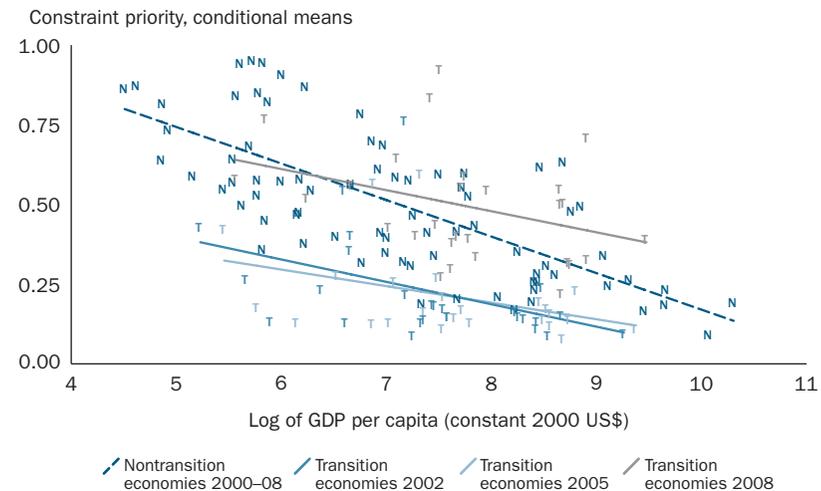


FIGURE 5.3

Infrastructure bottlenecks—electricity, 1999–2008



that the weight of the increased complaints about electricity is concentrated in manufacturing. Problems with transport affect service firms for the first time, taking their levels and priority scores above those for manufacturing firms.

A similar pattern to electricity and transport appears for access to land (figure 5.5). Service firms go from reporting land access as less problematic than manufacturing firms to reporting as more problematic in all country

FIGURE 5.4

Infrastructure bottlenecks—transport, 1999–2008

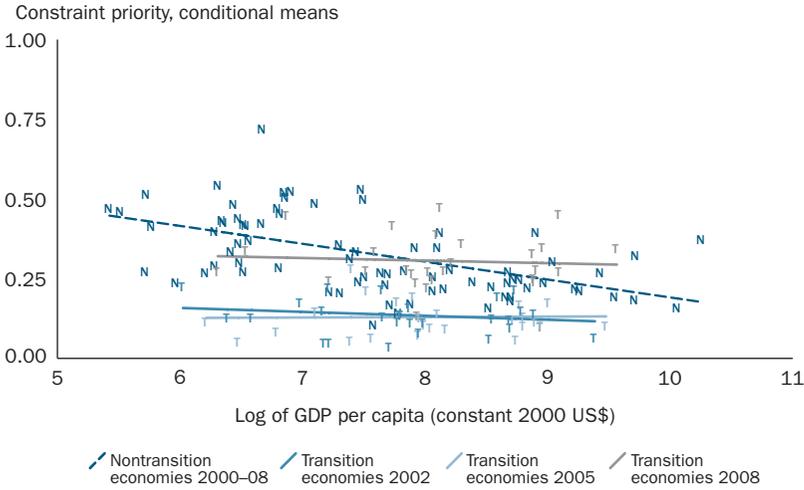
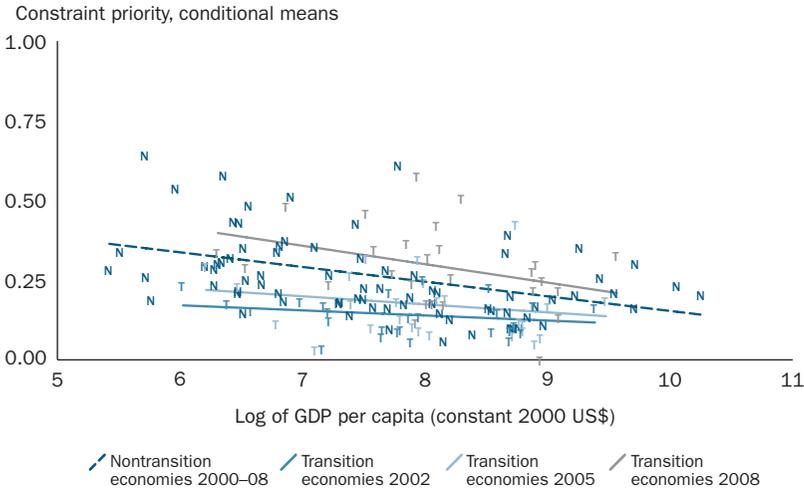


FIGURE 5.5

Access to land, 1999–2008



groups. Exporters in the richer transition economies report a big increase in problems with access to land.

Some country variations in infrastructure in 2008 are worth noting. Against the background of higher reported infrastructure constraints across transition economies as a whole, and controlling for income and firm characteristics, Czech firms report a bigger increase for electricity and transport

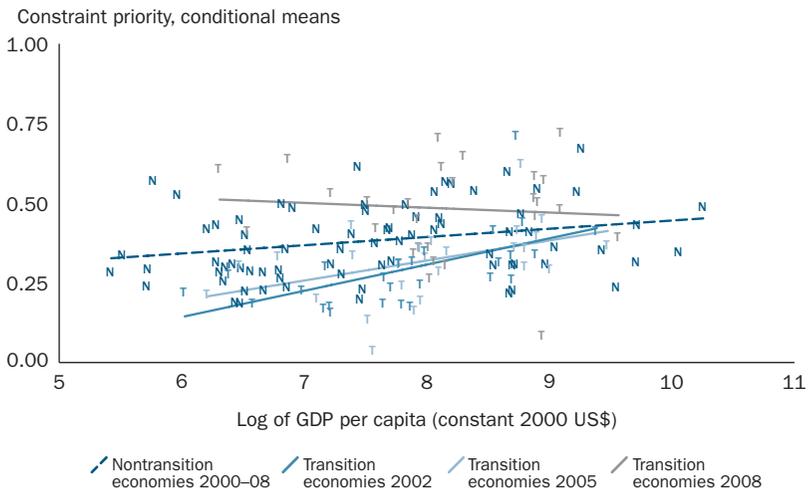
in 2008. Among the upper middle-income country groups, Hungary is at the opposite end of the spectrum for transport and access to land, with low levels of complaints. In the Western Balkans, infrastructure problems appear greater in Albania and Kosovo. In the CIS, problems with electricity increased relatively more in the Kyrgyz Republic; Azerbaijan was at the opposite end of the spectrum, with lower reported problems with electricity and transport in 2008. Access to land was more problematic across the region in 2008, especially in Azerbaijan, Belarus, Moldova, the Russian Federation, and Ukraine.

Complaints in both the levels and priority measures about skilled labor rise in 2008, continuing the increases across successive BEEPS surveys and taking the levels in 2008 above those recorded in nontransition economies (figure 5.6). Both expanding and contracting firms' complaints about skill shortages rise in 2008—especially in the richer transition economies. Unlike infrastructure, however, labor skills provide an example where complaints increase much more sharply with per capita income before 2008 in the transition economies than the nontransition economies. This implies that the demands for labor skills outrun their provision in the richer transition countries.

Across all surveys and all elements of the business environment, firms in Estonia typically record lower constraints than firms elsewhere, controlling for income and firm characteristics. But in 2008, Estonian firms record increases in skills constraints above the increases reported by firms in other transition economies. Hungary is at the other end of the scale, reporting that access to skilled labor was less problematic than in 2005. In the CIS, Belarus

FIGURE 5.6

Skills bottlenecks, 1999–2008



and to somewhat less extent Kazakhstan and the Russian Federation, as well as Moldova and Tajikistan, encountered more severe problems with skilled labor than did other countries.

The correlation between firm characteristics and the pattern of complaints supports the idea that capacity constraints in infrastructure and labor skills were increasing the costs of the external environment to firms. Higher complaint levels are reported by expanding firms for electricity and by expanding and contracting firms for land access and skills, and skill shortages increase with the size of firm. Differences between rural and urban areas are consistent with this picture: in the poorer transition economies, higher growth revealed physical infrastructure and skills constraints as more concentrated in the faster growing urban areas. In the richer transition economies, by contrast, the physical infrastructure problems appear to have hit fairly uniformly across rural and urban areas, but skill shortages switched from being more problematic in rural areas to being more problematic in urban areas in 2008.

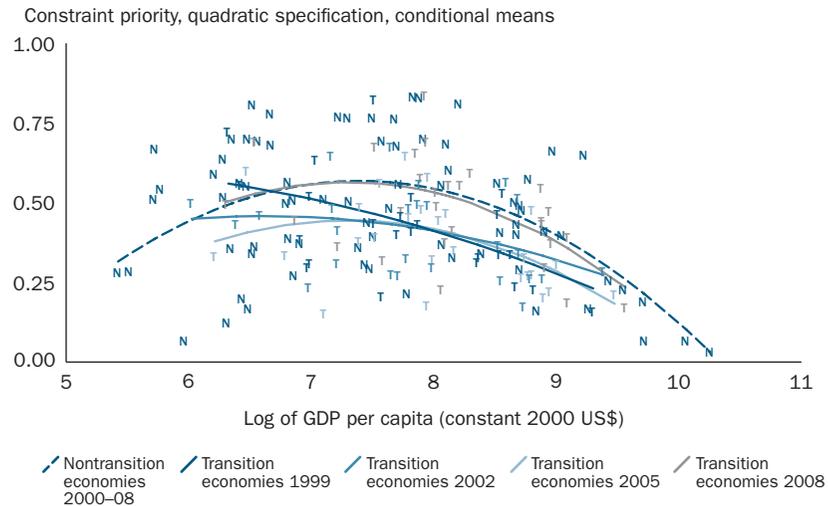
Market institutions

A characteristic of the transition economies in earlier surveys is the higher level of concern about the legal system than in nontransition economies (table 5.1). The concern rises with income in the transition economies, indicating that the demands on the legal system by the richer transition economies outruns its provision, whereas the relationship is flat outside transition. Concern about this important dimension of market institutions continues to rise in the 2008 survey. The dynamic in the aggregate picture is driven by the lower middle-income transition countries, where the priority accorded to the legal system as a concern was much lower in 1999 than outside transition: it increases and is above the level in nontransition countries in each subsequent survey. This is consistent with the idea that progress in transition raises the sensitivity of firms to the costs of a poorly functioning legal system. Such costs continued to rise during the rapid growth up to 2008.

The falling concern from 1999 to 2005 for corruption and crime are reversed in 2008 (table 5.1). The cost of corruption is evaluated at its highest in the middle of the income distribution outside transition (figure 5.7). While such an inverse U-shaped relationship was less marked in the transition countries before 2008, it is clearly visible in 2008, and the rise in levels makes it virtually indistinguishable from the relationship for the nontransition countries. Moving away from the benchmark, a look at variation by firm characteristics reveals that the increased concern about corruption is concentrated in new private firms. Concern about corruption among foreign-owned firms falls in 2008

FIGURE 5.7

Corruption, priority measure, 1999–2008



in the richer transition economies. The survey also shows an increase in the prevalence of bribes in 2008. The tendency for complaints about corruption to rise is more marked in the Russian Federation and Ukraine than elsewhere.

Concern about crime shows a pattern similar to that for corruption (figure 5.8). The level of concern was lower than in nontransition economies and falling until 2005. There is a sharp reversal in 2008, however, with the concern rising back above that in 1999 and higher than that reported for nontransition economies.

Tax administration and customs regulations emerged as transition economy problems in all the surveys until 2008, where on both the levels and the priority measures their importance falls into line with nontransition economies at similar incomes (figures 5.9 and 5.10). The 2008 survey also records a fall in concern with customs regulations. Whereas convergence on this measure to the nontransition norm had already taken place for the richer transition economies by 2005, it is recorded only in 2008 for the two lower income groups. The most marked change is in the lower middle-income group, where the gap with nontransition economies disappears in both the levels and priority measures.

Although overall concerns with labor regulation remain broadly unchanged in transition economies from 2005 to 2008, interesting developments for different types of firms suggest convergence toward market economy norms. In the richer transition countries, contracting firms record higher complaints

FIGURE 5.8

Crime/theft/disorder: priority measure, 1999–2008

Constraint priority, conditional means

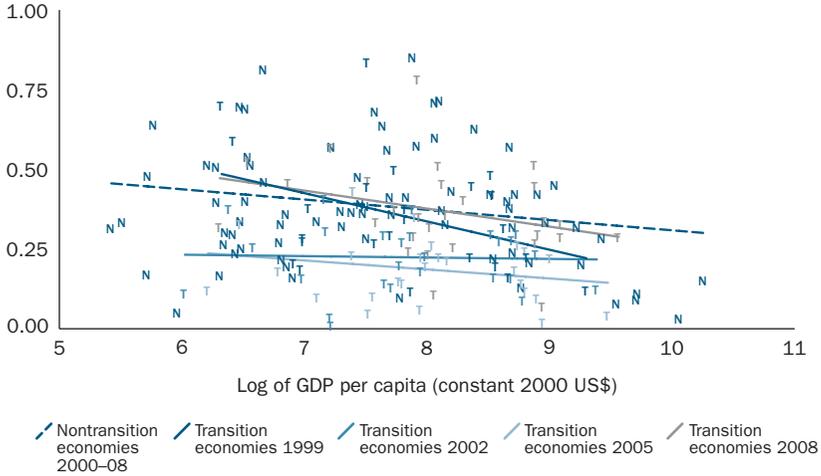
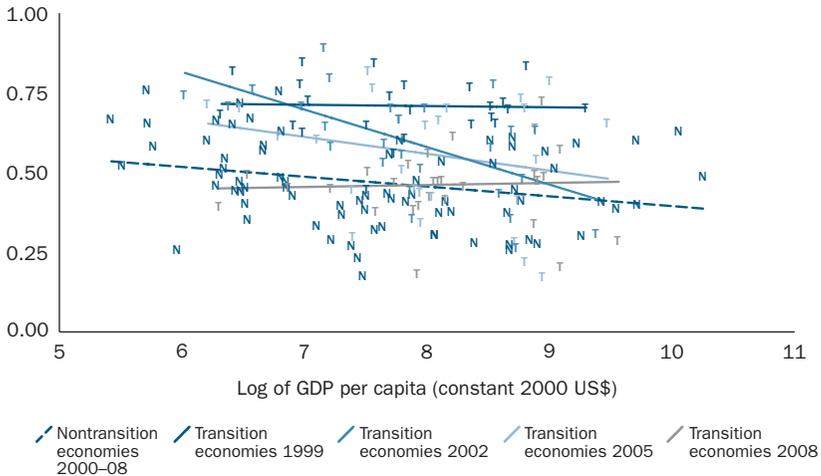


FIGURE 5.9

Tax administration: priority measure, 1999–2008

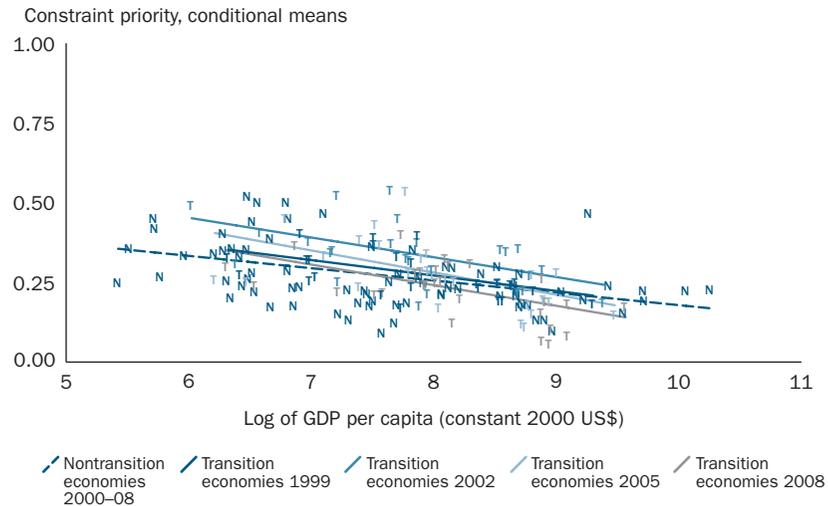
Constraint priority, conditional means



about labor regulation than nonadjusting firms on the levels measure in each survey but, for the first time in 2008 in these countries, concern with labor regulation increases for contracting firms on the relative measure, bringing them into line with nontransition economies. Labor regulation emerges as a concern for firms adjusting employment in 2008 for the first time in the lower middle income group, consistent with countries in this income group outside

FIGURE 5.10

Customs regulations: priority measure, 1999–2008



transition and there is some evidence of this effect for contracting firms in the poorest transition countries.

Financing

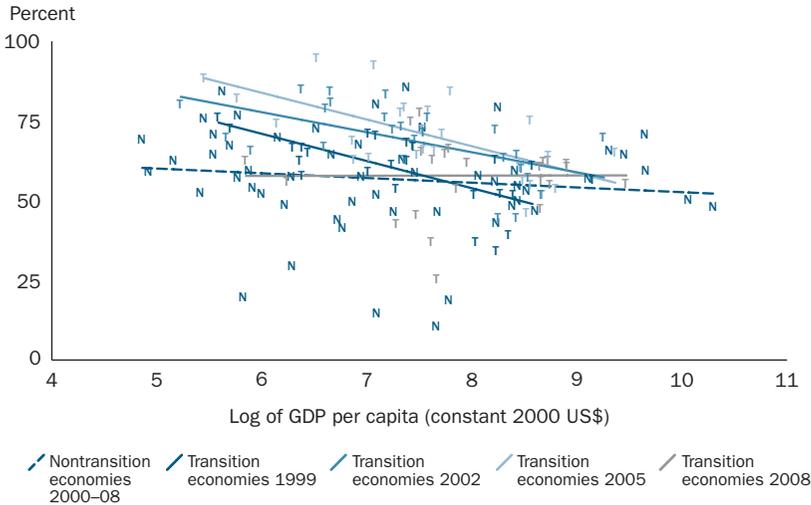
Many richer transition economies benefited from financial deepening in the years before the financial crisis, as foreign-owned banks took over a majority of the domestic banking system. This is reflected in interesting ways in the survey data from 2008. There is a clear convergence to the nontransition benchmark in the way fixed investment is financed in transition countries. For example, firms in transition economies rely more on internal funds for financing fixed investments than do firms outside transition, but the gap has been falling over time.

Parallel with the fall in dependence on internal finance is that in the use of informal finance. In 1999, transition firms relied as much or more on informal finance as firms outside, but by 2008, reflecting the shift to the formal economy, firms in transition were less reliant on informal financing than the nontransition benchmark. Replacing internal sources and informal finance is an increase in bank financing of investment. Whereas firms in transition relied considerably less on bank finance in 1999 than firms outside, the difference had almost disappeared in 2008.

Outside the transition, there is in effect no relationship between the reliance on internal funds and income per capita—the line is flat (figure 5.11). For

FIGURE 5.11

Financing expansion—internal finance



Note: The figure represents the percentage of financing for investment in fixed assets by the average firm that comes from internal funds.

transition economies in 1999, 2002, and 2005, there is a clear negative relationship: firms in the poorer transition economies are more reliant on internally generated funds for financing investment. This negative relationship disappears in the latest BEEPS round. Apparently low-income and middle-income transition economies have recently become less reliant on internal financing.

Finance is different from the public good elements of the business environment. Access to finance and its terms are firm-specific, making the interpretation of the results more difficult. For example, moving away from the benchmark reveals strong firm-size effects associated with the finance constraints: as firm size rises, the relative priority of finance (as compared with the other business environment elements) declines. But this does not necessarily mean that poor access to finance hampers the growth of small firms. Firms may be small because they are poor prospects, and prudent banks choose not to lend to them.

Unlike the earlier surveys, the 2008 survey asks only one question about finance as a constraint on business, covering both cost and access. As noted, concern with finance in levels terms remains unchanged in 2008 at the level of nontransition economies and falls on the relative measure, leaving it similar to the nontransition score (figures 5.12 and 5.13).

In the upper and lower middle-income groups of transition countries, the priority accorded to finance falls to about the level outside the transition. But

FIGURE 5.12

Financing expansion—external financing, constraint level

Constraint level, conditional means

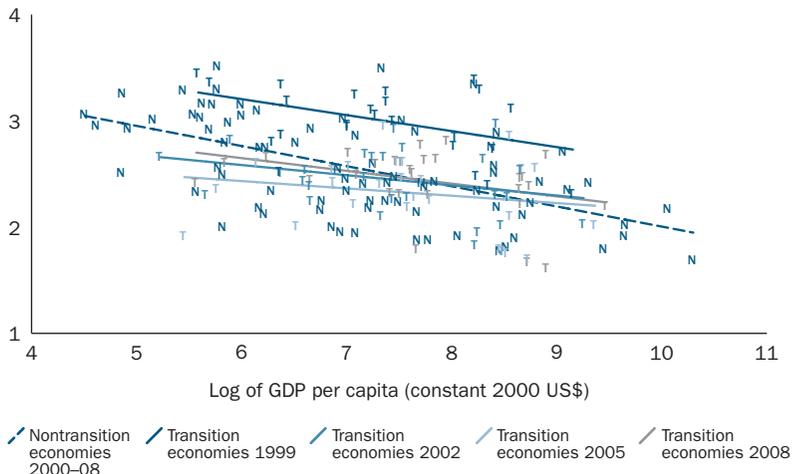
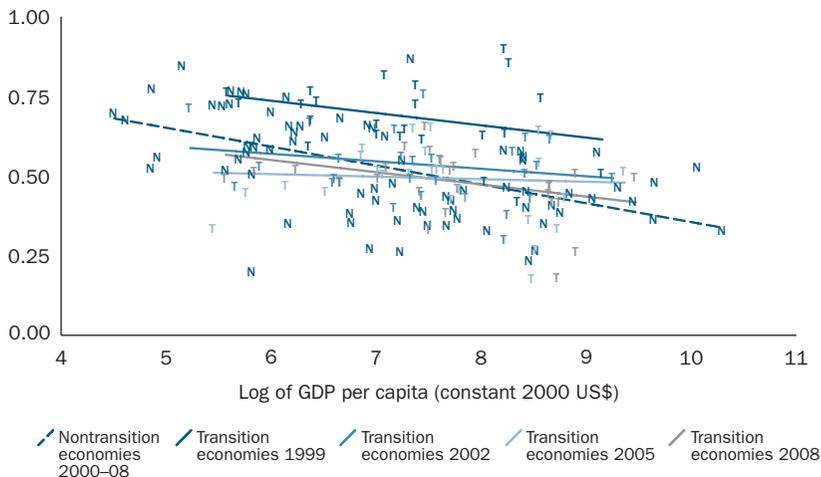


FIGURE 5.13

Financing expansion—external financing, constraint priority

Constraint priority, conditional means



in the poorest transition group, financial constraints in 2008 are markedly lower than in the comparable nontransition economy group. There are three other interesting findings away from the benchmark:

- Size of firm effects almost completely disappears. Unlike the nontransition economies and in earlier surveys, larger firms in transition economies in 2008 do not report significantly lower financial constraints than smaller firms.

- For the first time, state-owned firms complain more than new private firms (on both the absolute and the relative measures).
- Hungary's relatively low reported constraint in 2008 on both the absolute and relative measures indicates that finance was not a major problem in that country.

The evidence from the financing patterns and from the evaluation of the finance constraint is consistent. Credit was more freely available and on more favorable terms in 2008 than in earlier years, even for smaller firms and especially for those in the private sector. This increased reliance on bank finance for investment is closer to the levels in nontransition economies. While the convergence of financing patterns in transition toward nontransition economy norms may have reflected the specificities of the credit boom, the long-run maturation of the financial system away from informal finance and the reduced reliance of low-income and lower middle-income countries on internal financing are part of a continuing trend seen in earlier surveys.¹² But firms in transition newly dependent on bank credit may have become more vulnerable to financing constraints, at least until the global financial system returns to normal.

The persistence of legacy in shaping the business environment

What do differences in the business environment in transition and non-transition economies owe to the legacy of central planning? The broad changes in economic structure as economies develop are well documented.¹³ As an economy grows and aggregate income rises, low-productivity labor moves from agriculture into industry, with the share of employment in services changing relatively little. Later, the share of employment in industry stabilizes, and in the richest economies, it starts to fall as the share of employment in services rises. The explanation is simple: productivity growth in manufacturing outstrips the demand for manufactured goods and workers move into labor-intensive services.

The way central planning changed the structure of economies can be summarized as follows.

- Central planners accelerated the process of moving labor out of agriculture and into industry as part of forced industrialization.

12. Mitra, Muravyev, and Schaffer 2009.

13. The pioneering work here was by Simon Kuznets and then by Hollis Chenery and his colleagues at the World Bank (Chenery et al 1986). See Rowthorn and Ramaswamy 1998 for a theoretical analysis and Raiser et al. (2003) for an application to transition economies.

- Planners emphasized industry over services, so employment in market-oriented services (trade, finance) was relatively low.¹⁴
- The many inefficiencies of central planning introduced a wedge between the degree of industrialization and aggregate productivity: the level of income in planned economies was lower than in market economies at a similar level of industrialization.

The institutions of a market economy were either suppressed (in economies that had them when planning was introduced) or never developed (in economies that industrialized under central planning).

The sectoral structure of transition economies has converged to that of market economies at similar per capita incomes (box 5.1). How has the business environment evolved in the poorer transition countries that underwent forced industrialization under central planning and in the richer transition countries that had a stronger collective memory of market institutions?

Industrialization in poorer transition countries

The superior endowment of infrastructure and labor skills, as reflected in the business environment of transition economies before the 2008 survey, was the product of the legacy of forced industrialization. Figure 5.14 plots the reported cost of the infrastructure constraint against GDP per capita (proxying the level of development) on the horizontal axis in the left-hand panel and the share of nonagricultural employment in industry and services (proxying the level of industrialization) on the horizontal axis in the right hand panel. The results for the transition economies pool the BEEPS 1–3 surveys, for 1999, 2002, and 2005. This is because, compared with BEEPS 4, the first three rounds have a wider range of questions and allow more nuanced analysis. The results show that transition economies had better infrastructure (lower reported costs of constraints) at a given level of industrialization than did nontransition economies. This is consistent with the idea that overindustrialization involved levels of development of physical infrastructure that were “excessive” when measured against a market economy benchmark.

Similarly, figure 5.15 plots the reported cost of access to skilled labor constraint against GDP per capita and the level of industrialization in transition and nontransition economies. It shows skills shortages to be less problematic in transition: this is consistent with the persistence of the effects of forced industrialization in easing this constraint. Both panels of Figure 5.15 show that the upward-sloping income profile for the skills constraint in transition

14. See, for example, Raiser et al. 2003.

BOX 5.1

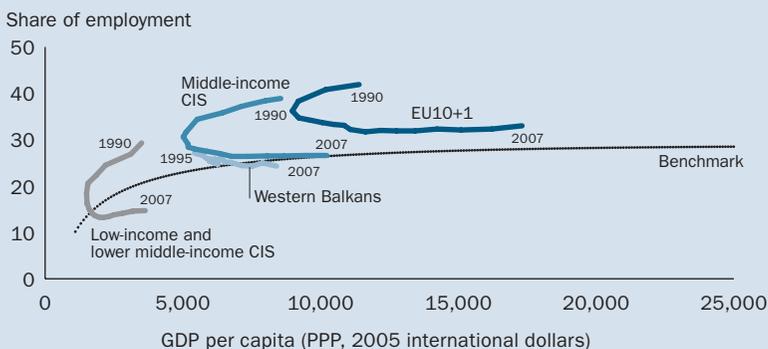
Transition economies converge in structure to market economies

Overindustrialization has been substantially corrected everywhere in the region, but the share of employment in industry is short of the market economy benchmark in the low-income and lower middle-income CIS countries yet continues to exceed the benchmark in the EU10+1 (box figure 1). The share of employment in industry fell during the period of income contraction and rose when income began to increase. Overall, it fell by between 5 percentage points in the Western Balkans and 15 percentage points in the low-income and lower middle-income CIS during 1990–2007. In 2007, the share of industrial employment in the EU10+1 exceeded the market economy benchmark by 5 percentage points, whereas the massive deindustrialization in the low-income and lower middle-income CIS countries left them with a share of employment that fell short of the market economy benchmark by some 5 percentage points. The middle-income CIS and the Western Balkans were virtually at the market economy benchmark.

The share of employment in agriculture behaved quite differently across the subregions but had mostly reached the market economy benchmark by 2007 (box figure 2). It shrank in the EU10+1 and more modestly so in the middle-income CIS. But it rose sharply by nearly 15 percentage points in the low-income and lower middle-income CIS, much of the rise occurring during the severe transition recession, when subsistence agriculture was a safety net. It began to fall toward the market economy benchmark in the recovery. Agriculture in the Western Balkans followed a pattern similar to the low-income and lower middle-income CIS, tracing the benchmark as income first went down and the share of employment in agriculture went up and then subsequently as income rose and the employment share went down.

BOX FIGURE 1

Benchmarking industrial employment in Central and Eastern Europe and the former Soviet Union against market economies: evolution over the transition



Note: For data reasons, Western Balkans comprises Albania, FYR Macedonia, and undivided Serbia and Montenegro.

Source: Based on background work by Mark Schaffer.

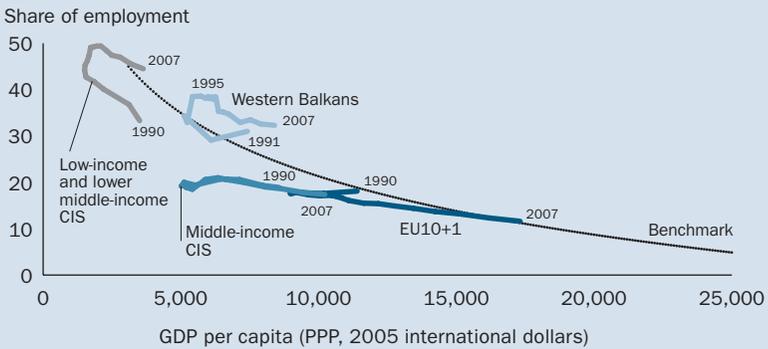
(continued)

Transition economies converge in structure to market economies

With the exception of a slight fall in the early years of transition in the low-income and lower middle-income CIS, the share of employment in services increased toward its market economy benchmark everywhere (box figure 3). It increased by nearly 15 percentage points between 1990 and 2007 in the EU10+1, the middle-income CIS, and the Western Balkans, with the increase driven by market services.

BOX FIGURE 2

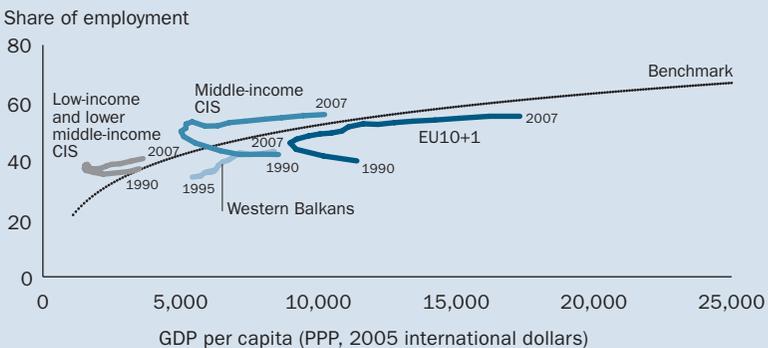
Benchmarking agricultural employment in Central and Eastern Europe and the former Soviet Union against market economies: evolution over the transition



Note: For data reasons, Western Balkans comprises Albania, FYR Macedonia, and undivided Serbia and Montenegro.

BOX FIGURE 3

Benchmarking service sector employment in Central and Eastern Europe and the former Soviet Union against market economies: evolution over the transition



Note: For data reasons, Western Balkans comprises Albania, FYR Macedonia, and undivided Serbia and Montenegro.

economies implies that the priority measure comes together for high-income transition and nontransition economies. Together, figures 5.14 and 5.15 make it clear that the poorer transition economies benefited from the infrastructure and education investments that accompanied forced industrialization. As has been noted, this advantage had eroded in relation to nontransition economies by 2008.

FIGURE 5.14

Physical infrastructure: (composite) priority measure, 1999–2005

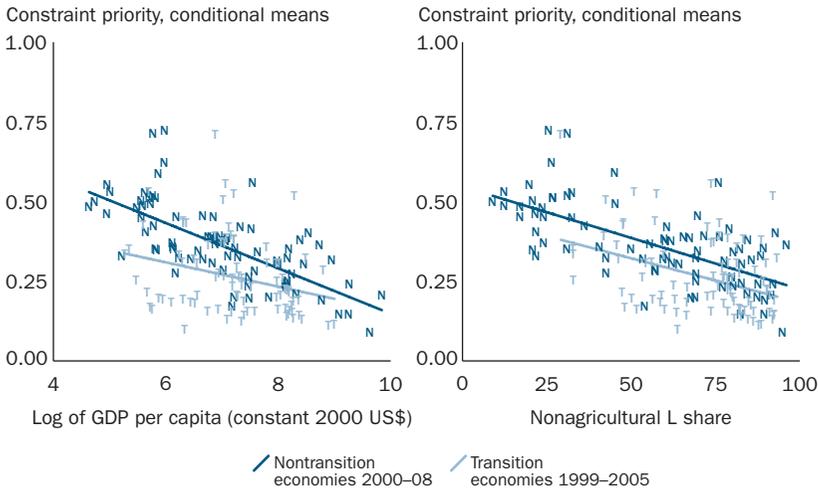
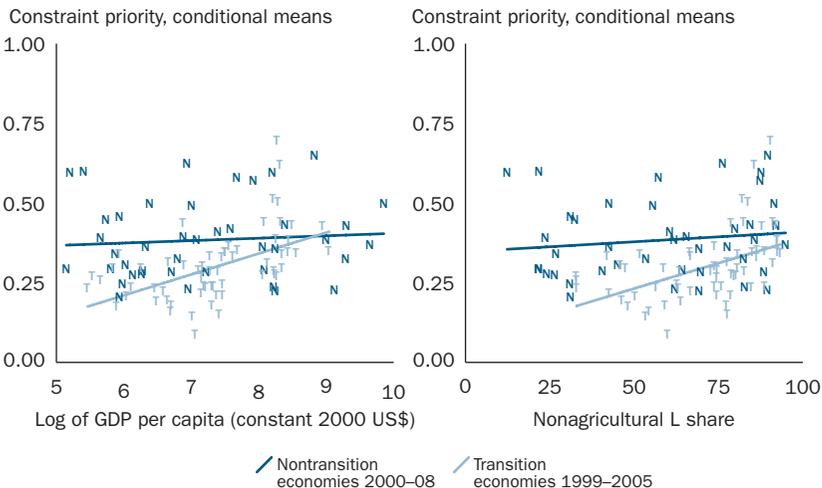


FIGURE 5.15

Skills: priority measure, 1999–2005



Collective memory of market institutions in richer transition countries

Did transition economies with a stronger collective memory of market institutions show more sensitivity to weaknesses in market-related institutions? For the legal environment, there is no relationship with GDP per capita in the non-transition benchmark in the levels measure and a negative relationship in the priority measure. But in transition countries, for the priority measure, concern about the legal dimension rises with GDP per capita and concern is higher in transition than outside at high levels of income (figure 5.16). This supports the idea that the costs of inadequacies in the legal system are felt more by firms in the more advanced transition countries. And the sensitivity to those costs rose further in 2008 but, as noted earlier, this has been driven by the lower middle income transition countries as they have progressed in transition.

In both transition and nontransition economies, the reported costs of labor regulation rise with the level of income and with industrialization. Firms in transition report lower constraints, especially at low levels of income (figure 5.17). Complaints about labor regulation remained broadly unchanged between 2005 and 2008. Concerns about tax administration and customs regulations do not show a rising profile with income per capita or level of industrialization in the transition economies, but corruption displays a nonlinear relationship, as in figure 5.7.

Summary statistics for the comparison between the transition economies averaged over 1999–2005 and the nontransition economies are in box 5.2. The

FIGURE 5.16

Legal environment: priority measure, 1999–2005

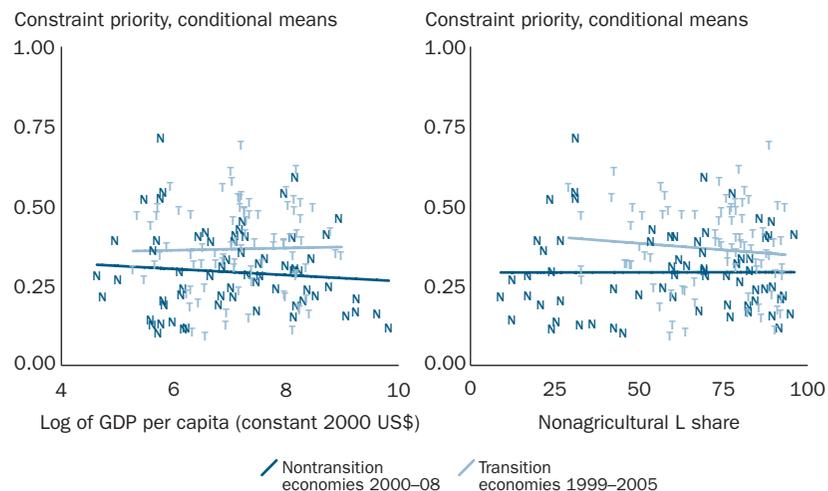
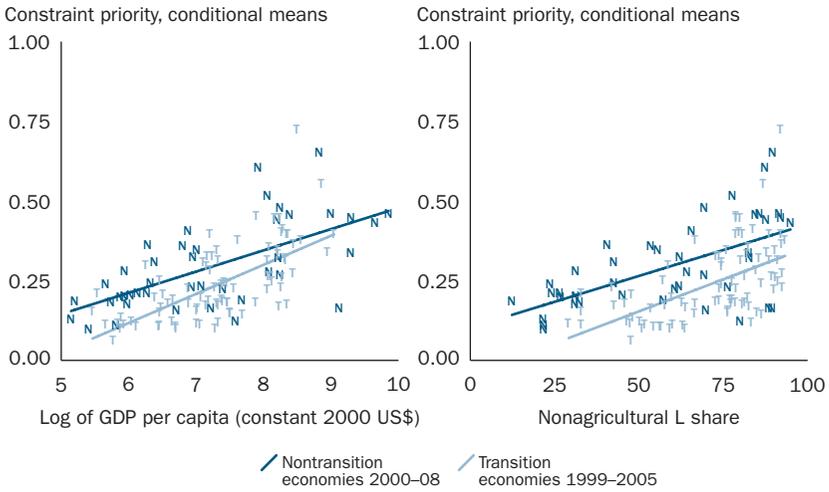


FIGURE 5.17

Labor regulation: priority measure, 1999–2005



legacy of central planning is also to be found in the characteristics of firms: the size distribution was skewed toward very large firms, the service sector was underdeveloped and there was little private or foreign ownership. How this affects the comparison of the business environment between transition and nontransition economies is presented in annex 5.2.

BOX 5.2

Comparing constraints in transition (BEEPS 1999–2005) and nontransition (ICA) countries

Box table 1 shows both mean and conditional mean measures, the latter correcting for differences in the composition of the samples as explained in main body of the text. The differences between unconditional and conditional means are small for the transition economies but somewhat larger for the nontransition economies; as a result, the conditional mean average measure of the business environment in the first row of the table is about 5 percent lower. As the table also shows, the mean level for the average of the business environment constraints is similar in transition and nontransition countries. And the top five ranked constraints (on both BEEPS and ICAs) are also similar in each group of countries: they are tax rates, macroeconomic environment, cost of finance, and policy uncertainty. Elements of physical infrastructure and access to land are low-ranked constraints throughout, with telecoms viewed as least problematic. The box table presents the means for the levels and priority measures of business environment constraints separately for nontransition and transition economies.

BOX TABLE 1

Constraints on business—transition and nontransition economies

	Constraint level				Constraint priority			
	Mean		Conditional mean		Mean		Conditional mean	
	Non-transition economies 2000–08	Transition economies 1999–2005						
Average (9) ^a	2.36	2.32	2.25	2.31				
Infrastructure (composite)	2.03	1.64	1.96	1.69	0.28	0.16	0.26	0.18
Telecoms	1.74	1.48	1.64	1.46	0.21	0.13	0.18	0.13
Electricity	2.43	1.62	2.38	1.71	0.40	0.18	0.38	0.22
Transport	2.01	1.56	1.94	1.56	0.28	0.16	0.26	0.16
Land access	1.84	1.62	1.80	1.63	0.23	0.18	0.24	0.18
Skills	2.31	1.96	2.21	1.95	0.41	0.30	0.38	0.30
Tax rates	2.74	2.91	2.69	2.94	0.57	0.71	0.56	0.72
Tax administration	2.46	2.58	2.37	2.59	0.49	0.58	0.46	0.59
Finance (composite)	2.53	2.54	2.46	2.59	0.51	0.54	0.49	0.56
Access to finance	2.44	2.36	2.39	2.43	0.45	0.44	0.44	0.48
Cost of finance	2.61	2.69	2.52	2.73	0.53	0.58	0.50	0.60

(continued)

BOX 5.2 (CONTINUED)

Comparing constraints in transition (BEEPS 1999–2005) and nontransition (ICA) countries

	Constraint level				Constraint priority			
	Mean		Conditional mean		Mean		Conditional mean	
	Non-transition economies 2000–08	Transition economies 1999–2005						
Labor regulation	2.08	1.85	2.00	1.86	0.35	0.23	0.32	0.24
Customs	2.03	2.01	1.83	1.96	0.33	0.33	0.26	0.32
Licenses	2.02	1.99	1.91	1.95	0.25	0.30	0.22	0.28
Legal	1.95	2.11	1.88	2.07	0.28	0.33	0.26	0.33
Corruption	2.57	2.27	2.47	2.25	0.47	0.41	0.43	0.39
Crime	2.25	2.04	2.17	1.97	0.36	0.29	0.35	0.26
Policy uncertainty	2.60	2.76	2.46	2.74	0.52	0.64	0.47	0.63
Macro-economic instability	2.75	2.69	2.65	2.68	0.57	0.59	0.53	0.59
Power outages (y/n)	0.66	0.47	0.64	0.46				
Water supply outages (y/n)	0.22	0.18	0.20	0.17				
Bribes (y/n)	0.34	0.45	0.29	0.43				
Unreported sales (y/n)	0.21	0.16	0.23	0.16				
Don't report all sales (y/n)	0.50	0.46	0.53	0.46				
Tax gifts (y/n)	0.23	0.41	0.22	0.44				
Contract gifts (y/n)	0.31	0.28	0.28	0.26				
Security costs (y/n)	0.68	0.62	0.61	0.55				
Crime losses (y/n)	0.22	0.24	0.18	0.20				

a. The average of the business environment is taken over tax rates, tax administration, labor regulation, licenses, financial access, policy uncertainty, corruption, crime, and anti-competitive practices.

Note: Annex tables 5.3.1 and 5.3.2 summarize the statistical tests of a linear relationship between income per capita and constraint levels and constraint priorities (box table 1). The tests reported are of the significance of the slope of the income/constraint relationship, and of difference between the averages constraints for transition and nontransition economies at low and high levels of GDP per capita. There is a statistically significant (at the 5 percent level) linear relationship for the nontransition benchmark in either constraint level of constraint priority for the following dimensions of the business environment: physical infrastructure, land access, tax rates and administration, customs regulation, labor regulation, finance access and cost, crime and policy uncertainty. There are significant relationships with income in the transition but not outside for labor skills, licensing, and macro-economic instability. There is also a significant nonlinear relationship for corruption.

Source: BEEPS surveys for 1999, 2002, and 2005.

(continued)

BOX 5.2 (CONTINUED)

Comparing constraints in transition (BEEPS 1999–2005) and nontransition (ICA) countries

There are interesting differences between nontransition and transition countries. For example, electricity is viewed as much more problematic in nontransition countries. More generally, the scores across the infrastructure constraints and skills are much lower in transition economies: these elements of the business environment clearly are considerably less problematic for the transition countries.

Corruption is in the top five constraints on the levels measures in nontransition countries but below this in transition countries. By contrast, transition countries complain more about the legal environment and attach a higher priority to it than do nontransition countries. For example, controlling for firm characteristics, the priority measure indicates that about one-third of firms in transition view the legal system as a constraint more severe than the average, as compared with one-quarter of firms in nontransition countries.

Quantitative measures of the experience of firms regarding their environment tend to confirm the information in the evaluative questions (the lower panel of the box table). For example, consistent with the lower level of complaints about physical infrastructure in transition economies, power and water outages are much less prevalent. The prevalence of bribes is higher in transition economies. Underreporting to the tax authorities is somewhat more common outside than in the transition, and the opposite is so for gifts to tax officials.

Annex 5.1

Conceptual framework

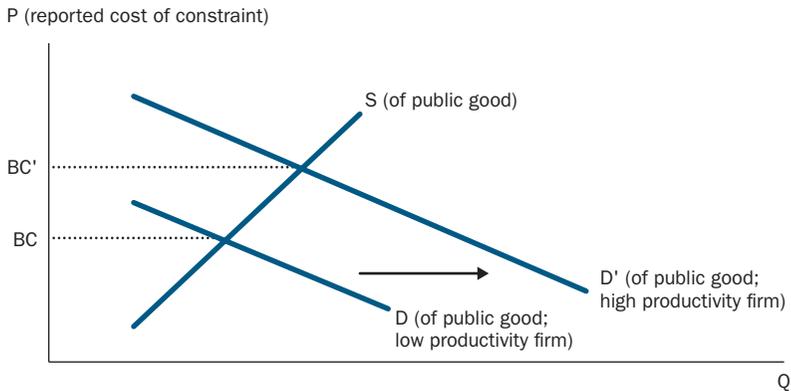
Comparable firm-level surveys in a large number of countries around the world can provide a rich description of how managers perceive the costs of their business environment. Interpreting the survey results requires a conceptual framework. The responses of firms to questions about the quality of the business environment could be interpreted as estimations by managers of the cost imposed on the firm by inadequacies of an aspect of the business environment such as regulation, physical infrastructure, availability of skilled labor, macroeconomic conditions and the rule of law—all of which resemble public goods.¹⁵ The response of managers to questions about the impact of such elements on their ability to operate and to expand their business can, in these cases, be interpreted as referring to the cost of the constraint to the firm, where the supply of the public good is common to all firms in the economy. Firms may take actions to mitigate the costs imposed by their environment, such as installing their own generator if the electricity grid is unreliable. But the faulty grid imposes a cost, and this should be reflected in the evaluation of the burden—in this instance—of “electricity” as compared with other dimensions of the business environment.

Although different firms may face effectively the same supply of the public good, how they report the importance of this part of their environment will depend on the characteristics of the firm. For example, rapidly growing, highly productive firms would likely suffer higher costs from a poor quality electricity supply infrastructure than stagnating or downsizing firms that are operating with significant spare capacity. Annex figure 5.1.1 illustrates this: firm output or productivity Q is on the horizontal axis, and the reported cost of the constraint P is on the vertical axis. D' represents the demand of a high productivity firm for one of these public goods, and D the demand of a low productivity firm. The upward sloping S curve is the same for all firms in the country. It captures the notion that as firms become more productive, the supply of the public good becomes less adequate and the shortfalls more costly to the firm.

Analysis of the responses by firms to a survey from an individual country can shed light on these constraints. In effect, they identify the factors that move the demand curve from D to D' along the common S curve. Measures of firm growth and productivity are naturally of particular interest. Thus if

15. The analysis uses the approach described in Carlin, Schaffer, and Seabright (2007), who refer to these costs as shadow prices.

ANNEX FIGURE 5.1.1

Demand and supply of public goods—one country, two firms

expanding firms provide higher rankings for a particular public good-type element, this would be consistent with the idea that the weakness of the business environment along that dimension may be a constraint on firm growth. Firm size is also of particular interest, because policy attention is often focused on the special needs of small firms. If firms of different size perceive different relative costs of elements of the business environment, the relevant aspect of the business environment would seem a likely candidate for special policy measures directed at small firms.

The business environment: mostly a public good?

This analysis works because all the firms in the country share the same business environment, even though they have different needs and thus experience differences in the costs imposed on them by that common environment. In other words, they all face the same S curve (annex figure 5.1.1). The within-country variation identifies the impact of business constraints on firm growth by moving the D curve. Within-country variation from surveys conducted in different countries can be combined to obtain more efficient estimates of these impacts.¹⁶ And by splitting the surveys between transition economies and nontransition economies, it is possible to compare how growing firms (or small and medium enterprises, or whatever the focus of interest) in transition economies and nontransition economies differ in their evaluations of the impacts of business environment constraints.

16. This can be done using fixed-effects estimation techniques. Details are in Carlin and Schaffer (2009).

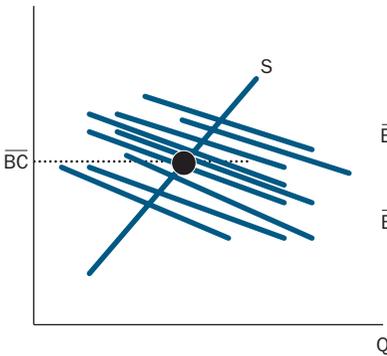
The quality of the business environment also varies systematically across countries. Richer countries typically have better developed economic institutions, physical infrastructure, and human capital. Indeed, they are richer in large part because of the higher quality of their business environments. By allowing the construction of aggregate indicators of the business environment, these surveys can also help understand the relationship between economic development and the provision of public goods that comprise the business environment, and how the transition and the inheritance of decades of central planning change this relationship (annex figure 5.1.2).

Annex figure 5.1.2 represents the results of a business environment survey in one country and in two. The individual downward sloping lines represent the demand curves of individual firms for one element of the business environment. The average constraint reported by firms in the country is denoted by \overline{BC} . Panel B of the same figure shows how the data from many surveys can be combined to derive a relationship between the cost of a business environment constraint and the level of income or productivity in two different countries. The S_{poor} line in Panel B represents an element of the business environment in a low income country. The demand curves in a high-income country will be shifted to the right, but typically so will the provision of the public

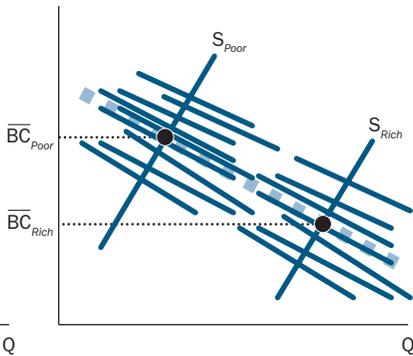
ANNEX FIGURE 5.1.2

Demand and supply of public goods

Panel A: One country, many firms
P (reported cost of constraint)



Panel B: Two countries, many firms
P (reported cost of constraint)



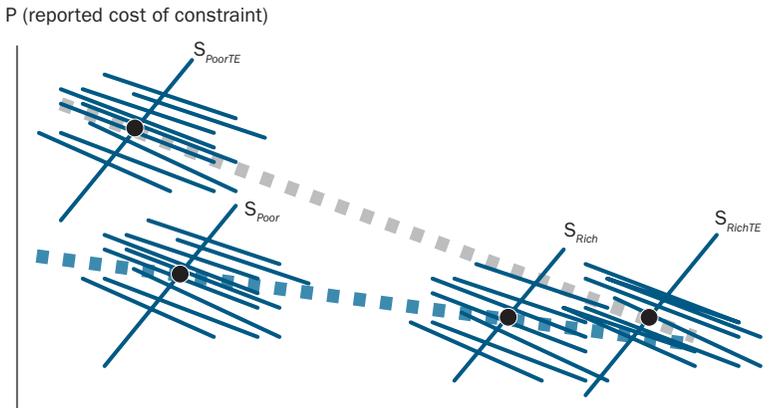
good as represented by S_{Rich} . Indeed, firms in high-income countries make more demands of the electricity grid, but the quality of the electricity supply is also higher in these countries.

Panel B also presents the constraint-income locus, sloped downwards; in the electricity example, this implies that the provision of this aspect of the economic infrastructure in high-income countries more than compensates for the greater demands firms in these countries place on it. It is the relationship shown as a dotted blue line that appears in figure 5.1 in the chapter. But in other cases the locus could be flat or upward sloping; an example of the latter discussed in the chapter is labor market regulation.

This framework is readily extended to comparisons of transition and non-transition economies. Annex figure 5.1.3 illustrates a case where there is, on average, poorer provision of an aspect of the business environment in transition economies (gray) than in nontransition economies (blue), but the gap is declining as income rises and disappears entirely at high incomes. How the constraint-income locus in transition countries varies systematically from what is observed in market economies can reveal much about both the lasting inheritance of central planning and the progress of transition economies in building market economies.

ANNEX FIGURE 5.1.3

Two transition economies, two nontransition economies (and many firms)



Annex 5.2

Moving away from the benchmark: firm characteristics and constraints

Transition entailed the large-scale reallocation of resources from old to new enterprises, the creation of new patterns of ownership, and a major sectoral redistribution of activities. The survey data can identify how firm characteristics are related to the reported constraints on growth, how these compare with nontransition economies, and how they have changed over time in transition. The focus here is on firm size, the comparison between firms adjusting employment levels and those that do not, sector, ownership, and exporter status. The marginal effects as a result of deviating from the benchmark appear in annex tables 5.3.3 and 5.3.4. The results here and in the tables refer to the transition economies over the first three rounds of the BEEPS, for 1999–2005.

Firm size

A number of firm-size effects are common to transition and nontransition economies: the increasing importance of labor regulation, skills, customs, and the legal system and, until 2005, the declining importance of the finance constraints as firm size rises (annex tables 5.3.3 and 5.3.4).

Firms expanding and contracting employment

The survey asks managers whether their current employment level is too low, about right or too high. Other things equal, firms content with their existing employment level are likely to report lower costs of constraints than firms that need to adjust to achieve their desired size. This is consistent with the finding that where expanding or contracting firms place different weights on the constraints than nonadjusting firms, it is almost always a higher ranking. In interpreting the results for adjusting firms, note that a much smaller proportion of firms in transition report being satisfied with their current employment level (45 percent) than do those outside transition (60 percent). Moreover, a substantially higher proportion of expanding firms in transition than those outside report that their employment level is still too low. This reflects the immaturity of the firm size distribution in transition.

Adjusting firms report a higher priority to problems with accessing skilled labor in both transition and non transition economies. Along other dimensions of the business environment the patterns are different inside and outside transition (annex tables 5.3.3 and 5.3.4).

In both transition and nontransition economies, firms adjusting their levels of employment complain more about finance than do nonadjusting firms.

This is an example of the need to interpret the data carefully: access to finance and its cost are likely to reflect the quality of the firm (as well as the quality and resources of the banking system). Since firms with stable employment in transition are more likely to report that their size is suboptimal than those outside transition, the fact that stable and expanding firms report less concern about access to finance than contracting firms suggests that finance is being allocated more efficiently rather than less. The complaints of contracting firms may well reflect that they do not have good projects to finance. In the case of finance, as mentioned in the chapter, the level of complaints cannot be interpreted as a signal of policy priority.

Sectoral effects

Sectoral effects are in line with expectations.¹⁷ In both transition and non-transition economies, service sector firms place less importance on infrastructure, finance, labor regulation, and customs constraints. In addition, in transition, they are less concerned with access to skilled labor than are manufacturing firms. A pattern that also holds in both sets of countries is the greater relative priority to licensing by firms in construction than those in manufacturing. This accords with the higher reported relevance of bribes in construction.

Ownership

In transition economies, privatized and state firms generally evaluate the business environment as less constraining than do new private firms. Both privatized and state firms in transition economies rank tax administration, customs, and corruption as less problematic than do new private sector firms, and separately rate a range of constraints as significantly less constraining than the new private sector benchmark. The only exception is infrastructure, which state-owned firms find more constraining than either new private or privatized firms.¹⁸

Foreign-owned and exporting firms

Foreign-owned firms in transition report much lower concerns with access to and cost of finance than domestically owned firms and greater relative concern

17. The standard errors associated with estimated coefficients for the sectoral effects in the non-transition economies are much larger than in the transition economies, reflecting a stronger representation of nonmanufacturing firms in the transition economy sample.

18. There are not enough state-owned and privatized firms in the nontransition economy sample to be able to estimate ownership effects with any precision.

about customs regulation (annex table 5.3.4). In transition economies, unlike in nontransition economies, foreign firms do not complain more about physical infrastructure (which was less problematic in transition until recently) but attach greater importance to macroeconomic constraints. Exporting firms in transition share the higher priority of foreign-owned firms in relation to customs, licensing, and macro constraints. Exporting firms outside transition attach a higher priority to labor regulation and the legal environment than nonexporters.

Annex 5.3 Tables

ANNEX TABLE 5.3.1

Country conditional means of constraint levels and quantitative indicators vs. income per capita

	Slope of income/ constraint locus			Conditional means evaluated at:					
	Non- transition economy slope	Transition economy slope	Diff sig?	Low income			High income		
				Non- transition economy	Transition economy	Difference	Non- transition economy	Transition economy	Difference
Average (9)	-0.120*	-0.074		2.46	2.46	-0.002	2.02	2.19	0.171
Infrastructure (composite)	-0.201*	-0.105*	Yes	2.37	1.94	-0.431*	1.63	1.55	-0.078
Telecoms	-0.092*	-0.052		1.88	1.57	-0.312*	1.54	1.37	-0.165
Electricity	-0.336*	-0.159*	Yes	3.01	2.05	-0.956*	1.76	1.46	-0.303*
Transport	-0.149*	-0.038	Yes	2.23	1.63	-0.602*	1.68	1.49	-0.191*
Land access	-0.113*	-0.066*		2.03	1.75	-0.281*	1.61	1.51	-0.107
Skills	0.029	0.100*		2.13	1.74	-0.389*	2.24	2.11	-0.129
Tax rates	-0.079*	-0.067		2.79	3.09	0.304	2.49	2.84	0.349
Tax administration	-0.079*	-0.156*		2.45	2.89	0.432*	2.16	2.31	0.148
Finance (composite)	-0.189*	-0.113		2.84	2.81	-0.029	2.14	2.39	0.253
Access to finance	-0.169*	-0.124*		2.73	2.65	-0.072	2.10	2.20	0.096
Cost of finance	-0.202*	-0.095		2.98	2.95	-0.030	2.23	2.59	0.363*
Labor regulation	0.113*	0.177*		1.74	1.50	-0.234*	2.15	2.16	0.004
Customs	-0.104*	-0.163*		2.03	2.28	0.253*	1.65	1.68	0.034
Licenses	0.000	-0.120*	Yes	1.89	2.15	0.258*	1.89	1.71	-0.185
Legal	-0.027	0.010		1.89	2.06	0.167	1.79	2.10	0.305
Corruption	-0.092	-0.180*		2.59	2.62	0.029	2.25	1.95	-0.299
Crime	-0.084	-0.105		2.35	2.21	-0.138	2.04	1.82	-0.216
Policy uncertainty	-0.123*	-0.097		2.68	2.92	0.244	2.22	2.56	0.340
Macro- economic instability	-0.071	-0.190*		2.77	3.02	0.253	2.51	2.32	-0.185
Power outages (y/n)	-0.099*	-0.080*		0.86	0.63	-0.228*	0.49	0.33	-0.159*
Water supply outages (y/n)	-0.061*	-0.062*		0.40	0.30	-0.108*	0.18	0.06	-0.114*

(continued)

ANNEX TABLE 5.3.1 (CONTINUED)

Country conditional means of constraint levels and quantitative indicators vs. income per capita

	Slope of income/ constraint locus			Conditional means evaluated at:					
	Non- transition economy slope	Transition economy slope	Diff sig?	Low income			High income		
				Non- transition economy	Transition economy	Difference	Non- transition economy	Transition economy	Difference
Bribes (y/n)	-0.082*	-0.073*		0.44	0.68	0.239*	0.14	0.41	0.272*
Don't report all sales (y/n)	-0.046*	-0.043*		0.63	0.59	-0.040	0.46	0.43	-0.031
Tax gifts (y/n)	-0.039*	-0.133*	Yes	0.25	0.69	0.440*	0.11	0.20	0.092
Contract gifts (y/n)	-0.057*	0.008	Yes	0.41	0.37	-0.042	0.20	0.40	0.198*
Security costs (y/n)	-0.015	-0.027*		0.70	0.71	0.008	0.64	0.61	-0.037
Crime losses (y/n)	-0.075*	0.052*	Yes	0.51	0.12	-0.391*	0.23	0.31	0.081

* indicates statistical significance at the 5% level; tests adjusted for clustering on country.

Note: Column 3 reports the statistical significance of the nontransition economy and transition economy slope coefficients at the 5 percent level. Low income is defined as log GDP per capita = 5.6, about \$270; high income is defined as log GDP per capita = 9.3, about \$11,000.

ANNEX TABLE 5.3.2

Country conditional means of constraint priorities versus income per capita

	Slope of income/ constraint locus			Conditional means evaluated at:					
	Non- transition economy slope	Transition economy slope	Diff sig?	Low income			High income		
				Non- transition economy	Transition economy	Difference	Non- transition economy	Transition economy	Difference
Average (9)	-0.120*	-0.074		2.46	2.46	-0.002	2.02	2.19	0.171
Infrastructure (composite)	-0.201*	-0.105*	Yes	2.37	1.94	-0.431*	1.63	1.55	-0.078
Telecoms	-0.092*	-0.052		1.88	1.57	-0.312*	1.54	1.37	-0.165
Electricity	-0.336*	-0.159*	Yes	3.01	2.05	-0.956*	1.76	1.46	-0.303*
Transport	-0.149*	-0.038	Yes	2.23	1.63	-0.602*	1.68	1.49	-0.191*
Land access	-0.113*	-0.066*		2.03	1.75	-0.281*	1.61	1.51	-0.107
Skills	0.029	0.100*		2.13	1.74	-0.389*	2.24	2.11	-0.129
Tax rates	-0.079*	-0.067		2.79	3.09	0.304	2.49	2.84	0.349
Tax administration	-0.079*	-0.156*		2.45	2.89	0.432*	2.16	2.31	0.148
Finance (composite)	-0.189*	-0.113		2.84	2.81	-0.029	2.14	2.39	0.253

ANNEX TABLE 5.3.2 (CONTINUED)

Country conditional means of constraint priorities versus income per capita

	Slope of income/ constraint locus			Conditional means evaluated at:					
	Non- transition economy slope	Transition economy slope	Diff sig?	Low income			High income		
				Non- transition economy	Transition economy	Difference	Non- transition economy	Transition economy	Difference
Infrastructure (composite)	-0.060*	-0.034*		0.40	0.26	-0.135*	0.18	0.14	-0.038
Telecoms	-0.044*	-0.018		0.28	0.17	-0.112*	0.12	0.10	-0.019
Electricity	-0.105*	-0.055*	Yes	0.60	0.34	-0.264*	0.21	0.13	-0.075*
Transport	-0.034*	-0.011		0.34	0.18	-0.155*	0.21	0.14	-0.069*
Land access	-0.034*	-0.017		0.32	0.21	-0.111*	0.20	0.15	-0.049
Skills	0.007	0.059*	Yes	0.37	0.18	-0.185*	0.39	0.40	0.009
Tax rates	-0.021	-0.019		0.60	0.77	0.172*	0.52	0.70	0.182*
Tax administration	-0.027	-0.056*		0.49	0.69	0.197*	0.40	0.49	0.090
Finance (composite)	-0.046*	-0.033*		0.61	0.63	0.021	0.44	0.51	0.069
Access to finance	-0.041*	-0.036*		0.53	0.55	0.012	0.38	0.41	0.032
Cost of finance	-0.053*	-0.024		0.64	0.67	0.023	0.45	0.58	0.129*
Labor regulation	0.060*	0.082*		0.18	0.08	-0.104*	0.41	0.38	-0.022
Customs	-0.033*	-0.053*		0.34	0.42	0.076*	0.22	0.22	0.002
Licenses	0.020	-0.031	Yes	0.18	0.33	0.153*	0.25	0.22	-0.034
Legal	-0.031*	0.032	Yes	0.33	0.26	-0.066	0.22	0.38	0.167*
Corruption	-0.092*	-0.055*		0.60	0.51	-0.090	0.26	0.31	0.044
Crime	-0.057*	-0.025		0.48	0.32	-0.154	0.27	0.23	-0.033
Policy uncertainty	-0.027	-0.015		0.52	0.65	0.138*	0.42	0.60	0.182*
Macro- economic Instability	-0.023	-0.061*		0.59	0.71	0.118	0.50	0.48	-0.022

* indicates statistical significance at the 5% level; tests adjusted for clustering on country.

Note: Column reports the statistical significance of the nontransition economy and transition economy slope coefficients at the 5 percent level. Low income is defined as log GDP per capita = 5.6, about \$270; high income is defined as log GDP per capita = 9.3, about \$11,000.

ANNEX TABLE 5.3.3

Priority and quantitative measures of business environment constraints for nontransition economies

	Size (log L)	Expand- ing	Con- tracting	Services	Con- struction	Privatized	State- owned	Foreign	Exporter
Infrastructure (composite)	0.010*	0.005	-0.010	-0.016	-0.003	0.010	0.017	0.039*	0.028*
Telecoms	0.006*	0.017*	-0.010	0.049	0.030	0.017	0.007	0.032*	0.023
Electricity	0.005	0.006	-0.008	-0.038*	-0.020	-0.003	-0.005	0.014	0.018
Transport	0.015*	0.019*	0.003	-0.056*	-0.026*	-0.009	0.001	0.030*	0.030*
Land access	-0.002	0.024*	0.003	-0.065*	0.001	-0.058*	-0.068	-0.023	-0.027*
Skills	0.021*	0.054*	0.045*	-0.020	0.008	0.032	0.028	-0.031*	0.000
Tax rates	-0.001	0.025*	0.034*	-0.009	-0.008	-0.021	-0.098*	-0.021	-0.007
Tax administration	0.001	0.012	0.027*	0.009	0.035*	-0.042*	-0.077*	0.023	0.030*
Finance (composite)	-0.021*	0.054*	0.076*	-0.050	0.017	0.040	0.020	-0.118*	0.011
Access to finance	-0.025*	0.060*	0.072*	-0.067*	-0.002	0.025	-0.006	-0.114*	0.007
Cost of finance	-0.009*	0.047*	0.071*	-0.030	0.007	0.014	0.008	-0.099*	0.007
Labor regulation	0.030*	0.006	0.040*	-0.029*	0.009	0.040	0.028	0.009	0.024*
Customs	0.028*	0.034*	0.019*	-0.033*	-0.079*	-0.047	-0.041	0.098*	0.115*
Licenses	0.010*	0.038*	0.014	0.049	0.014	-0.030	-0.046*	0.012	0.001
Legal	0.015*	0.020	0.038*	0.002	0.008	0.015	-0.041	-0.006	0.029*
Corruption	0.001	0.035*	0.024*	0.029	0.049*	-0.005	-0.046	0.007	0.008
Crime	0.002	0.003	-0.013	0.060*	0.023	-0.006	-0.036	0.000	-0.014
Policy uncertainty	0.014*	0.042*	0.065*	0.002	0.000	0.048	-0.053	0.011	0.010
Macro- economic instability	0.011*	0.039*	0.063*	0.004	-0.027	0.044	-0.053	-0.011	0.038*
Power outages (y/n)	0.007	0.034*	0.022*	-0.048*	-0.097*	-0.047*	-0.020	-0.001	0.002
Water supply outages (y/n)	-0.007*	0.014*	0.002	-0.008	-0.010	-0.026	-0.013	-0.004	-0.006
Bribes (y/n)	0.005	0.047*	0.066*	0.013	0.084*	-0.026	-0.103	-0.014	0.011
Don't report all sales (y/n)	-0.034*	0.023*	0.006	-0.040	0.006	-0.046	-0.127*	-0.106*	-0.028
Tax gifts (y/n)	0.004	0.027*	0.031*	-0.015	0.036	-0.028	-0.047	-0.031*	-0.002
Contract gifts (y/n)	-0.006	0.033*	0.044*	0.024	0.038	0.003	0.014	-0.022	-0.023*
Security costs (y/n)	0.055*	0.025*	0.032*	0.057*	0.021	0.012	-0.022	0.015	0.024*
Crime losses (y/n)	0.028*	0.022*	0.024*	0.048*	0.076*	-0.009	-0.030	-0.005	-0.019

* indicates statistical significance at the 5% level; tests adjusted for clustering on country.

Note: Coefficients are marginal effects relative to the omitted category, except for size (log employment), which is an elasticity.

ANNEX TABLE 5.3.4

Priority and quantitative measures of business environment constraints for transition economies

	Size (log L)	Expand- ing	Con- tracting	Services	Con- struction	Privatized	State- owned	Foreign	Exporter
Infrastructure (composite)	-0.005*	0.002	-0.014	-0.029*	-0.042*	0.000	0.036*	0.006	-0.011
Telecoms	-0.010*	0.004	-0.012	-0.007	-0.019	0.006	0.029*	0.016	0.005
Electricity	-0.005*	0.002	-0.012	-0.049*	-0.072*	-0.008	0.027*	-0.002	-0.017
Transport	0.002	0.011	-0.017	-0.017	-0.017*	-0.017	-0.006	0.014	0.021*
Land Access	0.006*	0.026*	-0.007	-0.016	0.040*	-0.046*	-0.028	0.011	-0.007
Skills	0.024*	0.049*	0.034*	-0.046*	-0.018	-0.018	0.015	0.017	0.004
Tax rates	-0.001	0.008	0.028*	-0.020	0.013	-0.001	-0.095*	-0.017	-0.008
Tax administration	-0.002	0.015	0.008	-0.015	0.021	-0.031*	-0.075*	0.009	0.028*
Finance (composite)	-0.019*	0.023*	0.053*	-0.076*	-0.024	0.002	0.015	-0.113*	0.018
Access to finance	-0.020*	0.008	0.027	-0.069*	-0.010	-0.017	0.018	-0.105*	0.028*
Cost of finance	-0.007*	0.023*	0.053*	-0.060*	-0.019	0.016	-0.035*	-0.086*	0.009
Labor regulation	0.023*	0.016	0.006	-0.031*	-0.016	-0.028*	-0.012	0.015	0.013
Customs	0.018*	0.030*	0.006	-0.028*	-0.088*	-0.062*	-0.134*	0.111*	0.144*
Licenses	0.006*	0.023*	0.015	0.005	0.029	-0.024	-0.103*	0.034*	0.028*
Legal	0.018*	0.000	0.022*	-0.003	0.016	-0.022	-0.014	0.015	0.016
Corruption	0.000	0.026*	0.032*	0.002	0.048*	-0.038*	-0.081*	0.010	0.014
Crime	-0.003	0.007	0.006	0.055*	0.024*	0.003	0.004	-0.038*	-0.033*
Policy uncertainty	0.007	0.007	0.040*	-0.009	-0.015	-0.003	-0.022	0.011	0.030*
Macro- economic instability	0.003	0.005	0.024*	-0.021	-0.029	-0.012	-0.043*	0.032*	0.059*
Power outages (y/n)	-0.005	0.058*	0.054*	-0.015	-0.097*	-0.043*	-0.060*	-0.024	-0.009
Water supply outages (y/n)	-0.003	0.032*	0.034*	0.017	-0.018	-0.028*	-0.029*	-0.014	-0.012
Bribes (y/n)	0.002	0.046*	0.032*	0.020	0.105*	-0.052*	-0.201*	-0.021*	0.031*
Don't report all sales (y/n)	-0.032*	0.068*	0.031*	-0.004	0.030	-0.065*	-0.158*	-0.080*	0.002
Tax gifts (y/n)	-0.004	0.031*	0.011	-0.002	0.018	-0.069*	-0.181*	-0.029	0.008
Contract gifts (y/n)	0.003	0.038*	0.034*	0.000	0.163*	-0.062*	-0.149*	-0.013	0.017
Security costs (y/n)	0.065*	0.044*	0.058*	0.043*	0.016	0.035*	-0.006	0.036*	0.028*
Crime losses (y/n)	0.044*	0.023*	0.055*	0.057*	0.105*	-0.026*	-0.023	-0.044*	-0.039*

* indicates statistical significance at the 5% level; tests adjusted for clustering on country.

Note: Coefficients are marginal effects relative to the omitted category, except for size (log employment), which is an elasticity.

CHAPTER 6

The day after

ECA's transition countries were well endowed with public infrastructure and workers' education and skills, but these were increasingly perceived by firms as bottlenecks to growth during the boom years 2005–2008. The economic downturn has temporarily released these bottlenecks, but they will become a priority once recovery begins.

Questions

- What factors could facilitate greater private participation in electricity?
- What education and labor skills may have to be strengthened in some ECA countries?

Findings

- Key to releasing bottlenecks in electricity is improving the environment for private sector involvement. This requires improving financial viability, facilitating change in the power market structure, and introducing credible regulation.
- Also important is maximizing the benefits from regional energy trading, both in the Western Balkans and in Central Asia.
- Young students in ECA do well on international tests. Improving compulsory education will require better incentives for teachers and greater control by schools over staffing decisions.
- Specializing too young (vocational and technical colleges in lieu of general secondary education) might be detrimental and needs to be reconsidered. The wage premium to tertiary education is high. Countries have successfully used the private sector to expand tertiary education—thus complementing scarce public resources.

Just as the high growth phase on the eve of the crisis revealed infrastructure and skill constraints on the horizon, the recession is likely to loosen them—but they are also likely to reappear once the economic recovery starts. This is especially likely in countries where fiscal restraint imposed during the recession restricts public investment—in other words, in most ECA countries. Reforms in electricity and education are the main subjects of this chapter, which discusses how to increase private investment.

It is worth recalling the evidence on constraints to growth as seen by firms on the eve of the crisis (chapter 5). The metric is whether a constraint is seen as above the average of all constraints comprising the business environment in that country (figure 6.1). This relative concept helps to the extent there may be a systematic variation between country tendencies to report dissatisfaction across the board—for example, reflecting particular periods of instability or economic downturns. Note that workers' education is the second highest constraint identified by firms, with electricity and corruption at broadly the same level. Courts and access to land are also important bottlenecks.¹

Against this background, the chapter poses two questions. First, what could facilitate greater private sector participation in electricity—an important part of infrastructure? Second, what education and labor skills have to be strengthened in some ECA countries?²

Bottlenecks in electricity—an agenda for reform

The investment needs to meet overall ECA electricity demands could be substantial. An estimate by the World Bank based on annual growth of 4.5 percent has put the investment needs of the sector at about \$1.5 trillion over the next two decades—or 1 to 1.5 percent of ECA's annual GDP. This would absorb a large share of the region's public sector investments, which now average 5.5 percent of the region's GDP. These projections also assume big improvements in energy efficiency and conservation: a decline in ECA's energy intensity from the current 0.70 tons of oil equivalent per \$1,000 of GDP to 0.35 tons of oil equivalent in 2030—marked, but still far above the 0.13 value for the EU. Of course the current global economic crisis has slowed down the demand for energy and created some uncertainty on when the electricity sector might become a bottleneck to growth. Moreover, structural factors behind ECA's investment needs are also behind these estimates; for example, about 80 percent of the region's electricity generation capacity comes from power plants built before 1980.

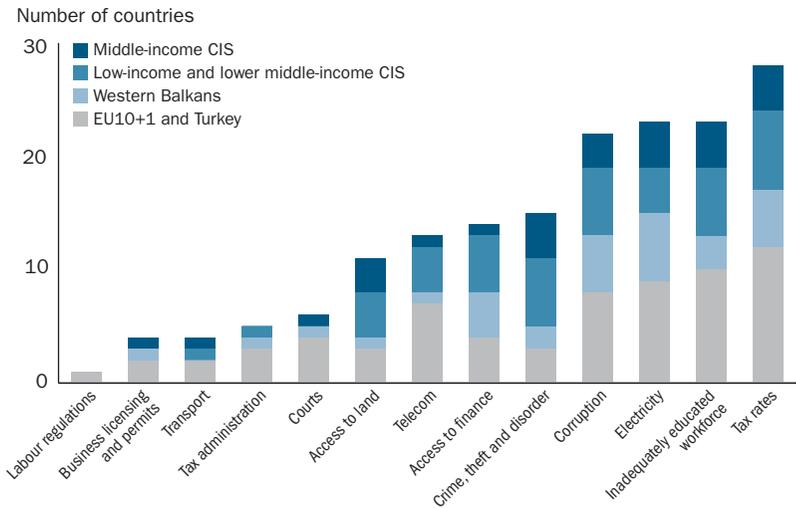
Since it will be difficult for the public sector to mobilize the required investment, it is imperative to create conditions for private involvement. So far, private participation in the electricity sector in ECA has been low. The private sector invested only \$36 billion (in 2007 prices; or 1.1 percent of the

1. As is frequently the case with enterprise surveys, tax rates are perceived as the severest constraint, though it is less clear how to interpret these answers since firms are typically not asked about the benefits of government expenditures financed by those taxes.

2. In addition to some of the findings discussed in this chapter, the World Bank is working on two flagship reports: one on energy needs and one on the skill challenges facing the region.

FIGURE 6.1

Relative importance of constraints, by country groups



Source: BEEPS 2008.

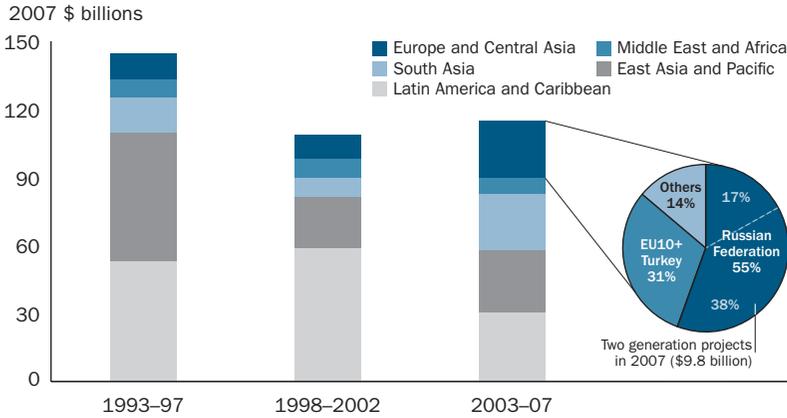
region’s GDP) in the electricity sector in ECA between 1998 and 2007 (figure 6.2).³ Compare that with private participation of \$89 billion in Latin America (2.5 percent of the region’s GDP), \$50 billion in East Asia and the Pacific (1.2 percent), and \$33 billion in South Asia (2.3 percent). Although ECA’s share of total private investment commitments in electricity projects rose from 10 percent in 1998-2002 to 22 percent in 2003-07, most were in a handful of countries. The Russian Federation, the countries of the European Union, and Turkey accounted for 86 percent of total private activity. Indeed, the privatization of two wholesale generation companies in the Russian Federation in 2007 accounted for 38 percent of total private investment in ECA in 2003-07.

The economic downturn provides an opportunity for countries to accelerate reforms so that private investments can materialize before capacity becomes a bottleneck. But attracting direct private financing requires substantial efforts to improve the business environment. This section focuses on what might catalyze private investment—how to put in place a business environment that assures commercial viability. Economies of scale also play a role:

3. Investment data are from the Private Participation in Infrastructure (PPI) database, which includes projects that reached financial closure between 1993 and 2007. While the data here are in real terms (in 2007 dollars), those in the PPI database are in current dollars. For more information, see www.ppi.worldbank.org.

FIGURE 6.2

Investment commitments in electricity with private participation, 1993–2007



Source: World Bank and PPIAF, PPI Database.

many countries in the region are small, and resource endowments are varied. So, deeper regional cooperation is integral to a sustainable solution to electricity needs.

Improving the business environment for private investment

Significant private investment can be attracted if electricity utilities are allowed to operate in an environment that fosters commercial viability. This requires ensuring that electricity utilities function on a financially sustainable basis, reforming the power market structure to move toward more competitive trading, and putting in place a credible and predictable regulatory framework.

Improving financial viability. The financial viability of firms depends on payment discipline, technical losses, and tariff structure.

Strengthening payment discipline is the first line of action. It requires improving collection rates, defined as the ratio between cash electricity payments received and total electricity billed to users, and reducing commercial losses stemming from unbilled consumption (such as the use of artificial consumption norms for users who are not metered, as well as theft in the form of illegal connections and meter tampering).

Improving collection rates depends on the willingness of governments to introduce legislation enabling utilities to enforce payment. Public users

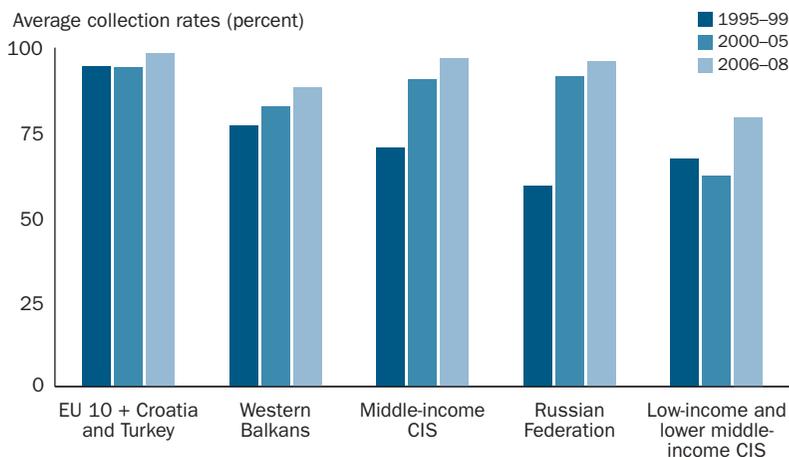
(government departments and agencies) must have adequate budget allocations for paying their service bills and be subject to the discipline of disconnection for nonpayment. Progress in ECA on payment discipline has been mixed.

- Countries in Central and Eastern Europe adopted the necessary legislation early on. By the mid-1990s, the average collection rate in Poland, Bulgaria, Hungary, and Lithuania was about 90 percent. Since then, the situation in the new EU member states has improved further: collection rates are close to Western European standards—100 percent.
- Collection rates have also improved in many CIS countries (figure 6.3). The Russian Federation’s parliament amended the necessary laws in the late 1990s, and RAO UES—the main electricity utility—improved collections on its distribution companies. Collection rates increased from 50 percent in the 1990s to 95 percent in the years before the crisis.
- Collection remains a challenge in low-income and lower middle-income countries such as Albania, Azerbaijan, Kosovo, the Kyrgyz Republic, FYR Macedonia, and Uzbekistan. Weak governance poses a significant barrier. Critical to progress and to avoiding reversals is to strengthen the legal framework that allows utilities to disconnect federal, provincial, and municipal agencies and facilities.

Financial viability is also hampered when consumption norms are used in lieu of metered systems. In many CIS countries, enterprise consumption is

FIGURE 6.3

Evolution of average collection rates in ECA countries



Note: The middle-income CIS group does not include the Russian Federation, which is shown separately.

Source: EBRD Transition Report 2008.

billed according to industry norms, and about 10–15 percent of the electricity is sold to households without metering, also on the basis of household norms. Overall, the actual consumption of the household is higher than the norm, which most of the time underestimates real consumption.⁴ Other sources of commercial losses include theft of electricity through illegal connections, tampering with meters, and corruption. Theft in excess of 20 percent is reported in Georgia, Kyrgyz Republic, and Kosovo.⁵

Technical losses remain high, particularly in the CIS and the Western Balkans, even when compared with Central and Eastern European countries.⁶ In centrally planned economies, technical design was optimized on the basis of artificially low administered prices of fuel, energy, and materials; thus, efficiency gains were not valued. Improvements will materialize over the long term as old assets are retired and new ones replaced them. In the short to medium term, however, technical losses can be reduced by rehabilitating the transmission and distribution systems. Investments to reduce technical losses in distribution networks have been undertaken in Georgia, Kazakhstan, Moldova, and the Slovak Republic, with notable improvement as a result.

While reducing technical losses can be an important source of revenue, it also requires investments. Incentives to reduce technical losses will depend critically on progress made in payment discipline. It is worth noting that countries in Central Europe have brought down technical losses to about 10 percent—compared with losses of less than 8 percent in the EU15 in 2007. But there is variability across the region (table 6.1).

Setting and maintaining tariffs that fully recover costs are central to ensuring the financial viability of electricity utilities. Tariffs need to recover the cost of inputs and operating and maintenance costs (short-run marginal cost) and contribute to the funds required for the capital investment needed to sustain the sector (long-run marginal cost). During the socialist period, electricity tariffs levels were far below the long-term supply cost, and the price structure was further distorted by cross-subsidies from industry and business to residential customers. This subsidy pattern has been largely maintained during the transition, particularly in the CIS countries.

4. In Tajikistan, for example, a pilot study showed that household consumption tended to be 2.65 times the norm (Sharma 2005).

5. World Bank 2006, 2008a.

6. It is not clear exactly how much power goes into distribution networks and thus whether losses occur in transmission or distribution networks. Nor is it clear exactly how much power is consumed by end users—and thus whether losses in distribution are technical or commercial.

TABLE 6.1

Total technical and commercial losses in ECA countries (percent)

Total losses	Country
< 8	EU-15, Slovak Republic, Czech Republic, Slovenia
9–11	Lithuania, Poland, Romania, Bulgaria, Estonia, Hungary, Russian Federation
12–14	Belarus, Ukraine, Armenia, Azerbaijan, Georgia, Turkey, Turkmenistan
~17	Croatia, Serbia, Tajikistan, Bosnia and Herzegovina, Latvia
20–30	Kazakhstan, Uzbekistan, Kyrgyz Republic, Tajikistan, FYR Macedonia, Montenegro
> 35	Moldova, Albania, Kosovo

Note: The table consolidates technical losses in both transmission and distribution networks and commercial losses. In practice, distinguishing between these measures is difficult given the absence of metering in many countries.

Source: Kazakhstan, Tajikistan, Kyrgyz Republic, Uzbekistan, and Kosovo: World Bank staff; Montenegro: IEA 2005; all other countries: World Bank World Development Database 2006.

A rough indicative range for the long-run marginal cost of generation is 6.5–7.5 cents per kilowatt-hour.⁷ Based on a gas fired combined-cycle power plant, this does not include transmission or distribution charges.⁸ It is likely that this type of plant will be the marginal plant (the plant added to meet incremental demand) and so should form the basis for tariff setting, particularly with capital largely imported.

What is the evidence on electricity tariffs? The new EU member states and some Western Balkan countries appear to cover long-run generation costs in 2008 (figure 6.4). The utilities in these countries have attracted private investors. With some exceptions, such as Albania, Kosovo, and FYR Macedonia, the Western Balkans seem to be moving in that direction as well. The picture is very different in most CIS countries. In Armenia, Azerbaijan, Ukraine, and the Russian Federation, the average residential tariff is close to 5 cents per kilowatt-hour, with residential tariffs as low as 2 cents per kilowatt-hour in the Kyrgyz Republic (box 6.1). These tariffs are not adequate to cover the long-run marginal costs of electricity generation. In other CIS countries, such as Moldova and Georgia, tariffs seem to be closer to this objective.

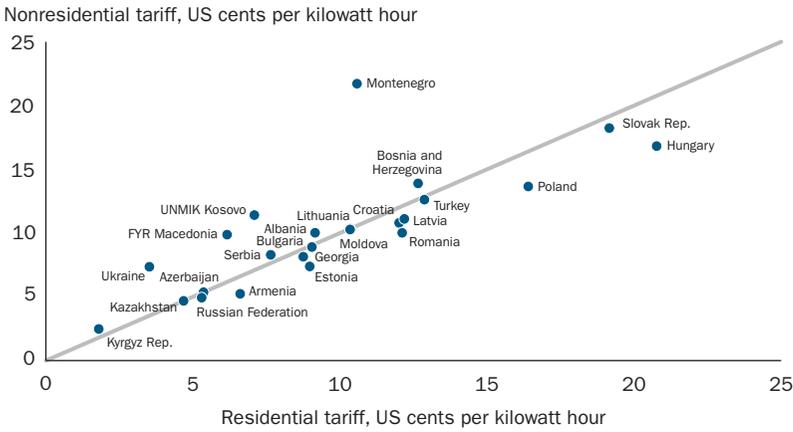
In most countries across the region, the nonresidential tariff is equal to or above that for residential consumers. The burden of tariff increases from a

7. Further work is required to establish the long-run marginal cost in the region, as it is specific to each (national or regional) power network, and depends on factors such as technology, fuel prices, and availability as well as transmission and distribution costs.

8. A gas price of \$250–300 per 1,000 cubic meters is equivalent to a crude oil market price of between \$75 and \$100 per barrel. This estimate is based on the typical indexation formula for long-term imports of gas from the Russian Federation to be delivered at Ukraine's western border. See World Bank 2008b.

FIGURE 6.4

Weighted average electricity tariffs, 2008 (US cents per kilowatt-hour, excluding taxes)



Source: Energy Regulators Region Association, Tariff database 2009.

pure efficiency point of view should be borne by residential consumers given that the cost of supplying nonresidential consumers is lower than the cost of supplying residential consumers—technical losses associated with supplying large consumers are low (figure 6.4). Some rebalancing of tariffs to reduce cross subsidies has taken place, and the average ratio of residential to nonresidential prices is 0.97. But more progress has been achieved in Central Europe than in other countries such as Armenia.

Appropriate sequencing of reforms is critical in the presence of weak payments discipline and low tariffs. Compared with Poland and Hungary, which focused on improving their electricity laws and the operation of their utilities before privatization, Kazakhstan, Georgia, Moldova, and Ukraine privatized some of their electricity assets without first addressing payments discipline, with mixed result on efficiency.⁹ More recently, the Kyrgyz Republic engaged in sector unbundling, albeit in the context of extensive use of barter and off-sets in lieu of cash for the settlement of transactions. To date, tangible results of such an ambitious program have not materialized, and the level of service to the population has not improved. One of the main lessons is that power generation should not be privatized before distribution, particularly when there are severe payments problems.

9. World Bank 2003.

BOX 6.1

Electricity tariff increases and poverty impacts

A key challenge is to ensure that tariff reforms are accompanied by social safety nets to protect the most vulnerable from price shocks and secure social and political support. There are two ways to mitigate the impact of higher electricity tariffs: block tariff structures and targeted subsidies.

Under a block tariff structure, a basic amount of power is provided below cost, with higher tariffs for consumption beyond the specified threshold. Block tariffs are attractive because they are simple and can be designed to be revenue neutral (they do not require budget financing). But they do not exclusively target the poor, they might even unjustly punish poor families (if they use electricity for heating without any evident alternatives), and the systems can be circumvented by consumers that have numerous meters. From an energy conservation point of view, the higher marginal tariff of the highest block has the benefit of discouraging inefficient consumption through price signals.

Under targeted subsidies, an earmarked transfer is provided (such as a voucher for power consumption or a cash transfer specifically for poor consumers). Subsidies are attractive because they target the poor and do not distort resource allocation, but they require good targeting and have a fiscal impact.

Transfers to compensate the bottom quintile of the population as a result of adjustments in tariffs are not that large. The calculations in box table 1 are based on household consumption of utilities, which includes not only electricity consumption but also charges for district heating and water consumption. The estimated figures therefore overestimate the impact of changes in electricity tariffs alone, unless district heating charges—the other main item in utility expenditure—are also adjusted in the process.

As an example, an adjustment in tariffs of 50 percent in Armenia, Azerbaijan, Kazakhstan, the Russian Federation, and Ukraine—where tariffs are in the

BOX TABLE 1

Percentage of GDP needed to compensate the bottom quintile

	Tariff increase	
	50 percent	70 percent
Armenia	0.10	
Azerbaijan	0.12	
Kazakhstan	0.11	
Ukraine	0.29	
Russian Federation	0.11	
Kyrgyz Republic	0.28	0.39

Note: Utilities include both direct consumption of electricity by households as well as district heating charges.

(continued)

Electricity tariff increases and poverty impacts

range of 5 cents per kilowatt-hour—will need a transfer ranging from 0.11 percent of GDP in the first four countries and a much larger amount of about 0.28 percent of GDP in Ukraine. The reason for the higher figure for Ukraine is a higher share spent on utilities but particularly a higher share of income of the poorest quintile in total GDP. In the Kyrgyz Republic, the transfer would have to be 0.28 and 0.39 percent of GDP for tariff increases of 50 and 70 percent respectively; these figures also influenced by the high share of income of the poorest quintile in total GDP. Adding the second quintile to the compensation scheme increases the cost of the transfer by about 2.5 times in most countries. To help place these amounts in perspective, it is worth comparing them with what countries spend on safety nets, ranging between 1 and 2 percent of GDP (chapter 4).

Reforming the power market structure and trading regimes. An enabling environment for private participation also requires unbundling the energy sector to create more transparency and competition. The traditional prescription is to transform vertically integrated utilities into separately managed companies. The application of such prescriptions would lead to full vertical unbundling (separation of the state-owned power company into generation, transmission, and distribution entities) and horizontal unbundling of electricity supply (separating power generation companies with a view to deepening competition, and separating distribution companies to support liberalization).

The varied experience in the developing world suggests that power supply reform needs to be adapted to country-specific conditions. The relevant factors to decisions on vertical and horizontal unbundling are power system size, resource endowment, and country institutional capacity to manage complex trading mechanisms.¹⁰ In medium to large power markets with strong institutional capacity, full horizontal and vertical unbundling is generally preferred. For small markets, horizontal unbundling into small entities generally would not make sense. But some vertical unbundling would increase the transparency of operations and facilitate regional trade. Figure 6.5 describes progress toward sector unbundling in the region.

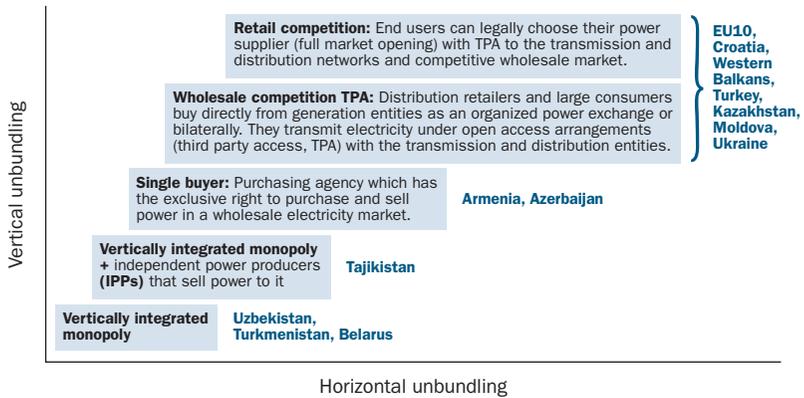
Motivated by the requirements set by EU Directives,¹¹ countries that recently joined the EU are among those that have unbundled the most. These

10. ESMAP 2006.

11. The EU Directive on the creation of an integrated electricity market (EU 2003) focuses on breaking up vertically integrated supply chains to allow competition in the power market, regulated third-party access to the power network, coexistence of regulated and competitive markets side by side, and allowing consumers to choose suppliers.

FIGURE 6.5

Present structure of ECA electricity markets



Source: Based on Besant-Jones 2006 and Bank staff.

countries have unbundled their transmission entities, implemented third-party access to their networks, and opened, to varying degree, their retail market to competition.¹² But progress has also taken place elsewhere in the region.

- The three biggest generators control more than 70 percent of generation capacity in the Czech Republic, Estonia, Latvia, Lithuania, the Slovak Republic, and Slovenia. Concentration in the retail market is even higher. Further market restructuring is expected with the implementation of the proposed third legislative energy market package.¹³
- In Turkey, substantial progress in sector restructuring, in line with relevant EU legislation, has enabled private participation. In 2008, four regional distribution companies have been privatized (with total receipts from the privatization estimated at about \$2.4 billion). Bidding for the privatization

12. Third-party access is to grant open access for parties other than a vertically integrated power utility to use its transmission and distribution network for a fee. It is the most tangible way of creating a real level playing field between the incumbent and new project developers to reach customers directly.

13. The proposal for the third direction concerning common rules for the internal market in electricity and gas (EU 2007) includes the following measures: effective separation of supply and production activities from network operation; further harmonization of the powers and enhanced independence of the national energy regulators; establishment of an independent mechanism for cooperation among national regulators; creation of a mechanism for transmission system operators to improve the coordination of networks operation and grid security, cross-border trade and grid operation; and greater transparency in energy market operations.

of the next three distribution companies is under way and expected to be completed in 2009.

- The Western Balkans have also adopted some relevant EU legislation in the sector and advanced fairly quickly in vertical unbundling. They have unbundled transmission systems, implemented third-party access to networks, and partially opened their retail market to competition. But the small size of these markets limits the competition that can be expected in each market. Thus, the development of competitive electricity markets will come from cross-border trade.
- Some CIS countries have also taken important steps, such as establishing a wholesale electricity market, as in Kazakhstan, Moldova, and Ukraine.

Credible and predictable regulatory framework. A credible and predictable regulatory framework is also necessary in any strategy to attract private investment. When such a framework is in place, utilities and new investors can predict with some confidence that tariffs will generate enough revenue to cover cost. Otherwise, private financing would be attracted only on costly terms, which would result in high rates of return sought by investors, take-or-pay contracts as used in independent power producers, or investors insisting on sovereign or third party guarantees. Effective regulation, together with competitive markets, can encourage cost reductions and mitigate some of the adverse affordability impacts of tariff increases. Some of the options and factors to be tackled include:

- Establishment of an independent, sector-specific regulatory authority. Independence is required to ensure that regulatory decisions critical to investors—from awarding licenses to setting tariffs—are based on technical factors and relatively immune to political and bureaucratic interference. There are various criteria for assessing whether a regulator is independent. Four dimensions are crucial: the independent regulator should be separate from the government, appointed for a fixed term, funded by the regulated industry (through, for example, license fees), and have the power to approve tariffs without requiring approval from government officials. Table 6.2 shows the extent of progress along these dimensions.
- Regulatory reform has progressed significantly in the region over the past five years because of both widespread privatization and EU accession.¹⁴ Indeed, a totally independent regulator (the first four columns of table 6.2) is now present in 10 ECA countries (Albania, Bosnia, Georgia,

14. The Power Directive of the European Union requires that regulatory bodies be established, and that they have the authority at least to fix or approve tariff methodologies for power transmission and distribution, and ideally to set tariff levels (EU 2003).

TABLE 6.2

Regulatory institutions in ECA countries

	Separate regulator	Fixed-term appointment	Industry funding	Full tariff-setting power	Transparency	Redress
South East Europe						
Albania	✓	✓	✓	✓	✓	✓
Bosnia & Herzegovina	✓	✓	✓	✓	✓	✓
Croatia	✓	✓	✓	✗	✓	✓
Macedonia, FYR	✓	✓	✓	✓	✓	✓
Montenegro	✓	✓	✓	✓	✓	✓
Serbia	✓	✓	✓	✗	✗	✓
EU countries						
Bulgaria	✓	✓	✓	✗	✓	✓
Czech Republic	✓	✓	✗	✗	✓	✓
Estonia	✓	✗	✗	✓	✓	✓
Hungary	✓	✓	✓	✗	✓	✓
Latvia	✓	✓	✓	✓	✓	✗
Lithuania	✓	✓	✗	✓	✓	✓
Poland	✓	✓	✗	✓	✗	✓
Romania	✓	✓	✓	✓	✓	✓
Slovak Republic	✓	✓	✗	✓	✓	✗
Slovenia	✓	✓	✓	✓	✓	✗
Black Sea and Belarus						
Armenia	✓	✗	✗	✓	✓	✗
Belarus	✗	✗	✗	✗	✗	✗
Georgia	✓	✓	✓	✓	✓	✓
Moldova	✓	✓	✓	✓	✓	✓
Ukraine	✓	✓	✗	✓	✓	✗
Turkey	✓	✓	✓	✓	✓	✗
Central Asia						
Azerbaijan	✓	✗	✗	✗	✗	✓
Kazakhstan	✓	✗	✗	✓	✓	✓
Kyrgyz Republic	✓	✓	✗	✓	✗	✓
Tajikistan	✗	✗	✗	✗	✗	✗
Uzbekistan	✓					
Turkmenistan	✗	✗	✗	✗	✗	✗

Latvia, FYR Macedonia, Moldova, Montenegro, Romania, Slovenia, and Turkey) compared with only three in 2003.¹⁵ Countries such as Albania, Romania, and FYR Macedonia have made significant progress in

15. A survey carried out in 2003 by EBRD and the World Bank found that only three countries (Latvia, Moldova, and Slovenia) demonstrated total regulatory independence as defined above (Kennedy 2003).

conjunction with the privatization of their distribution companies. In the Russian Federation and in Central Asia, with the exception of Tajikistan and Turkmenistan, separate regulatory bodies have been set up, even though they cannot yet be regarded as fully independent.

- To the extent possible, an independent regulator should retain control over tariff setting, but practice in the region has been mixed. In Bulgaria, Croatia, the Czech Republic, Hungary, and Serbia, tariffs are recommended by the regulator but must be approved by the government (see table 6.2). In Bulgaria and Romania, the tariff methodology must be approved by the government. Such arrangements can limit the economic and technical information on which tariffs decisions should be based. Provisions for the government to approve tariff setting might be appropriate for an interim period while a regulator establishes a track record. For example, the staff of newly formed regulatory office often come from the power companies, and the risk of capture is thus real. This would warrant greater government involvement because an effective regulator needs to be independent of both political and industry interference. But as the regulator establishes its credibility as an independent agent, tariff setting should be separated from government decisionmaking.
- Although an independent regulator must be isolated from the political process, regulatory discretion opens the door to regulatory interference. Regulatory discretion can be mitigated by making the regulators more accountable for their actions. This can include substantive reporting and audit obligations, a high level of transparency in regulatory decisions and their justification, and appeal rights for parties believing that their interests have been harmed by regulators' decisions not following the law. Independent regulators in almost all countries in ECA are now legally obliged to present an annual report on their activities to the legislature or the executive branch. The publication of rules, regulations, and decisions is now common in most countries. Transparency has significantly improved recently as the consultation process, an element in improving accountability, plays an increasing role in regulatory decision-making.
- Regulated companies in nearly all countries must have recourse to the judicial system to seek redress. The local judiciary is unlikely to have the requisite expertise and may not be perceived by regulated companies or investors as impartial (see table 6.2). Recourse to national courts is enforced in Azerbaijan, Georgia, Kazakhstan, Montenegro, Poland and Romania. Additional procedures of redress through international arbitration have proved useful, particularly where privatization has taken place, as in

- Kazakhstan and Moldova.¹⁶ In EU member states, potential recourse to European courts may also provide adequate investor security.
- It will take time before the new regulatory system becomes fully functioning and credible—and the lack of track record may still inhibit private investment. This is the situation in some countries in the region. Regulatory institutions are sometimes too new to develop a good track record, and the new regulator lacks the experience with private sector operators. In such cases, governments may wish to consider temporary risk-mitigation instruments to facilitate the mobilization of commercial debt or equity. Some of the risks that private investors are not willing to take can be transferred, at a price, to third-party official institutions, such as multi-lateral or bilateral agencies, that are capable of taking such risks. These have proved useful to facilitate a smooth transition to a credible regulatory framework while a track record is being developed. For example, Romania and Albania successfully privatized their distribution companies and significantly diminished the cost of capital by using the World Bank's partial risk guarantee.

Deepening regional cooperation and trade

Expanding power trade in the ECA region is an untapped option that could yield significant economic savings and boost security of supply. Trading can be either short- or long-term. Short-term trade allows countries to change dispatch patterns opportunistically. Long-term trade, by contrast, affects both dispatch and system expansion and involves firm commitments to international trade. Almost all ECA countries exchange electricity on a short-term basis. Some are now considering deeper trade as they develop their institutional capacity and as confidence strengthens in cross country arrangements for regional cooperation.

The main drivers of long-term trade in the region are large mismatches between electricity demand and resource endowments. For example, central Asian countries could exploit coordination between thermal and hydropower production between the summer and winter seasons. Developing and inter-connecting a largely thermal power system in Uzbekistan and Kazakhstan with the largely hydropower systems of Tajikistan and the Kyrgyz Republic would allow energy banking. This is also an important option for small countries rich in coal (such as Kosovo) where power markets are too small to

16. Private investors in Kazakhstan and Moldova initially sought recourse to international arbitration, as allowed under their privatization contract, to solve disputes related to tariff-setting; in the end, resolution was reached without arbitration.

exploit substantial economies of scale. Increased cooperation and trade would secure access to export markets and export revenues to support their energy export-led growth. Further economies are possible where utilities face different system load shapes or experience peak loads at different times of the day or year. In this situation, the output of peaking plants can be shared between countries. When networks are interconnected, as opposed to operating independently, power supply reliability can be achieved with a lower reserve margin in generation capacity.

Two untapped electricity trade arrangements opportunities exist in the ECA region: the South East Europe regional integrated electricity market, and electricity projects based on seasonal and endowment features in Central Asia.

South East Europe regional electricity market. Recognizing the potential gains from increased energy trade, the EC and the countries of Southeastern Europe subscribed in 2006 to the Energy Community Treaty.¹⁷ The Treaty contains a commitment to market reforms and the operation of an integrated regional electricity and gas market, compatible with the internal energy market of the EU.¹⁸ This helps offset the disadvantages of small market size, which together with a dominant national generator tend to create isolated markets with weak competition. The Treaty also establishes a mechanism for cooperation and dialogue among governments, regulatory authorities, industry and international donors. Network unbundling and third-party access are generally well advanced (table 6.3).

Even so, an integrated regional electricity market still faces major obstacles. One of the most critical areas is market opening. Except in Romania and Bulgaria, most countries need to set a calendar and take concrete measures to open the market and allow competition in both household and nonhousehold electricity markets. In most countries, wholesale market activity remains low—the result of national markets dominated by a single, generally state-owned, generator that supplies at regulated rates to tariff customers. Another problem is that cross-border trade is hampered by the lack of harmonization of congestion management and cross-border capacity allocation mechanisms.

17. The Energy Community Treaty created the Energy Community of South East Europe with the following parties: the EC and the Western Balkans (Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and Kosovo). Romania and Bulgaria joined the EU in January 2007 and are classified as “participants.”

18. The Generation Investment Study (EU 2004) estimated that operating the South East Europe power system as a single, fully interconnected network would reduce investment requirements and save approximately €3 billion.

TABLE 6.3

Implementation of the directive 2003/54/EC in the contracting parties to the treaty establishing the energy community, December 2008

	Albania	Bosnia and Herzegovina	Croatia	Macedonia, FYR	Montenegro	Serbia	UNMIK Kosovo
Public service and customer protection							
Monitoring security of supply							
Technical rules (grid code, distribution code)							
Authorization for new generation capacity							
Unbundling provisions							
Third-party access to networks							
Electricity market opening							
Cross-border trade							
	All provisions available	Some provisions available		Some provisions missing		Bottlenecks to progress	

Source: Energy Community Secretariat 2009.

Although the possibility of secondary trading of cross-border capacities exists in a few cases, these markets do not function well.

Developing energy trade in Central Asia. Kazakhstan, Kyrgyz Republic, Tajikistan, and Uzbekistan, possess complementary natural resources. For example, hydropower exported from the Kyrgyz Republic and Tajikistan during summer months is cheap relative to thermal power generated in Kazakhstan and Uzbekistan. In contrast, the economic costs of hydropower generation in the Kyrgyz Republic and Tajikistan during the winter are substantial. The Kyrgyz Republic and Tajikistan could meet their energy needs far more efficiently using coal and gas imported from Kazakhstan and Uzbekistan. But the inability of the Kyrgyz Republic and Tajikistan to access these fuels and the lack of their own thermal generation capacity are causing them to use and develop hydropower to avoid endemic power shortages in the winter. Unfortunately,

TABLE 6.4

Features of electricity systems in Central Asia

	Cash collection (percent of billing)	System losses (percent)	Tariff (percent of cost recovery)	Regulatory codes and institutional structure
Kazakhstan	~85	~20	100	Reasonable
Kyrgyz Republic	94	35	~55	Inadequate
Tajikistan	85	19	~58	Inadequate
Uzbekistan	~70	23	90	..

.. is not available.

Source: World Bank staff.

water released in winter can cause flooding and compromise the availability of water to meet irrigation needs in downstream countries in the summer.

The potential economic savings from committing to long-term framework agreements on electricity and water exchange are large. But in part because of each government's post-independence apprehension of being dependent on outside sources for energy, such agreements have not been put in place. National policies so far have favored self-sufficiency and substitution even at the expense of trade and rationalization of energy use. The failure to move to new agreements has left energy trade in a complex structure of state-to-state barter arrangements that are neither efficient nor able to meet the changing needs of each country.¹⁹ As noted before, countries exhibit large sector losses, non-billing, and non-payment. Electricity tariffs are below cost-recovery in the Kyrgyz Republic and Tajikistan (table 6.4), and this has led to financial and physical deterioration of the sector and excessive demand for power by consumers. In addition, efforts to restructure electricity supply by utilities have been limited.

The Central Asian countries, supported by an alliance of major multilateral development institutions, have announced initiatives to encourage energy trade but with limited impact so far. The Central Asia Regional Economic Cooperation program, initiated in 1997, may hold some promise. It focuses

19. In 1998, upstream (Kyrgyz Republic and Tajikistan) and downstream (Kazakhstan, Uzbekistan) riparian countries concluded an agreement on the water and energy resources of the Syr Darya River. It sought to compensate the upstream states for water storage services through the purchase of surplus summer electricity from the Kyrgyz Republic and the supply of fossil fuels needed for Kyrgyz winter needs by the downstream states. The agreement weakened when Uzbekistan's interest in importing electricity in the summer declined and when it insisted on cash for its gas rather than electricity and the benefits of water storage and seasonal release. The agreement is no longer functional.

on key investment projects, such as improvements in power transmission systems, and provides technical assistance to promote discussions on power sector reform and analysis of electricity export potential, and is also developing the Water-Energy initiative. Azerbaijan, China, Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan, and Uzbekistan signed a memorandum of understanding establishing the CAREC Members Electricity Regulators Forum in 2005. The Forum is designed to help members capitalize on their shared experiences as they seek to reform their power sectors and identify possibilities for energy trade. In another initiative, Tajikistan and Kyrgyz Republic, with Afghanistan and Pakistan, are developing a Central Asia South Asia Regional Electricity Market. The objective is to exploit and monetize Central Asia's hydroelectric power surplus during the summer.

The education and skills agenda—making the grade

For the first time since BEEPS started a decade ago, firms are identifying workers' education and skills as a major impediment to their growth prospects. Until 2005, this was not an area typically identified by firms as a constraint, though the gap between transition countries and nontransition countries had largely disappeared among the high-income transition countries. As mentioned in Chapter 5, firms were surveyed in 2008—at the eve of the present crisis—and had very different perceptions about labor as an impediment to growth.

About 30 percent of firms (unweighted average) considered education and skills to be a major or severe constraint (figure 6.6). Most dissatisfaction is among the middle-income CIS countries—more than 40 percent of firms are dissatisfied. In contrast, there is less dissatisfaction in the Western Balkans and significant variability in the EU10 plus Turkey.

The share of firms assessing the availability of the “right” workers as either no obstacle or a minor obstacle has declined in the last three years (figure 6.7). Negative values mean that a smaller share of firms were satisfied in 2008 than in 2005. For example, if the share of satisfied firms in a country declined from 0.50 to 0.25 between 2005 and 2008, the country would be in the -0.2 to -0.3 range of the figure. Except for one country, all magnitudes are negative. The worst deterioration has taken place in the middle-income CIS countries. But even in a large number of new EU members and other CIS countries, the reduction in satisfied firms is between 0.2 and 0.3.

What attributes are firms valuing when they refer to educated labor and skills? Are they valuing specific technical knowledge, or are they valuing more general attributes associated with years of schooling, such as adaptability,

FIGURE 6.6

Worker education: percentage of firms considering it a “major” or “very severe” constraint in 2008

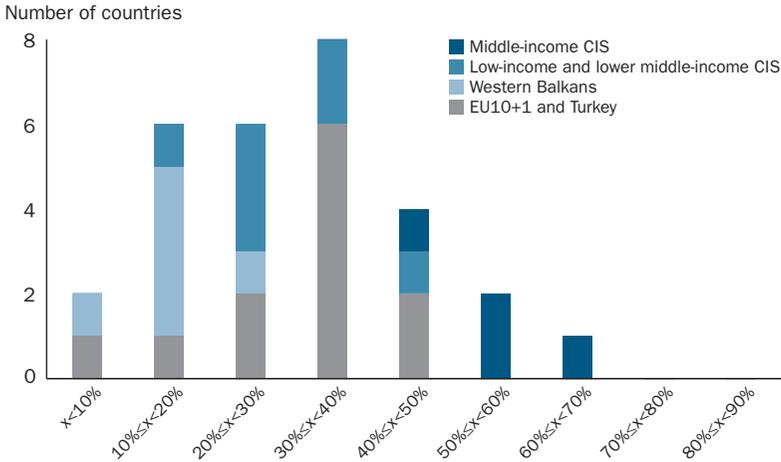
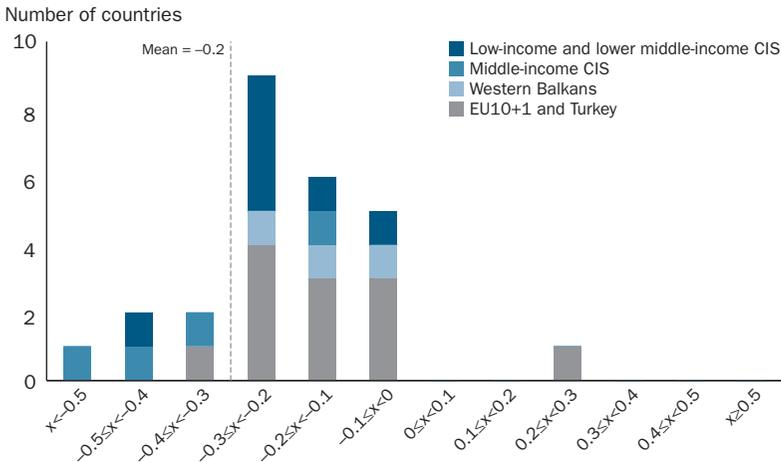


FIGURE 6.7

Worker education: change in the frequency of satisfied firms between 2005 and 2008



overall analytical thinking, and communication skills? Will simply adding years of schooling be the solution? Or does the type of education matter (such as general or vocational education)? Is tertiary education crucial, and, if so, in which fields? How important is the curricular content as a substitute for simply more years of schooling?

Evidence from students tests—youngsters do well internationally

Young students in ECA countries generally do better in international tests than those with similar incomes. The recently published 2007 Trends in International Mathematics and Science Study (TIMSS) is the fourth of a series of international comparisons of young students at grades 4 and 8. For the first time, this study measures separately the knowledge of the curricula (content tests) from applications of that knowledge to real life problems (cognitive tests) (figures 6.8 and 6.9). Generally, ECA countries perform very well at grade 4 relative to countries with similar per capita incomes. These patterns hold for both mathematics and science and for both mastery of curricula and applied knowledge. These TIMSS results at grade 4 also echo results from the Progress in International Reading Study, another international assessment measuring students' reading abilities. Some country patterns emerge from figures 6.8 and 6.9.:

- Students from the CIS and the Baltic states perform particularly well.
- ECA countries perform better than their peers in math, but in science, Georgia, Turkey, and Romania are slightly below the line.
- Students in the Russian Federation still perform quite well in grade 8—there is no clear signal of a deterioration of their relative position between grades 4 and 8.²⁰

The TIMSS results can be compared with results from the 2006 OECD Program for International Student Assessment (PISA). These tests are taken at a later age and measure more general competencies of students and their ability to apply knowledge (capturing education imparted at grades 9 and 10). For example, the PISA mathematics test asks students to apply their mathematical knowledge to solve problems set in various real world contexts. The comparison of PISA scores of ECA students is relative to peers in countries with similar per capita incomes. Again, the majority of students in ECA perform well relative to peers (figure 6.10). The relative position of ECA students remains rather invariant, either using TIMMS or PISA. Two additional countries are in the PISA sample: Azerbaijan and Kyrgyz Republic. Azerbaijan does extremely well in mathematics—far above the comparators. In science, however, its position is below the comparators.

20. The 1997 Report on Education by the Public Chamber of the Russian Federation points out that although Russian elementary school graduates do better than the world average in knowledge in math and natural science, they do start to lag behind their peers at grades 5–9 (lower secondary) in their ability to apply their knowledge (Public Chamber of the Russian Federation Report 2007). A more recent study on the Russian Federation's education system also advances the notion that Russian schools may place greater emphasis on acquisition of encyclopedic knowledge over problem solving, particularly as education evolves from primary to upper secondary schools (Kapelyushnikov 2008).

FIGURE 6.8A

2007 TIMSS—mean content scores in grade 4 math

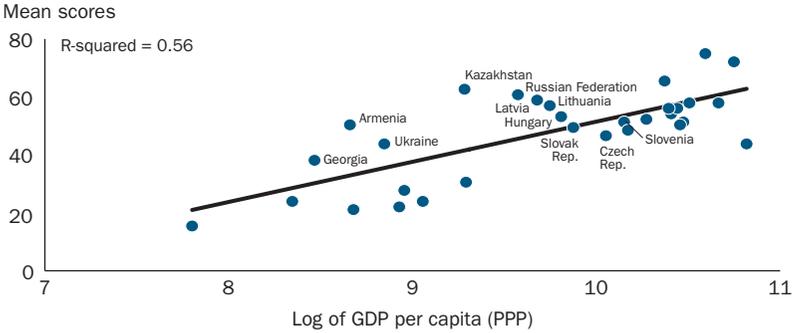


FIGURE 6.8B

2007 TIMSS—mean cognitive scores in grade 4 math

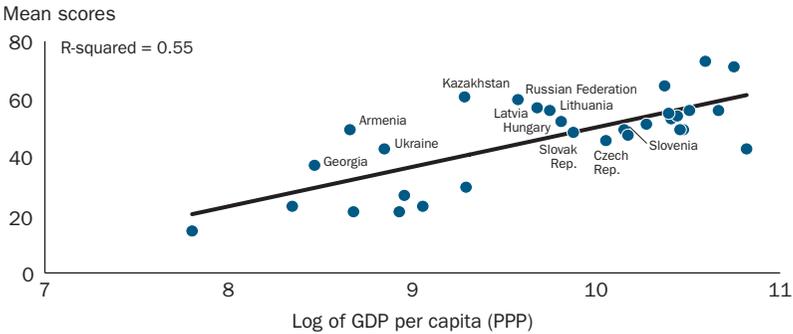


FIGURE 6.8C

2007 TIMSS—mean content scores in grade 4 science

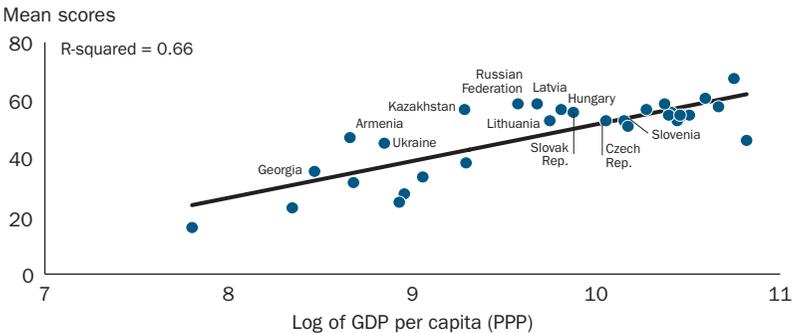


FIGURE 6.8D

2007 TIMSS—mean cognitive scores in grade 4 science

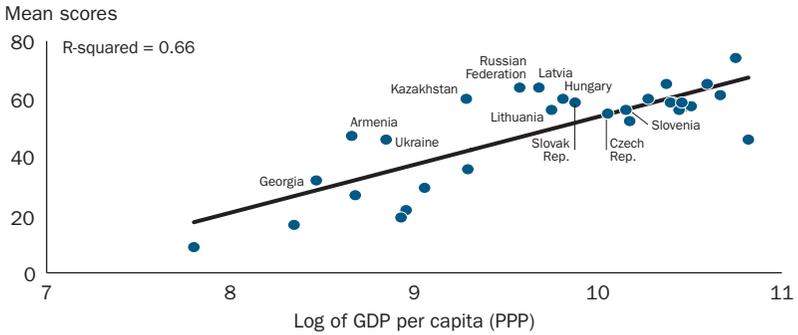


FIGURE 6.9A

2007 TIMSS—mean content scores in grade 8 math

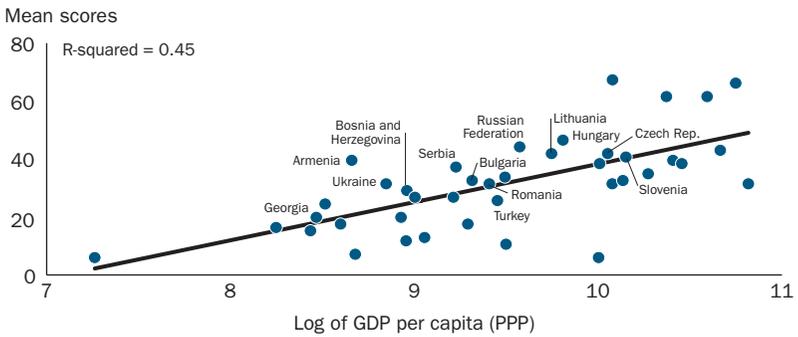


FIGURE 6.9B

2007 TIMSS—mean cognitive scores in grade 8 math

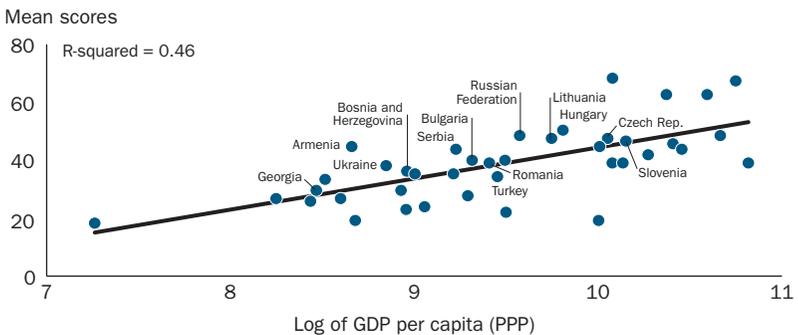


FIGURE 6.9C

2007 TIMSS—mean content scores in grade 8 science

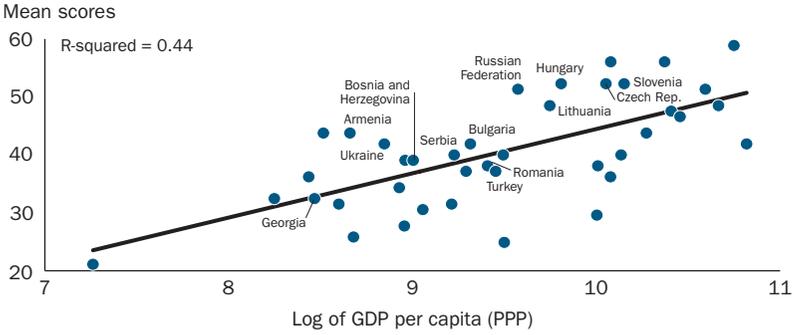


FIGURE 6.9D

2007 TIMSS—mean cognitive scores in grade 8 science

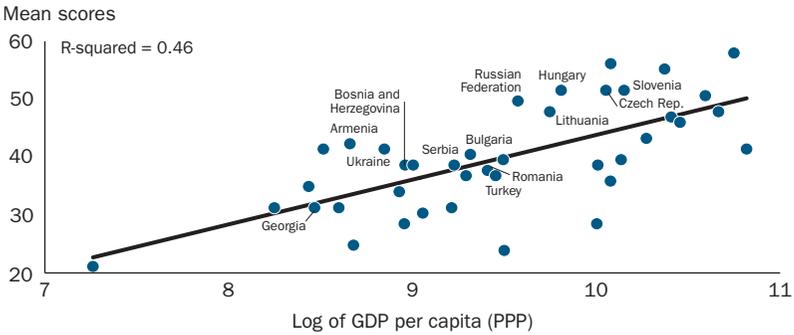


FIGURE 6.10A

PISA math scores

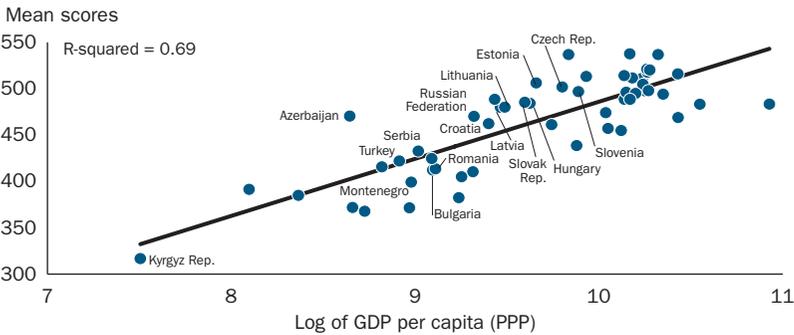
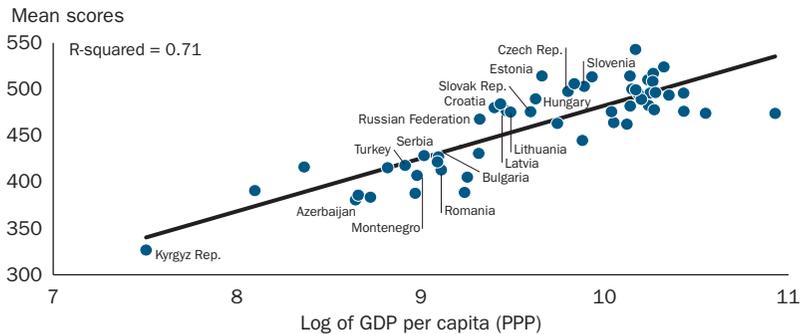


FIGURE 6.10B

PISA science scores



Interestingly, the PISA study allows computation of an index of economic, social, and cultural status (ESCS) comprising parents’ education, occupational status, and possessions in the home. It allows classifying students in quintiles according to the level of the ESCS index, thus allowing comparisons on how students in one quintile perform against those in another quintile. Implicitly, it assesses how well the educational system has compensated for such ESCS differences.

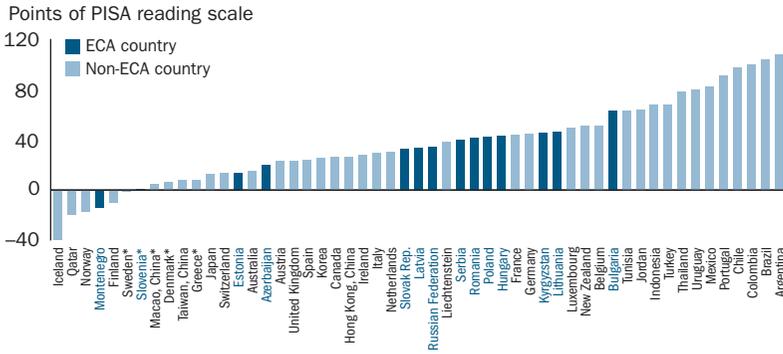
The main conclusion is that differences in test scores across socioeconomic groups are similar to those observed in many OECD countries. Figures 6.11a and 6.11b show for several countries the difference in students’ scores between the highest and lowest ESCS quintiles. Countries are ranked according to the magnitude of such differences. Positive values indicate that students in the highest ESCS quintile performed better than those in the lowest quintile. Negative values mean students in the lowest ESCS quintile performed better than students in the highest quintile. The figures show ECA countries to be roughly in the middle of the distribution, at par with many OECD countries. For most ECA countries, the (positive) differences are lower than those observed in the United States, France, Germany, and Belgium. Thus, at least on an international basis, it is not obvious that ECA countries participating in these programs have a distinctive distributive issue regarding the performance of students with different socioeconomic status. This depends on how the ESCS index is measured, of course, but the results provide a benchmark that may encourage further work in this area.

Evidence from labor markets—changing structure of occupations and wages

Most ECA countries have experienced strong changes in the structure of output as results of market liberalization and more open trade regimes. Job

FIGURE 6.11A

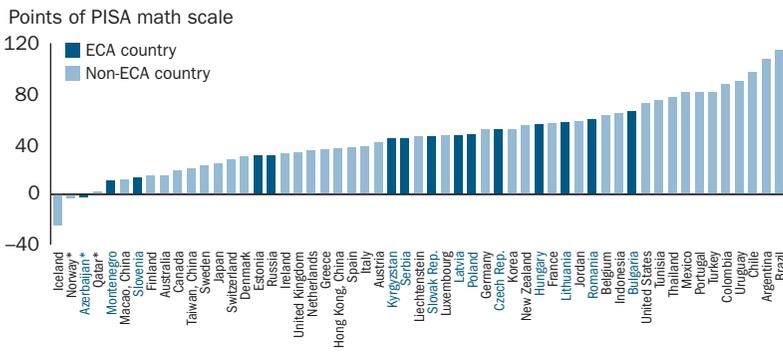
PISA reading scores—difference between quintile 5 and quintile 1



Note: Differences are statistically significant unless indicated by *.

FIGURE 6.11B

PISA math scores—difference between quintile 5 and quintile 1



Note: Differences are statistically significant unless indicated by *.

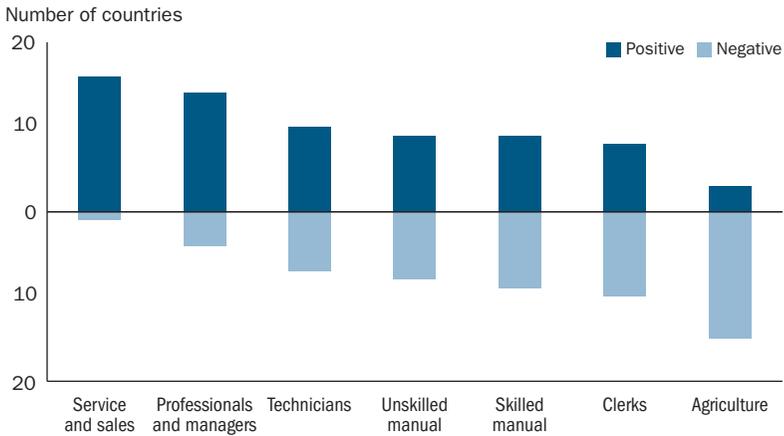
growth has been greatest in the service sector, with strong reallocations within manufacturing as a result of more open trade. New firms have been a significant force for job creation, while job contractions have taken place in large state owned and newly privatized firms.²¹

How have labor markets responded to these developments—and what do these changes suggest in terms of education and training systems? Figure 6.12 shows the number of countries where the percentage participation of different occupations increased or declined during the last decade. The definition

21. Mitra 2008.

FIGURE 6.12

Positive and negative shifts in employment participation in 1995–2006, by occupation



of occupations is quite broad and follows the one-digit ISCO/ILO classification.²² Four patterns are worth highlighting:

- Occupations in the service sector and retail have expanded—areas that were held back under central planning, as noted in chapter 5.
- Managers and professionals have also expanded, in all likelihood, linked to the transformation of the enterprise sector.²³
- Agricultural employment has shrunk.
- For a mix of middle level and manual labor occupations, the picture is more diverse. In about half the countries, these occupations have expanded, while in the other half they have decreased. These are occupations where changes are very country-specific and sensitive to finer adjustments in the subsectoral structure of the economy, as in the structure of manufactured exports.

Have wage premia to skills embodying different levels of schooling (or different types of schooling) changed? Wage premia and rates of returns have increased since the start of transition—particularly in the earlier periods of liberalizing the wage setting mechanism.²⁴ By the early 2000s, rates of return to an average year of extra schooling (across levels) was comparable to that of developed economies. They varied significantly, from 4–6 percent in Romania, Slovak Republic, Tajikistan, and Ukraine to 8–11 percent in Hungary,

22. The discussion in this section is based on work by Rutkowski (2009).

23. Professionals are individuals with a degree or training in tertiary education.

24. Rutkowski 2009.

TABLE 6.5

Russian Federation—wage premia for additional schooling (percent)

	2003	2007
Complete tertiary over:		
Incomplete tertiary	14%	47%
Technical college	36%	56%
Vocational schools	63%	63%
General secondary	63%	57%
Technical college over:		
Vocational schools	5%	5%
General secondary	20%	0%
Vocational schools over:		
Primary education	54%	25%
General secondary over:		
Primary education	36%	30%

Source: Kapelyushnikov 2007.

Kazakhstan, and Poland. In the Russian Federation, they increased sharply from about 4 percent in the early 1990s to about 9 percent in the early 2000s. Comparing studies across countries and over time requires some caution because they may use different concepts of earnings (including some returns to capital), types of schooling, and different estimation techniques.

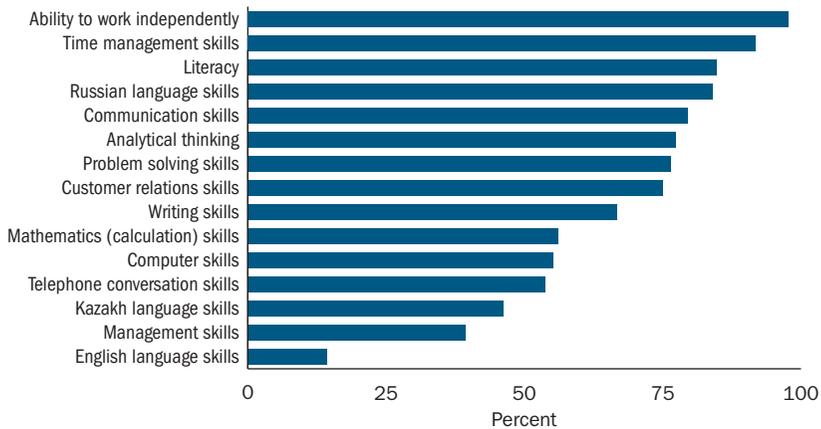
A major shortcoming in this area is the absence of more recent wage data that would allow an assessment of how wage premia has evolved during the last decade. However, a study based on two of the most representative nationwide surveys in the Russian Federation provides information on wage developments.²⁵ Table 6.5 shows how the Russian wage premium has evolved between 2003 and 2007, a period when GDP growth was sustained at about 7 percent a year:

- Just completing tertiary education has a strong premium, increasing sharply between 2003 and 2007 from 14 percent to 47 percent. Perhaps completing tertiary and the associated certification is signaling other elements of student's personalities and competencies (beyond pure additional training) that are highly valued by employers. This has also been found in other labor market studies in developing countries, attesting to the strong screening effect that employers may give to the certification effect of completing tertiary education.

25. NOBUS 2003 and OZPP 2007.

FIGURE 6.13

Kazakhstan survey of firms, 2008: importance of general competencies and technical skills



Note: The figure shows the percentage of firms reporting a specific skill to be important or very important for specialist/skilled workers.

- The premium to technical college was small, and relative to general secondary education, it disappeared completely in 2007.
- The premium to vocational school over primary education was reduced by half—from 54 to 25 percent.
- The premium to general secondary education over primary is roughly constant.

The importance of general competencies more than narrow technical training is confirmed by a recent survey of entrepreneurs in Kazakhstan. Kazakhstani firms highly value general competencies—such as the ability to work independently, time management, literacy, and language and communications skills (figure 6.13). Math and computer skills were singled out less frequently.²⁶ On the other hand, unemployment indicators across ECA provide a mixed picture in this area. In 2006, about half of ECA countries reported higher unemployment rates for workers with vocational education, and half reported higher unemployment for general secondary graduates.²⁷

What are the implications of this evidence on labor markets—while acknowledging its fragmentary nature and its reliance on only a few countries? First, there is an increase in demand for individuals with completed

26. Ivaschenko 2008.

27. Mertaugh (forthcoming).

degrees in tertiary education, but it is not as obvious what attributes firms are valuing or how they are enhanced by tertiary education—this requires additional research. Second, the lower premia on specific technical degrees and the fact that management occupations have increased suggest that general competencies that may be associated with completing tertiary education are valued more than specific technical knowledge. Third, the low returns to middle technical education observed in the Russian Federation, the mixed picture of the expansion of technicians as occupations, the increased share of services, the survey in Kazakhstan—all point to the importance of a secondary education that imparts a minimum set of general competencies. This is consistent with the discussions in ECA countries on the role of vocational education and on avoiding situations where students enter a narrow career path too early. Finally, the ability to adapt, retrain and absorb on-the-job training may be increasingly critical as the composition of output and employment changes. Education has more impact when it allows workers to cross sectors and occupations.

Issues to focus on

As mentioned earlier, the review of issues in education is based on incomplete evidence. ECA has a large variability of country situations calling for careful country taxonomies—which are absent here. But some areas appear common to most countries.

Compulsory education (primary and secondary): the critical role of teachers. Most students in early grades seem to be performing well in international tests, and the information available reveals no major differences in performance between children of different socioeconomic status as measured by PISA data. It is important for these gains to be preserved—and accelerated in countries that are lagging. Assuring that minorities or more disadvantaged children in poorer rural areas have access to high quality schools remains a challenge.

A specific problem, particularly but not exclusively in the CIS countries, is the coexistence of three developments. First, student-to-teacher ratios in the CIS countries are lower than other countries. For example, in Ukraine the student-to-teacher ratio is 9.5–60 percent of the OECD average. And these ratios are expected to fall with declining enrollment ratios and shrinking school age cohorts. Second, there is evidence that the teaching profession has become less attractive: the average age of teachers is rising rapidly, teachers are working fewer hours, and wages are low relative to other professions.

TABLE 6.6

Students tutored by their own teachers

Country	Percent of students
Tajikistan	51
Kazakhstan	40
Kyrgyzstan	39
Lithuania, Slovak Rep., Bosnia and Herzegovina, Georgia, Ukraine	<20.0
Croatia, Poland	<10.0

Source: Silova, Budiene, and Bray 2006.

BOX 6.2

Ukraine norms for education facilities

- 1 deputy school director per 11 class groups.
- 1 managing director, if the village has more than 600 people (regardless the total number of children in the school).
- 1 pedagogue per 8 class groups (regardless of the number of children in the school).
- 1 extracurricular activities group leader per 16 class groups (regardless of the number of children in the school).
- 1 cleaner per 500 square meters (0.5 per 250 square meters).
- 1 coat room attendant per 200 coat spots in school.
- 1 yard keeper per 1.5 hectares in each school.

Third, payments by households to obtain additional tutoring from their own teachers seem to have become important (table 6.6).

The combination of excessive numbers of teachers, fewer hours taught at school, and parents having to purchase additional tutoring services is consistent with poor incentives for teachers. But aggregate spending in education does not seem to be the problem—in fact, spending in many countries has increased, but these resources have not been targeted to increasing the remuneration of highly qualified teachers. Spending on other inputs arise from centrally determined norms that prevent reallocation. For example, overmanning and rigid input mixes characterize the education system in Ukraine.²⁸ Specifically, the input mix is set centrally according to specific norms (in rigid ratios), and many norms are set per unit of physical facility, independent of demand and enrollment (box 6.2). The result is a high ratio of nonteaching

28. World Bank 2008c.

staff to teaching staff—ranging from 0.7 in secondary schools to 1.5 in pre-schools. Such coefficients—added to the already low student-teacher ratio— increase the cost per child.²⁹

Specializing too young and too narrowly? In a large number of ECA countries, vocational education gives lower secondary graduates (usually age 15) the choice of moving to this stream rather than continuing into upper secondary education. This choice allows students to complete grades 10 and 11 in vocational schools. Historically, this type of education has been important in the ECA countries. In fact, about 15 percent of the labor force in the Russian Federation in the mid-2000s had vocational education as the highest level of school attained. The figure for upper secondary graduates in the labor force was basically the same—about 16 percent.

Vocational school enrollments have fluctuated widely among countries and across periods. During the first decade of transition (1989 to 1999), enrollments declined sharply across all countries, from 60 to 40 percent of total enrollment at the upper secondary level—the rest being general upper secondary enrolment. During the next decade, vocational enrollments stabilized in most countries. This was a natural reaction by students to the first decade of transition, given that vocational schools were quite specialized and historically tuned to the technological needs of the past industrial structure. And this is consistent with the sharp decline in premia still observed in the Russian Federation.

Countries are making vocational education less narrow and more adaptable to changing circumstances. Poland has postponed by a year the time for graduates to move from lower secondary to vocational education, allowing students to absorb more general knowledge and avoiding excessive early specialization. In several countries vocational education is treated as a default option for weak-performing students—who are redirected into vocational schools rather than finishing upper secondary education. The performance of these students may be the result of having attended poor quality elementary schools and of their families' socioeconomic background. To reduce the implicit income-based selection into vocational schools, it is critical to even out the quality of primary schools and lower secondary schools.

29. Simulations show that reforms that simultaneously address low student-teacher ratios, reduce non-teaching personnel, and allow flexibility of norms (including consolidation of facilities) could save 1 percent of GDP in Ukraine. These resources could then be used to increase the wages of teachers willing to go through training and certification and work normal hours at schools.

Tertiary education. The most salient feature of education in ECA countries has been the massive enrollment increase in tertiary education. Some experts believe this is one of the fastest expansions of higher education in recent history.³⁰ And this happened across countries of very different development levels and economic structure. During the last decade, enrollment has more than doubled in Hungary, Kazakhstan, and Romania, and increased by more than 75 percent in Armenia, Kyrgyz Republic, Lithuania, the Slovak Republic, Tajikistan, and the Russian Federation. In some cases, the additional enrollment exceeded the flow of graduating students from secondary education—signaling the enrollment in tertiary education of individuals already in the labor force.

This massive increase in enrollment was financed by the implicit liberalization of private financing. In some countries, private institutions emerged, and in others, public institutions simply started charging tuition and mobilizing private contributions. In countries as diverse as Georgia, Kazakhstan, and Poland, at least a third of students are enrolled in private schools. That figure is now one-fifth in Azerbaijan, Estonia, Latvia, and Romania.³¹ In many ECA countries, public institutions have been given significant latitude to raise funds through tuition—and are charging fees to at least 50 percent of their students.³² Much of the expansion in private schools was a response to a sharp increase in demand in specific areas not requiring expensive investments, (such as law, business, accounting, languages, economics, and management).

In many countries, the authorities have provided tertiary schools with greater autonomy in their choice of personnel, programs, and tuition charges. Most progress has taken place in the new member states of the European Union and less in the CIS, with the exception of Kazakhstan. A recent study summarizes trends in competition, state regulation, and governance of institutions.³³ Poland and the Czech Republic seem to have progressed significantly in both competition and autonomy. No change is reported for Bulgaria, Croatia, and Slovenia. In most other ECA countries, improvements have been more modest.

Tertiary education can adapt to changing labor market conditions if the system is more demand-driven. Allowing the private sector to enter the sector

30. Usher 2009.

31. For a comparative discussion of the role of the private sector in higher education in the Baltic countries and Belarus, see Vanags and Hansen 2005.

32. Usher 2009.

33. CHEPS 2006.

and help mobilize resources and know-how could help—particularly in periods of fiscal stringency. Public resources could flow to public institutions on the basis of per-student enrolled formulas, and these institutions could have more autonomy in curriculum changes and hiring and firing. Loans or grants for lower income students who are accepted under a competitive process are an important complement. Many countries have experimented with various options, particularly Hungary, Kazakhstan, Latvia, and Turkey.

Many governments are concerned about allowing private institutions unless a good system of accreditation and monitoring of quality is in place. There is some concern about the transparency and objectivity of existing accreditation systems in several ECA countries. These are genuine concerns, but some good practice models are emerging. One is Chile, where new private institutions need to “earn” their right to full autonomy through a 10-year probation period of monitoring and self-evaluation.³⁴

34. Since its creation in 1990, the new regulatory regime granted autonomy to 26 universities and 13 professional institutes for successfully completing their period of supervision while closing down 16 private universities and 21 professional institutes for poor academic performance, financial distress, or poor governance. Thus as many institutions were closed as created.

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The transition economies of Central and Eastern Europe and the former Soviet Union, among all emerging- and developing-economy regions, have been hardest hit by the global economic crisis of 2008-09. This is partly due to the region's deep integration into the global economy across many dimensions—trade, financial, and labor flows. Attempts by countries that came later to the transition to catch up rapidly to Western European living standards at a time when global liquidity was unusually abundant, together with some policy weaknesses, made them vulnerable to reversals in market sentiment.

Written on the eve of the twentieth anniversary of the fall of the Berlin Wall, *Turmoil at Twenty* analyzes the run-up to the current crisis and addresses a number of key questions related to vulnerability to the recession, expected recovery, and necessary reforms in the region:

- Did the transition from command to market economies, and the period during which this took place, plant the seeds of vulnerability that made transition countries more prone to crisis than other developing countries?
- Did the choices made on the road from plan to market shape the ability of crisis-hit countries to recover? What combination of domestic policy reform and international collective action is needed to bring about a recovery and minimize the humanitarian cost of the crisis?
- What structural reforms are needed today to address the most binding constraints on growth in a world where capital flows to transition and developing countries are expected to be considerably lower than before the crisis?

Turmoil at Twenty will be of interest to policy makers and their advisers, researchers, and students of economics who seek lessons from the current economic crisis, as well as scholars of the transition.

Pradeep Mitra and **Marcelo Selowsky** are former Chief Economists in the World Bank's Europe and Central Asia Region. **Juan Zaldendo** is Lead Economist in the World Bank's Office of the Chief Economist, Europe and Central Asia Region.

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