

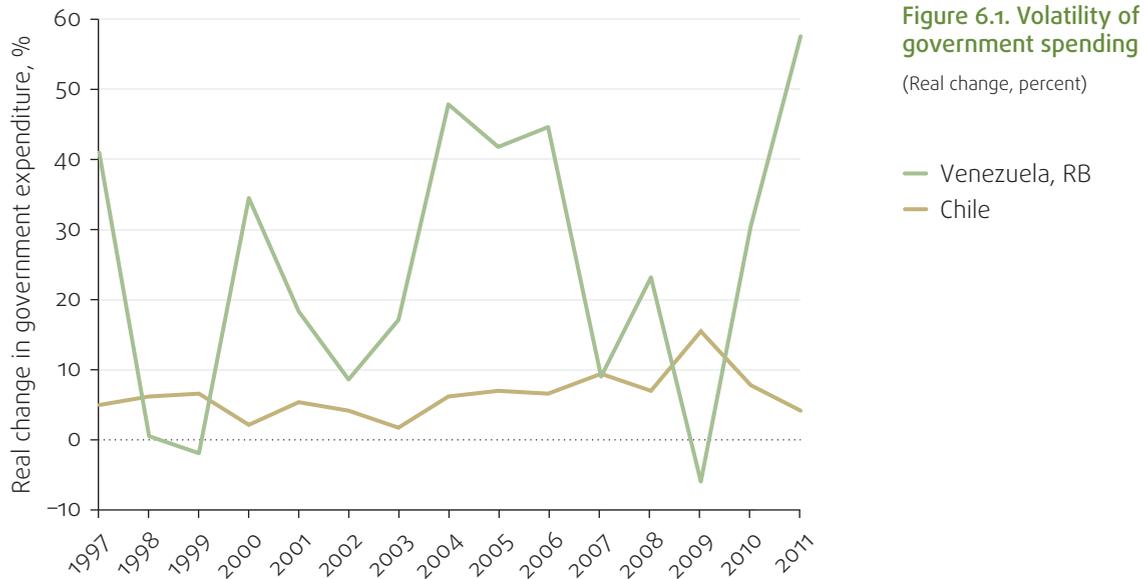
# Chapter Six

## Economic Institutions

Chile and República Bolivariana de Venezuela have many common attributes. As Spanish colonies, the two Latin American countries share historical antecedents. Since the 1930s, both have relied on natural resources for exports—copper in Chile’s case and crude oil in Venezuela’s. But their development trajectories have diverged during the last three decades. In 1983, Chile’s per capita income was about three-quarters that of Venezuela. Two decades later, Chileans had an average income almost twice that of Venezuelans. When asked why Chile did so much better than RB Venezuela, many development experts might reply with a single word: institutions. This chapter is about the institutions in Eurasia—and how they must be changed for the region to develop.

But “institutions” is a term both overused and underspecified. This report makes matters more specific in the context of diversified development by focusing on three areas of economic institutions: managing volatile resource rents, providing public services, and regulating economic activity.

Chile has done better than República Bolivariana de Venezuela in all these three areas. This has resulted in diverging economic performance—in measures of volatility, productivity, and employment. Government spending has been much more volatile in RB Venezuela (figure 6.1). Chile’s governments, by contrast, by adhering to fiscal rules for almost three decades, appear to have strengthened the consensus for stable public finances. RB Venezuela has succumbed to the temptation of using oil revenue for creating public sector jobs, while Chile has kept government employment modest and promoted public-private partnerships in education and essential infrastructure. Public enterprises still dominate the economic landscape in RB Venezuela, whereas Chile had privatized 94 percent of financial institutions and enterprises by the mid-1990s. Chile ranked 37th of 185 countries on the World Bank’s Doing Business Indicators in 2013—the best in Latin America—whereas RB Venezuela ranked 180th, sixth-worst in the world.



**Figure 6.1. Volatility of government spending**

(Real change, percent)

— Venezuela, RB  
— Chile

Source: World Bank staff estimates from World Development Indicators data.

This chapter asks whether the quality of institutions in Eurasia resemble those in Chile or RB Venezuela. The answer is no for both countries. Azerbaijan, Kazakhstan, and the Russian Federation have steadily improved the arrangements for managing resource rents, providing social services, and regulating enterprises. But they have not yet attained the institutional standards of Chile. The other resource-rich Eurasian economies—Turkmenistan, Uzbekistan, and Ukraine—are even further behind. While the six resource-poor Eurasian countries have all improved their capacities to deliver public services and regulation of business activity—especially Georgia, but also Armenia, Belarus, the Kyrgyz Republic, Moldova, and Tajikistan—they need to do much more.

This chapter surveys the quality of institutions in the dozen Eurasian countries that are the subject of this report, the dozen or so East Asian emerging economies that have become middle- and high-income economies during the last generation, and the dozen European countries that have joined the European Union (EU) in the last decade.<sup>1</sup> But comparing these three neighboring groups is useful only to a point. Resource-led development is arguably more demanding of national institutions than are development strategies in countries that are labor-abundant such as China in East Asia, or those that belong to an association that includes the world's most advanced economies in the world, such as Poland in Central Europe. Unassisted by the external anchor provided by the EU, and facing the additional internal pressures to manage the sizable rents associated with the exploitation of natural resources, Eurasia's development is more institutionally challenging. So the most reliable comparators for resource-rich emerging economies are other resource-rich countries at varying stages of development. To inform

policy makers, this report relies on the experiences of a dozen countries whose development resources have played a leading role.<sup>2</sup>

Compared with the more successful resource-rich countries, Eurasia faces sizable shortfalls in the quality of economic institutions. These gaps must be closed quickly, but doing so will not be easy. In prioritizing the efforts to upgrade institutions, it is useful to know the answers to four additional questions:

**In which policy areas are Eurasia’s institutional development gaps greatest?**

That is, benchmarking sensibly, have countries in the region done better at managing resource rents, providing public services, or regulating private enterprise? The chapter shows that gaps exist in all areas but also highlights the importance of governance that underlies economic institutions, notably the need to curb vested interests and enforce a vibrant competition framework.

**Should special mechanisms in resource-rich countries such as oil funds be used for short-term stabilization or long-term development?** That is, should the arrangements for managing resource rents such as oil funds be designed with the relatively modest objective of maintaining macroeconomic stability over the business cycle? Or should they have longer-term objectives such as boosting productivity and employment? This chapter provides evidence in favor of the former—that is, of using these instruments just for reducing volatility.

**Have weaknesses in Eurasia’s institutions become a drag on productivity growth?** That is, have Eurasian countries compromised investments in infrastructure and the quality of essential services like primary health and secondary education? While productivity has increased since the mid-1990s, there is evidence of slowing productivity growth, related in part to a growing shortfall in education and infrastructure and to weak competition.

**Are regulatory frameworks governing private enterprise up to the difficult task of encouraging job creation in resource-dominated economies?** That is, have the design and enforcement of private sector regulations offset or exacerbated the poor employment potential of extractive industries? Greater resource-dependence implies that countries in Eurasia may have to make their business environments much more job-friendly than successful economies in Eastern Europe and East Asia.

As this chapter elaborates, Eurasia has room for greater productivity and so faster economic growth—if its institutions improve.

## Weak governance in all three policy areas

Eurasia has made many efforts to improve institutional quality over time, but weaknesses remain. First, Eurasia’s fiscal institutions have been ineffective in protecting the economy from boom-bust cycles of commodity prices—indeed, sometimes feeding rather than taming macroeconomic turbulence. The macroeconomic uncertainty and unpredictability generated by poor management of natural resource rents discourages businesses from making the major investment decisions needed to move up the value chain. Second, the quality of public services in essential areas, such as infrastructure and

education, is not yet comparable to that in the EU new member states and East Asia. Finally, the earlier regulatory reforms often just remained “on the books” without generating marked gains in the business environment, with powerful vested interests still restricting competition. Many firms in Eurasia, particularly state-owned enterprises (SOEs), still operate inefficiently in the absence of robust competition. Barriers to international trade and foreign direct investment (FDI) hamper penetration into new export markets and limit adoption of advanced foreign technology. Cumbersome licensing systems consume time that could otherwise be used for more productive activity. Discretionary enforcement of regulations and pervasive corruption raise uncertainty and discourage business. Deficient rule of law, particularly with regard to property rights, is detrimental to innovation.

This section reviews each policy area in turn by benchmarking Eurasia against worldwide comparators.

### Managing resource rents: erratic enforcement of rules

Natural resource rents can be an important source of development finance, and countries like Chile and Malaysia have used them well as levers for broader development. However, as is well known, resource-rich countries face a host of complicated policy issues that are challenging even in economies with strong governance and administrative capacity. As discussed in chapter 4, the extent of negative macroeconomic impacts of natural resources—ranging from revenue volatility to misallocation of resources, concerns about Dutch disease, and fiscal and external sustainability in the face of eventual resource depletion—depends largely on the country’s institutional quality (Mehlum, Moene, and Torvik 2006).

Resource-rich countries face challenges linked to the volatility of resource revenue and to the depletion of resources. Revenue volatility requires the transmission of volatility in output, fiscal policy, and real exchange rates to be insulated—which can be costly—while resource depletion calls for rules to govern intertemporal consumption and investment decisions, with long-term implications for developing nonresource sectors, intergenerational equity, and fiscal sustainability.

It is important to focus on volatility management because volatility in natural resource revenue can drive volatility in output, government spending, and real exchange rates, which raises risk and uncertainty and thereby damages investment and growth. A stable macroeconomic environment is necessary for the private sector to flourish. Fiscal policy is the first line of defense against commodity price volatility and its impact on aggregate demand. Ensuring macroeconomic stability in resource-rich countries depends primarily on how well fiscal policy is insulated from commodity price volatility. While monetary and exchange rate policies can facilitate macroeconomic stability, the conduct of these policies in conjunction with an expansionary fiscal policy could create tensions with their policy objectives—to stabilize prices, the exchange rate, and the financial system. Success depends heavily on the design of rules that tether stabilization funds to the overall fiscal framework.

### Stabilization funds introduced

Cognizant of the challenges, the three largest hydrocarbon-rich countries—Azerbaijan, Kazakhstan, and the Russian Federation—all have developed institutional frameworks that include a sovereign wealth fund to help guide fiscal policy in the context of volatile natural resource income.<sup>3</sup> Azerbaijan established the State Oil Fund in 1999 in view of forthcoming oil revenue. The National Fund of the Republic of Kazakhstan was founded in 2000. Russia established the Oil Stabilization Fund in 2004 and then restructured it in 2008, separating it into the Reserve Fund and the National Welfare Fund. The legal and operational frameworks of these institutions differ, but they all share the common primary objective of insulating the domestic economy from volatility and uncertainty of commodity revenue.

Kazakhstan’s operational rule has been modified several times to address design weaknesses. Before 2010, transfers from the National Fund to the budget were determined by a formula. However, the parameters of the formula were subject to the annual approval of Parliament, exposing the system to political manipulation (Kemmerle 2012). The current rules were introduced in 2010 under a “New Concept” and updated in 2012. The new rules require the National Fund to transfer to the state budget \$8 billion plus or minus 15 percent every year, depending on the cyclical position of the economy, and to restrict its use to supporting the industrial program detailed in the Strategic Plan for 2020. The rule also restricts off-budget use of resources in the National Fund. In Russia, until the global financial crisis, the authorities adhered to a rule that limited the non-oil deficit to 3.7 percent of GDP; that is, it limited the fiscal deficit to be financed by oil-related revenue.<sup>4</sup> In both Russia and Kazakhstan, the remaining resource income is accumulated in the relevant fund and invested mainly offshore, to sterilize the economy against real appreciation of the currency.

In Azerbaijan, the operating framework that integrates the State Oil fund and fiscal policy has yet to be established, and thus transfers from the State Oil Fund to the state budget are determined in a discretionary manner.<sup>5</sup>

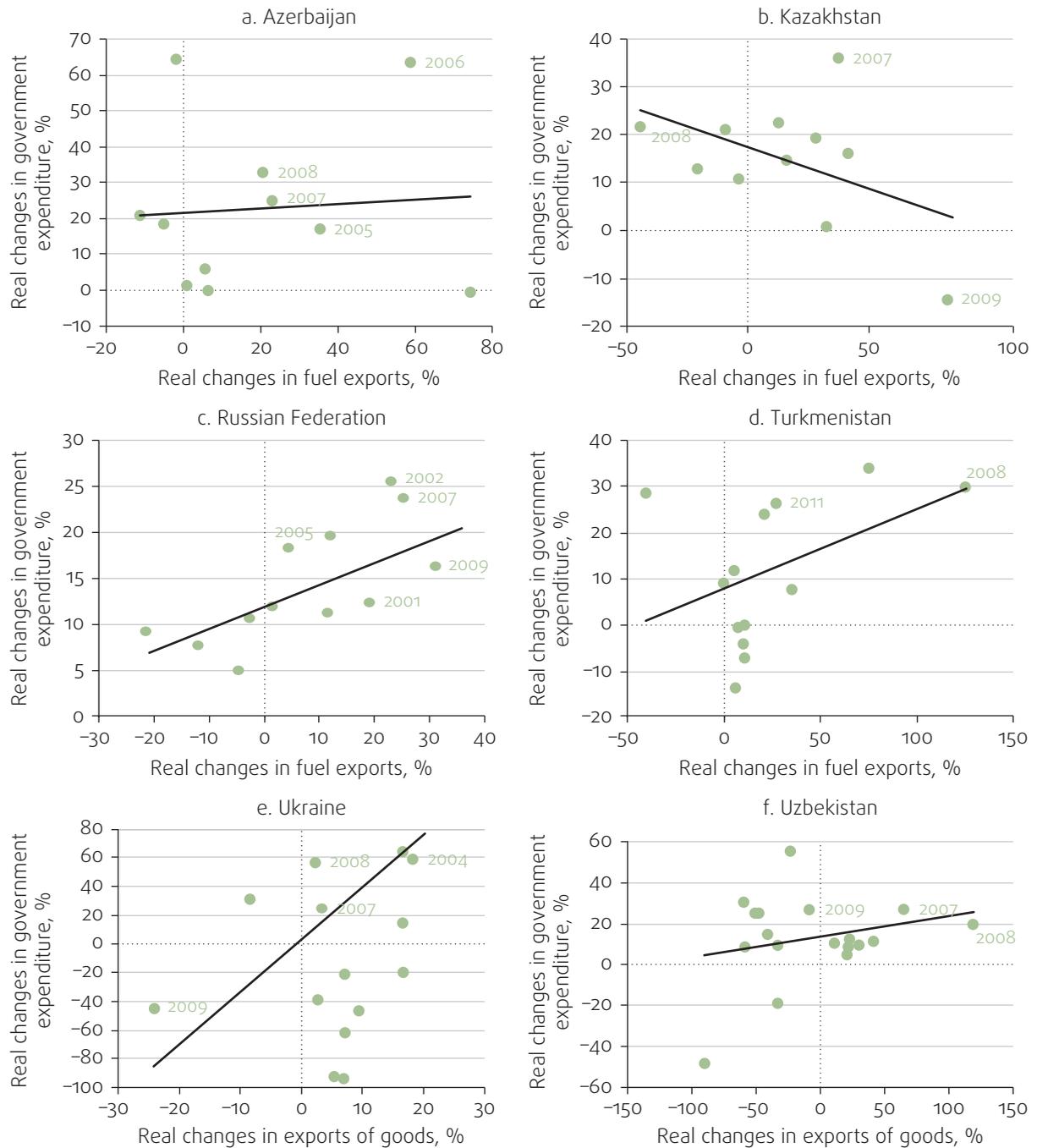
Developments in Turkmenistan and Uzbekistan have not been assessed because statistics and other facts are either unavailable or unreliable.

### Eurasia’s institutional frameworks have not prevented boom and bust

How have the institutional frameworks in Eurasia performed during the recent commodity boom-bust cycle? The evidence is not encouraging. The institutional arrangements have not been as effective as expected in alleviating cyclical pressures and insulating the economy from commodity-price volatility. As a result, output, government spending, and real exchange rates have fluctuated widely, harming investment and growth.

Shortcomings in design and enforcement have led to this disappointing outcome. The degree of fiscal expansion varied, but in Azerbaijan, Kazakhstan, and Russia government spending rose sharply in the run-up to the crisis (figure 6.2), financed by windfall resource revenue. The nonresource fiscal position deteriorated rapidly as a result. Deficiencies in the operational framework made it easier to circumvent the rules, while commitment to fiscal discipline lapsed

Figure 6.2. Fiscal policy was expansionary during the boom



Source: World Bank staff estimates.

Note: For Ukraine, exports of goods are used to examine fiscal procyclicality, given the country's large nonfuel mineral exports. Data on fuel exports are not available for Uzbekistan and thus exports of goods are used as a proxy.

during the height of the commodity boom, even as a sizable part of resource-related revenue was saved. Increased spending was used to boost public investment and raise public remunerations, stimulating nonresource sector growth.

As in many other resource-poor countries in Europe and Central Asia, there was a surge in capital inflows to the region during the 2000s in the form of FDI and external borrowing by banks to fund domestic loan portfolios, which stabilization funds do not sterilize. With accommodative monetary policy coupled with weak prudential regulations and ineffective bank supervision, ample liquidity in the banking system led to rapid credit growth, mostly directed at households and adding to the rapid growth of domestic demand, ignited by the fiscal expansions. Over 2005–08, domestic demand growth in the resource-rich countries averaged 13 percent a year, well above the annual GDP growth rate, giving rise to overheating pressures.

Azerbaijan saw the largest fiscal expansion. Real government outlays grew 40 percent a year over 2006–08, when world energy prices and Azerbaijan's oil production were rising fast (see figure 6.2a). In addition, the State Oil Fund continued to finance large projects directly, outside the national budget framework. Increased public spending, including off-budget spending through the State Oil Fund, was marked for narrowing critical infrastructure gaps in water, electricity, and the like. The rapid growth in spending led to overheating pressures given the country's limited absorptive capacity, fueling inflation. Although the State Oil Fund is a stabilization fund by definition, the absence of a clear operational framework that links it to fiscal policy has led to an increasing amount of oil revenue being transferred to the national budget, contributing to fiscal procyclicality.

In Russia, the Reserve Fund failed to prevent rapid growth of government spending during the height of the oil-price boom. While the statutory fiscal rules limit the amount of natural resource income that can be transferred to the federal budget, the rules were circumvented through regular use of supplemental budgets, preventing the stabilization mechanism from operating effectively. Since 2005, Russia's fiscal policy has become increasingly expansionary, allowing more of the oil revenue windfall to pass through to the economy. The partly sterilized oil revenue, the high liquidity from large capital inflows—reflecting accelerated foreign borrowing by SOEs and the banking sector—negative real interest rates, and a tightly managed exchange rate fed a boom in credit and domestic demand.

Kazakhstan may be the only resource-rich Eurasian country that has implemented prudent countercyclical fiscal policy for most of the recent past, though its institutional framework has hardly prevented government revenue volatility (Kempe 2012). As figure 6.2b shows, Kazakhstan's fiscal policy is characterized by a negative relationship between growth of government spending and fuel exports, suggesting that fiscal policy has played a countercyclical role most of the time, notwithstanding wide fluctuations in government revenue. This is remarkable. However, in 2007, faced with public pressures, the country relaxed fiscal policy through tax cuts and acceleration in spending, fueling domestic demand.

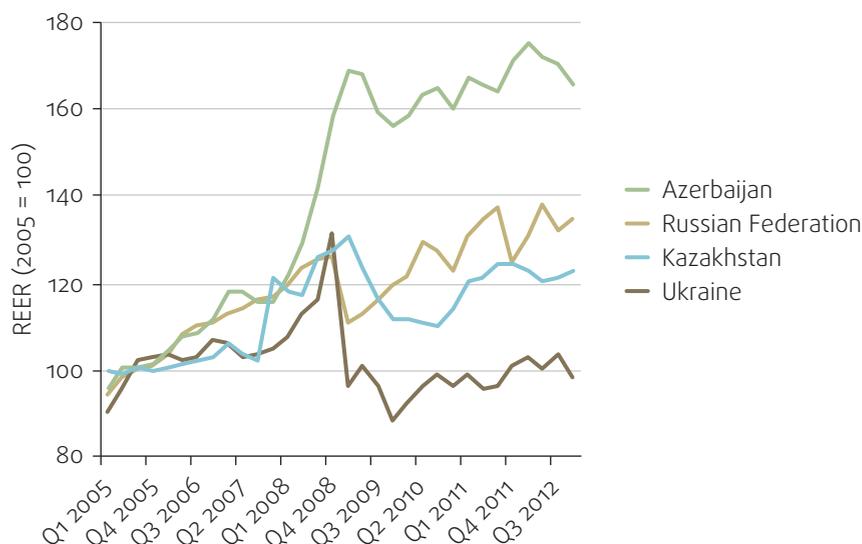


Figure 6.3. Currencies have steadily appreciated

Source: IMF, n.d.

Note: REER = real effective exchange rate.

Over 2006–08, inflationary pressures were building up rapidly, driven by the expansionary fiscal policy and the domestic demand boom stimulated by foreign capital inflows. Temporary administrative measures were implemented for selected food items, but they were largely ineffective. Property prices were also on the rise, and an increasing proportion of domestic and foreign investment was going into real estate. Limited exchange rate flexibility contributed to a further build-up of inflationary pressures, further exacerbating real appreciation (figure 6.3).

The resource-poor Eurasian countries also enjoyed buoyant growth, benefiting indirectly from the bullish international commodity markets through increased demand for their exports and remittance inflows from their resource-rich neighbors, especially Russia. Growth was lifted by strong domestic demand financed by large foreign exchange inflows, contributing to increased government revenue, which was used mainly to increase public spending, including civil service remunerations.

With the outbreak of the global financial crisis, international commodity prices fell and global demand plummeted. In response, all resource-rich Eurasian countries promptly introduced anticrisis packages to stimulate nonresource sectors, tapping the ample fiscal savings accumulated during the boom years. Although Azerbaijan weathered the impact of the crisis fairly well, Kazakhstan and Russia experienced an abrupt end to the economic boom—similarly to many resource-poor countries in Eurasia and beyond—as a sudden reversal of capital inflows caused a credit crunch and a sharp contraction in demand. These in turn

**Figure 6.4. With the onset of the crisis, credit slowed sharply**

— Kazakhstan  
— Azerbaijan  
— Russian Federation



Source: World Bank staff estimates.

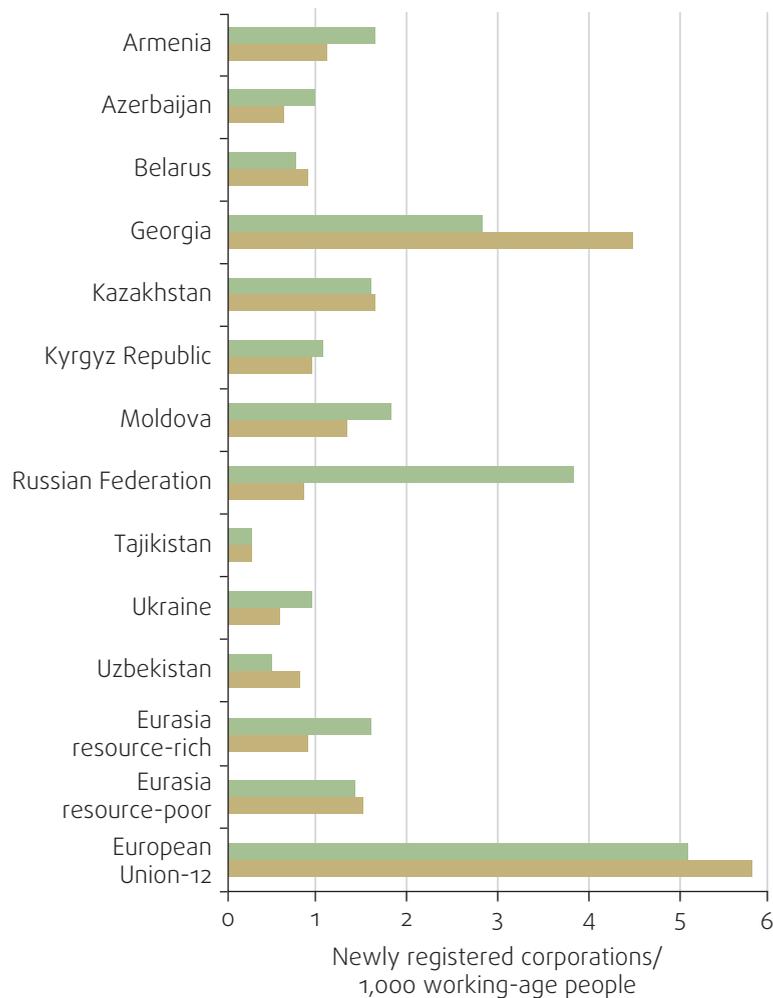
led to a fall in real estate prices, nominal exchange rate depreciation, and, consequently, a serious deterioration in banks' asset quality.

Kazakhstan, which is more integrated with global financial markets than other Eurasian countries, was the most affected by the turmoil. Its nonperforming loan ratio shot up to 23 percent in 2010 from 5 percent in 2008, and its growth slowed from 10 percent before the crisis to about 1 percent just after. Russia's output contracted almost 8 percent in the same year, as the initial policy response to the crisis, though quick and substantial, was circumscribed by policy vulnerabilities that had built up before the crisis. The volatile macroeconomic environment and banking sector turmoil hit market confidence hard, causing a longer-term impact on the real economy. Private investment plunged at the onset of the crisis and remains weak, as reflected in slow credit growth (figure 6.4). In Russia, new business creation has fallen dramatically, and in many other countries the pace of new business creation has not returned to precrisis levels (figure 6.5). The macroeconomic turbulence in resource-rich Eurasia spilled over to the resource-poor countries through sharp reductions in remittances and in demand from the resource-rich region, especially from Russia.

How have other resource-rich countries managed volatility of commodity prices? And how do Eurasia's resource-rich countries compare with them? Let us go back to Chile and República Bolivariana de Venezuela, the two countries mentioned at the start of this chapter (box 6.1).

### Provision of public services: infrastructure and education need a lift

The quality of public institutions has a strong bearing on a country's productivity and competitiveness.



**Figure 6.5. Business creation was negatively affected by the crisis**

(Newly registered corporations per 1,000 working-age people)

■ 2008  
■ 2011

Source: World Bank staff estimates.

The quality of public service provision in Eurasia is generally lower than in the EU-12 and East Asia, according to the World Economic Forum's 2012–13 Global Competitiveness Index (figure 6.6). While Eurasia does as well as the comparator countries in providing public health services, it is weak in delivering infrastructure and education services. Eurasia's weakness in public service provision stands out even more when compared with other resource-rich countries. Chapter 5 presents the argument for boosting infrastructure and education.

### Regulating enterprise: weak regulations and poor enforcement fail to ensure competition

The state has an important role to play in the third policy area—regulating private enterprise—and enforcing the “rules of the game.” But the formation of regulations in Eurasia is often vulnerable to capture by special interests, and

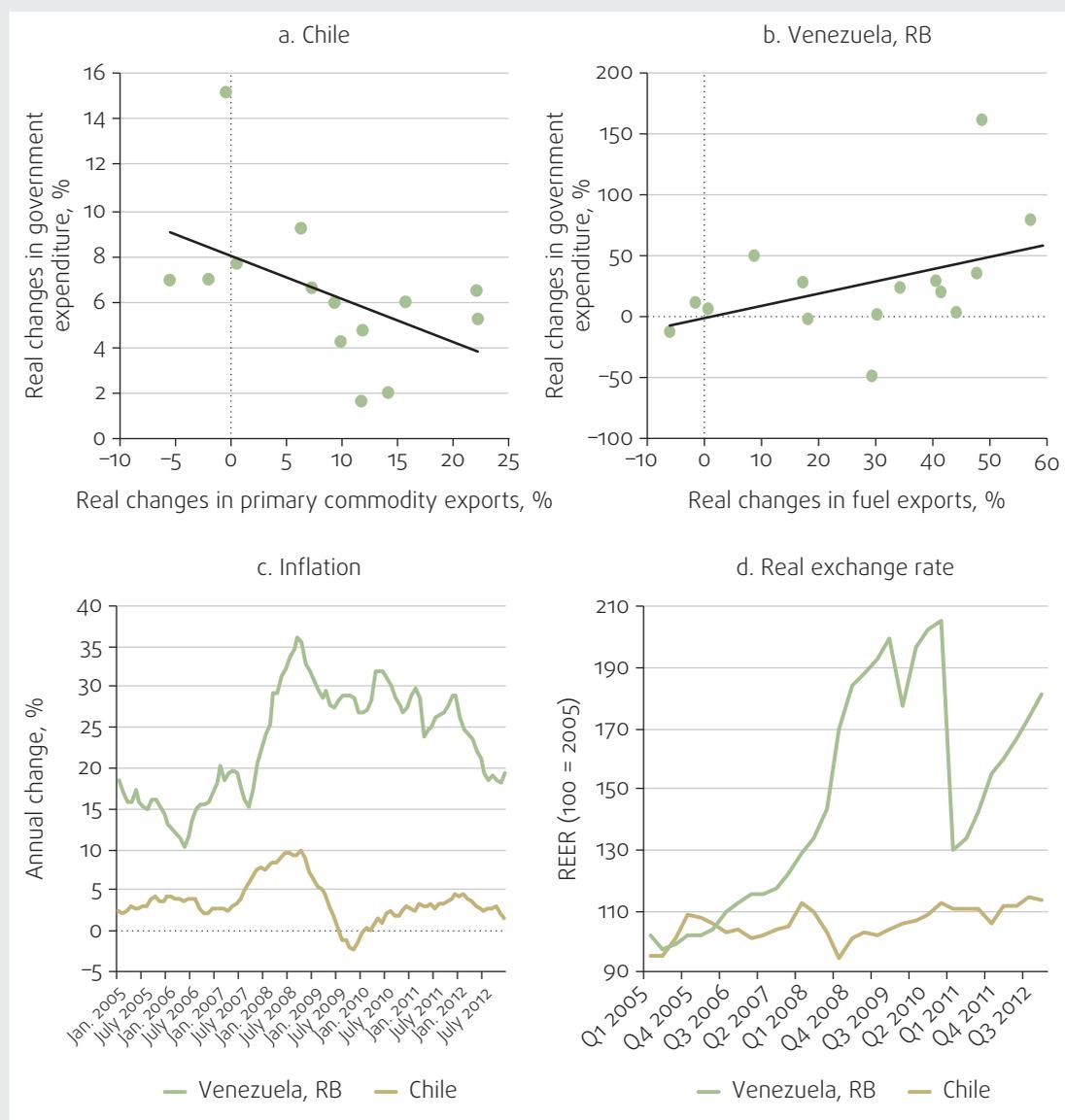
### Box 6.1. Chile has managed volatility well, but República Bolivariana de Venezuela has not

Chile has done a much better job of managing volatility than Eurasia has, while RB Venezuela has done worse. While Chile has enjoyed a stable macroeconomic environment throughout the past two decades, RB Venezuela has experienced highly volatile inflation and a highly

volatile real exchange rate (figure B6.1.1). The reasons have much to do with the management of resource rents. Chile has pursued fiscal discipline, anchored by a structural balance rule designed to facilitate countercyclical fiscal policy to offset copper price volatility. Government

outlays have been increased during periods of low copper prices to boost demand—and contained during commodity booms to mitigate risks of overheating pressures. In sharp contrast, RB Venezuela’s fiscal policy has been procyclical, influenced heavily by world commodity developments.

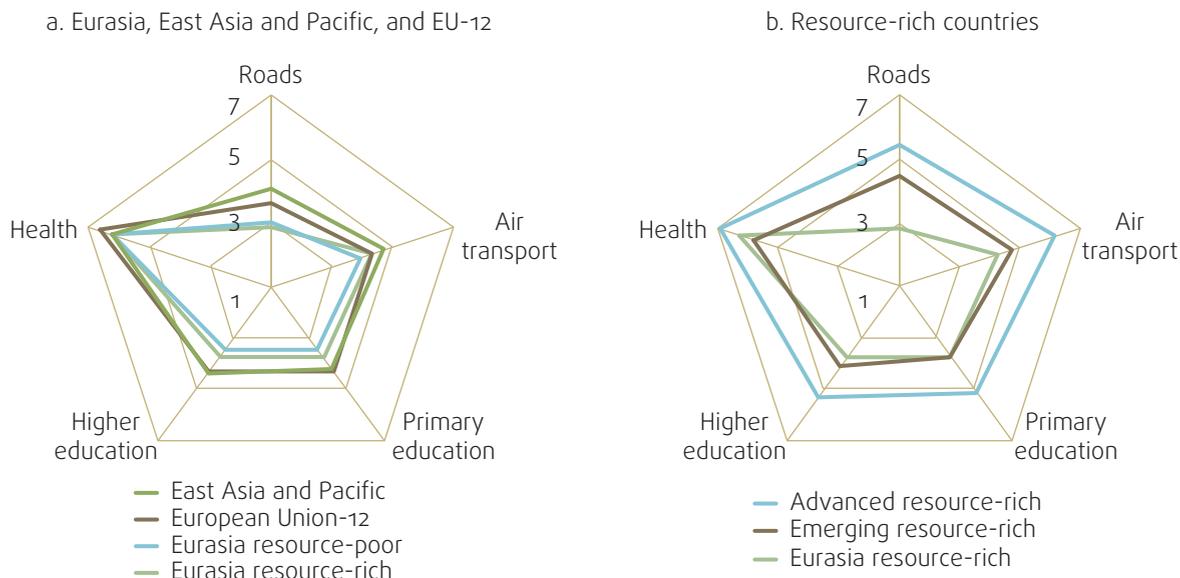
Figure B6.1.1. Chile and República Bolivariana de Venezuela: selected indicators



Source: IMF, n.d.; World Bank staff estimates.

### Figure 6.6. Public service provision is weak

(Global Competitiveness Index, 7 = best)



Source: World Economic Forum 2012.

Note: Resource-rich countries include Azerbaijan, Kazakhstan, the Russian Federation, Turkmenistan, Ukraine, and Uzbekistan. Resource-poor countries include Armenia, Belarus, Georgia, the Kyrgyz Republic, Moldova, and Tajikistan. The European Union-12 includes Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic, and Slovenia. East Asia and Pacific includes Cambodia, China, Indonesia, the Republic of Korea, the Lao People's Democratic Republic, Malaysia, Mongolia, Papua New Guinea, the Philippines, Singapore, Thailand, and Vietnam. Advanced resource-rich countries include Australia, Canada, the Netherlands, Norway, the United Arab Emirates, and the United States. Emerging resource-rich countries include Botswana, Chile, Malaysia, Nigeria, Saudi Arabia, and República Bolivariana de Venezuela.

enforcement through administrative and judicial systems is frequently selective and uncertain.

Effective regulations promote private sector development by addressing market failures arising from the presence of externalities, by shaping the rules of the game, and by meeting important social and environmental goals. It is increasingly recognized that well-designed and enforced rules and regulations on competition can reap large long-term growth and welfare dividends through better allocation of resources, lower prices, innovation, higher productivity, greater formal employment opportunities, and improved competitiveness with trading partners (see OECD 2011; World Bank 2013c).

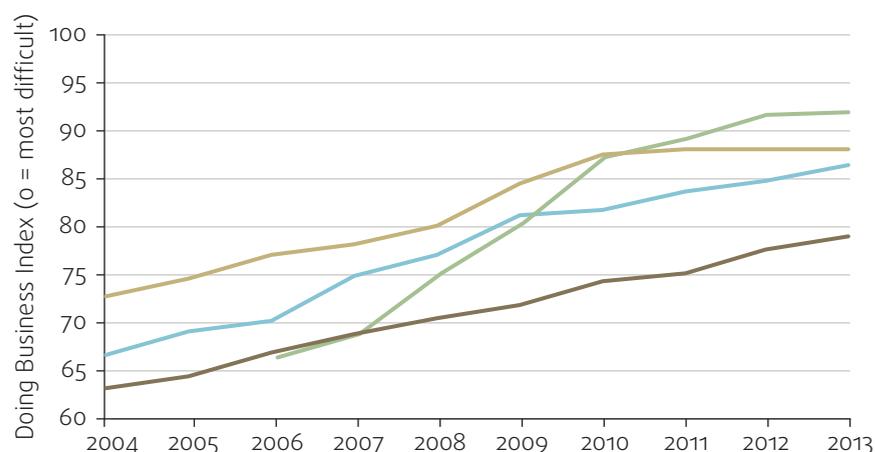
#### How has Eurasia done in regulating enterprise?

Not so well. Progress in some areas is undermined by a partial and often inconsistent approach to reform that leaves large gaps in the regulatory framework for business. According to *Doing Business*, Eurasia has gradually improved its business environment (figure 6.7). The overall Doing Business Index, which measures the burden of compliance with regulations, shows a strong improvement in resource-poor Eurasian countries, especially Georgia,

**Figure 6.7. Overall, Doing Business Indicators have improved sharply in the past decade**

(Evolution of Doing Business Indicators)

- European Union-12
- Eurasia resource-rich
- Eurasia resource-poor
- East Asia and Pacific



Source: World Bank 2013a.

whose business environment is now more favorable than that in the Eurasian resource-rich countries and the EU-12. Progress has been notable in the area of business start-up, but little progress has been made in trading across borders.

But *Doing Business* rankings do not tell the whole story. The perception of market participants, as measured by the Worldwide Governance Indicators (World Bank, n.d.c), paints another picture (box 6.2). There is a widespread perception that Eurasia's business regulatory framework improved little over 1996–2011, particularly in resource-rich countries, and that the government's ability to implement sound policies and regulations remains ineffective (figure 6.8). Resource-rich Eurasian countries also perform far worse than other resource-rich countries. Large heterogeneity is seen within Eurasia, with Georgia having the most favorable regulatory environment, reflecting the sweeping regulatory reforms prompted by the Rose Revolution, which began in 2004. Business regulations are worst in Turkmenistan, Uzbekistan, and Belarus—and they actually deteriorated in Turkmenistan and Ukraine over 1996–2001 (see figure 6.8).

Specific to the extractive sector, efforts toward greater transparency have been supported by the Extractive Industries Transparency Initiative (EITI).<sup>6</sup> Azerbaijan was one of the first countries to join the EITI in 2003. It achieved the "EITI Candidate" status in 2007 and became compliant in 2009. Kazakhstan formally became an EITI candidate country in 2007 and EITI compliant in 2013. The Kyrgyz Republic also became EITI compliant in 2011, while Tajikistan and Ukraine are in candidate status.

Results from Business Environment and Enterprise Performance Surveys (EBRD and World Bank 2005, 2008/09) are consistent with the above view about Eurasia's regulatory environment. The most striking finding from the 2008/09 survey is the sharp increase in senior management time spent complying with regulations (figure 6.9). In 2008/09, senior managers in Russia spent 20 percent of their work hours dealing with the requirements of government regulations, nearly four times as much as in 2005, reducing the time that could be used for productive activities.

### Box 6.2. Doing Business Indicators, Worldwide Governance Indicators, Business Environment and Enterprise Performance Surveys, and Global Competitiveness Index: how do they differ?

**The World Bank's Doing Business Indicators** measure the burden of business regulations for registered small and medium-size companies in the largest business city in 185 countries. (Turkmenistan is one of the few countries that do not take part.) Doing Business captures 10 dimensions of business regulations: starting a business; dealing with construction permits; getting electricity; registering property; getting credit; protecting investors; paying taxes; trading across borders; enforcing contracts; and resolving insolvency. Indicators are compiled based on inputs provided by local respondents (professionals who routinely administer or advise on the legal and regulatory requirements). Because of the focus on legal and regulatory arrangements, most of the respondents are legal professionals, such as lawyers, judges, and notaries. Freight forwarders, accountants, architects, engineers, and other professionals answer the surveys related to trading across borders, taxes, and construction permits.

The Doing Business Indicators have limitations. They do not, for example, measure the full range of factors, policies, and institutions that affect the quality of the business environment, including security, the prevalence of bribery and corruption, market size, macroeconomic stability, the state of the financial

system, or the training and skills of the labor force. Moreover, the indicators assume that firms know the applicable regulations and comply with them and so do not account for time that may be lost figuring out what needs to be done or how to comply with regulations.

**The Business Environment and Enterprise Performance Surveys** for Eastern Europe and Central Asian countries, conducted jointly by the World Bank and the European Bank for Reconstruction and Development, are firm-level surveys of a representative sample of an economy's nonagricultural businesses. The surveys cover a broad range of topics, including access to finance, corruption, infrastructure, crime, competition, and performance measures. Data are collected from face-to-face interviews with top managers and business owners in more than 130,000 companies in 135 countries. The data reflect business conditions from a firm's perspective at the country level and are useful for comparing the impacts of reforms on firms.

**The World Bank's Worldwide Governance Indicators** measure six dimensions of governance: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. They cover 215 economies for 1996, 1998, 2000, and each year 2002–12. The indicators are compiled based on

several hundred individual variables measuring perceptions of governance, drawn from 33 data sources constructed by 30 different organizations. These individual measures of governance are assigned to categories capturing the six dimensions of governance, and an unobserved components model is used to construct six aggregate governance indicators for each period.

**The World Economic Forum's Global Competitiveness Index** is based on survey and factual data. The source of survey data is the World Economic Forum's Executive Opinion Survey. Survey questions ask participants to evaluate, on a scale of 1 (worst) to 7 (best), the current condition of their operating environment. The indices are based on a representative sample of survey responses across countries. The sample is designed to be representative of the national business sector, both in the share of production by industry and size of companies and the range of company types (domestic, foreign, and partly state-owned). Sample size varies by the size of the economy. The World Economic Forum has taken steps to mitigate the possibility of country-specific perception bias. It selects companies by international exposure, so that executives are in a position to compare the situation with those of other countries; and it attempts to exclude outliers from computations.

### Some formalities have been reduced, but it is still hard to run a business

Despite reduced registration formalities and minimum capital requirements for business start-ups, starting operations and running businesses remain difficult because other regulations—those for getting licenses, access to factors and inputs, international trade—remain onerous and time-consuming.

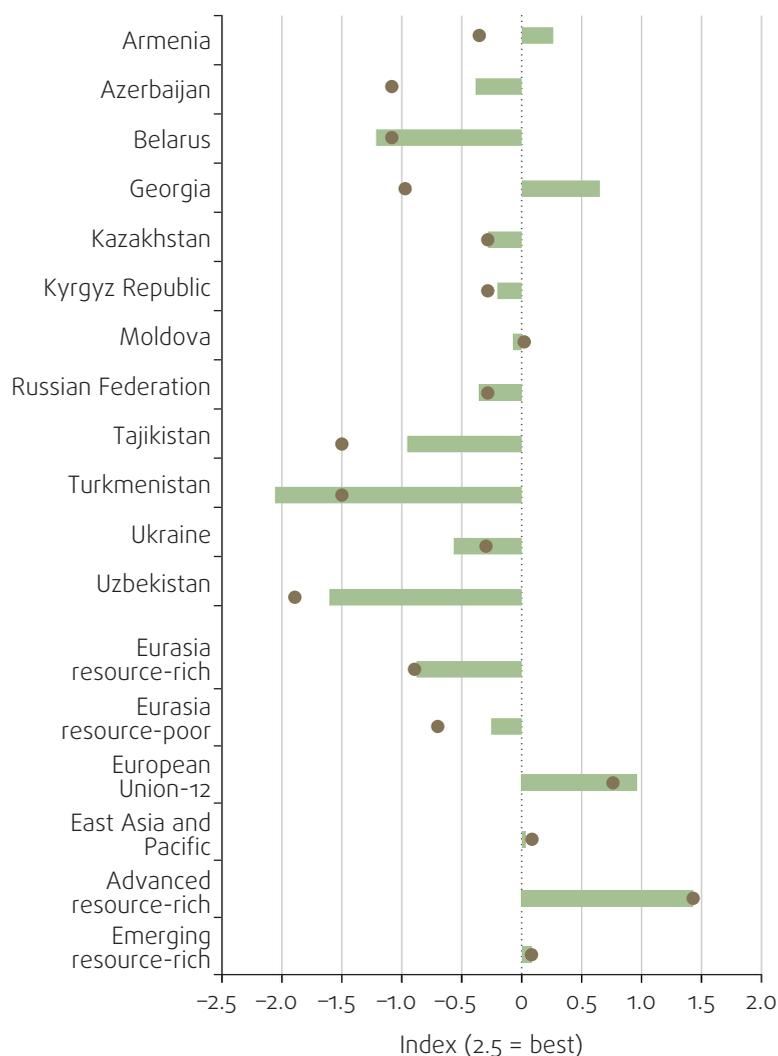
Obtaining licenses and permits incurs a heavy administrative burden. According to Business Environment and Enterprise Performance Surveys, a far larger share of firms identified business-related licenses and permits as a major obstacle to business in 2008/09 than in 2005 in Belarus, Kazakhstan, Russia, and Ukraine (figure 6.10). In Armenia in contrast the share of firms identifying this obstacle was markedly reduced.

Getting construction-related permits—that is, obtaining all necessary approvals to build a simple warehouse and connect it to water, sewage, and a fixed

**Figure 6.8. Market participants do not feel the improvement in regulations on the books**

(Regulatory quality)

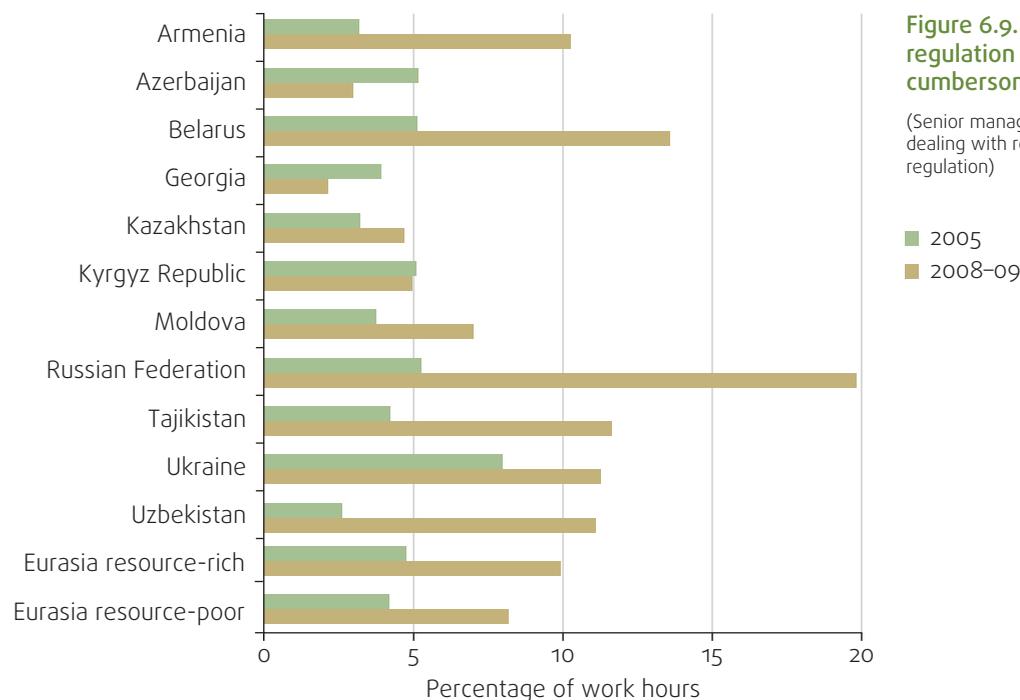
● 1996  
■ 2011



Source: World Bank, n.d.c.

telephone line—is harder in Eurasia’s resource-rich countries than in resource-poor countries, involving more procedures, higher cost, and longer wait time (figure 6.11). According to *Doing Business*, getting such permits in Russia requires 42 procedures and 344 days. The most time-consuming part is to obtain the development plan for the land plot at the Moscow Architecture and City Planning Committee, which consumes more than a third of the total wait time.<sup>7</sup>

Obtaining operating licenses is also time-consuming. It takes 57 days for firms to obtain an operating license in Russia, more than twice as many as the Eurasian average. The approval process may be used to discourage business entries in certain sectors. For example, in Russia, it takes 82.5 days to obtain a license to



**Figure 6.9. Compliance with regulation has become more cumbersome**

(Senior management time spent dealing with requirements of regulation)

■ 2005  
■ 2008-09

Sources: EBRD and World Bank 2005, 2008/09.

do business in manufacturing, particularly chemicals and chemical production, compared with 34.6 days for retail services. Obtaining operating licenses and construction permits often entails giving gifts to government officials (figure 6.12). On average, 25 percent of firms were expected to give gifts to government officials to obtain an operating license in 2008/09. Bribery is more frequent for construction permits.

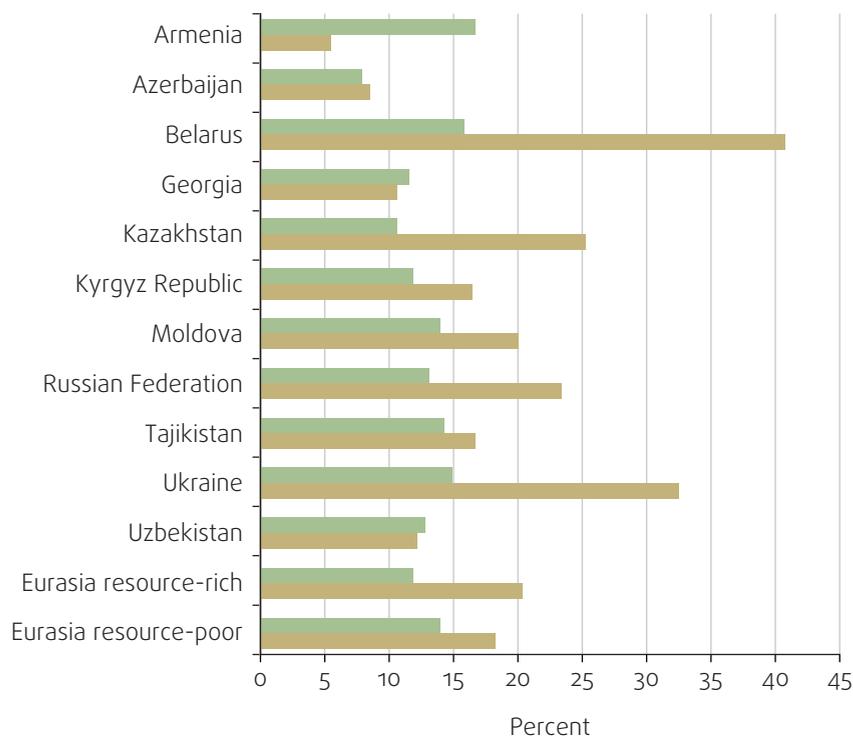
Labor market regulations are quite flexible in Eurasia and do not differ much from those in Organisation for Economic Co-operation and Development (OECD) countries, according to the Institute for the Study of Labor's Employment Protection Legislation Index (Muravyev 2010). Within Eurasia, Georgia and Kazakhstan have the most liberal labor policies (figure 6.13). By contrast, Moldova's are restrictive, making it very hard for firms to dismiss redundant employees or hire new ones.

Regulations for international trade are extensive and compliance is time-consuming, inhibiting access not only to export markets but also to intermediate inputs of foreign origin and foreign technology (figure 6.14). In this area, Eurasia has made very little progress over the past 15 years, and it is far behind the comparator countries. According to *Doing Business*, Kazakhstan, Tajikistan, and Uzbekistan are the world's worst three countries for ease of trading across borders. Cross-border trade is also difficult for the Kyrgyz Republic, ranked 176th of the 185 countries. Documentation requirements are especially heavy in Uzbekistan, where firms have to process 13 documents to export and 14 to import.

### Figure 6.10. Getting a license is a major obstacle to doing business

(Percentage of firms identifying business licenses and permits as a major obstacle)

■ 2005  
■ 2008-09



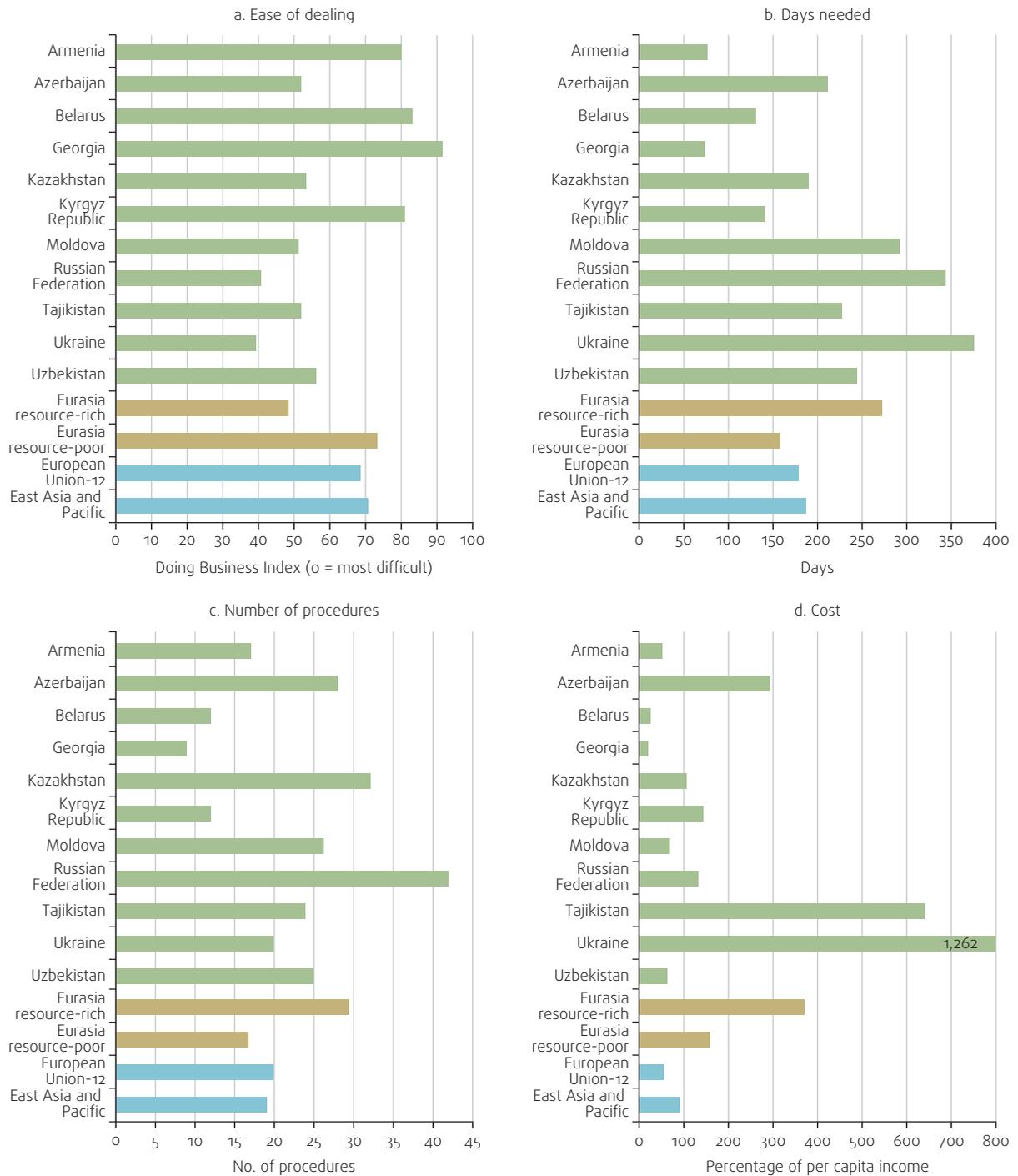
Sources: EBRD and World Bank 2005, 2008/09.

Cumbersome regulatory requirements for trade may have created opportunities for bribery. In Uzbekistan, with the most unfriendly trade-related procedures in Eurasia, more than 70 percent of firms were expected to give gifts to public officials to secure an import license, according to the 2008/09 Business Environment and Enterprise Performance Survey. And despite the trade policy reforms in Georgia that led to its moving sharply up the *Doing Business* rankings, the Business Environment and Enterprise Performance Surveys show that 43 percent of firms there were expected to offer a gift to get an import license. Russian exporters face a 20 percent higher probability of tax inspection than nonexporting firms (World Bank 2013c).

Nonregulatory barriers to trade are also substantial in Eurasia. A variety of means are used to discourage trade and protect domestic industries. Turkmenistan, for example, applies many times higher excise rates on imported goods than on goods produced locally. In Uzbekistan, distortions and indirect restrictions in the foreign exchange market serve as discriminatory barriers against imports.

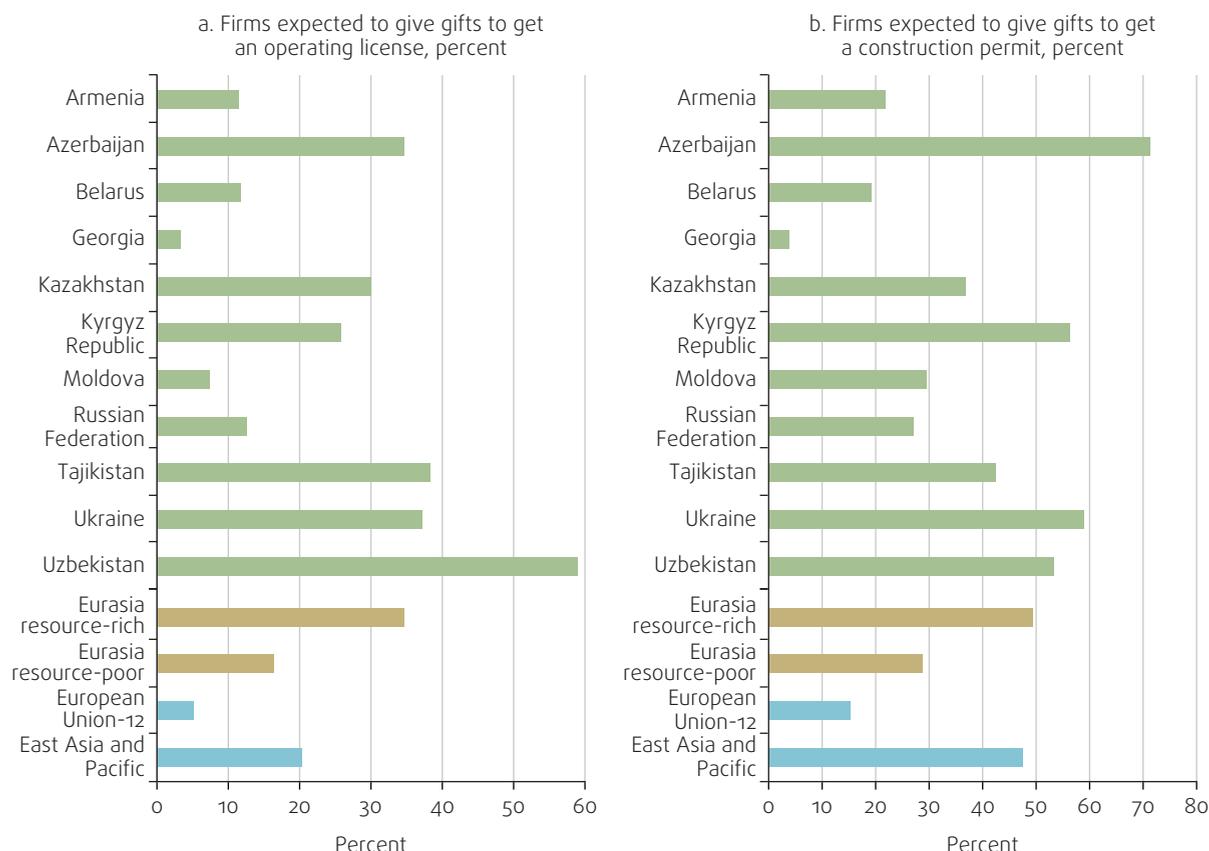
Eurasia also falls behind its comparator countries in all six aspects of trade logistics, according to the World Bank's Logistics Performance Index (figure 6.15). Inefficient and slow customs procedures, inadequate infrastructure, and a lack of reliable logistics services all hurt costs, timeliness, and supply-chain reliability and so hurt exporters' competitiveness. Customs inefficiency is a

Figure 6.11. Dealing with construction-related permits



Source: World Bank 2013a.

Figure 6.12. Widespread bribery of public officials



Source: EBRD and World Bank 2008/09.

major concern in Tajikistan and the Kyrgyz Republic, where it takes more than 20 days and 15 days, respectively, to clear customs, versus 3.3 days in the EU-12 and 5.8 days in East Asia.

Rules governing FDI in Eurasia are restrictive, discouraging inflows (particularly in nonresource sectors). According to the OECD's FDI regulatory restrictiveness index for 2012, Russia had the 12th most restrictive FDI regime of 56 economies.

Besides formal restrictions, governments' control in key industries has discriminatory effects on foreign investors. Foreign ownership and control are generally difficult for airlines, railways, and energy industries, which are typically dominated by government monopolies (chapter 3). Foreign participation is also restricted for other sectors that the government regards as important for national security, while informal restrictions may also apply to media, banking, insurance, and tourism. In Kazakhstan, while no sectors of the economy are legally closed to foreign investors, restrictions are still in place, including a 20 percent ceiling for media outlets and 49 percent in telecommunications.

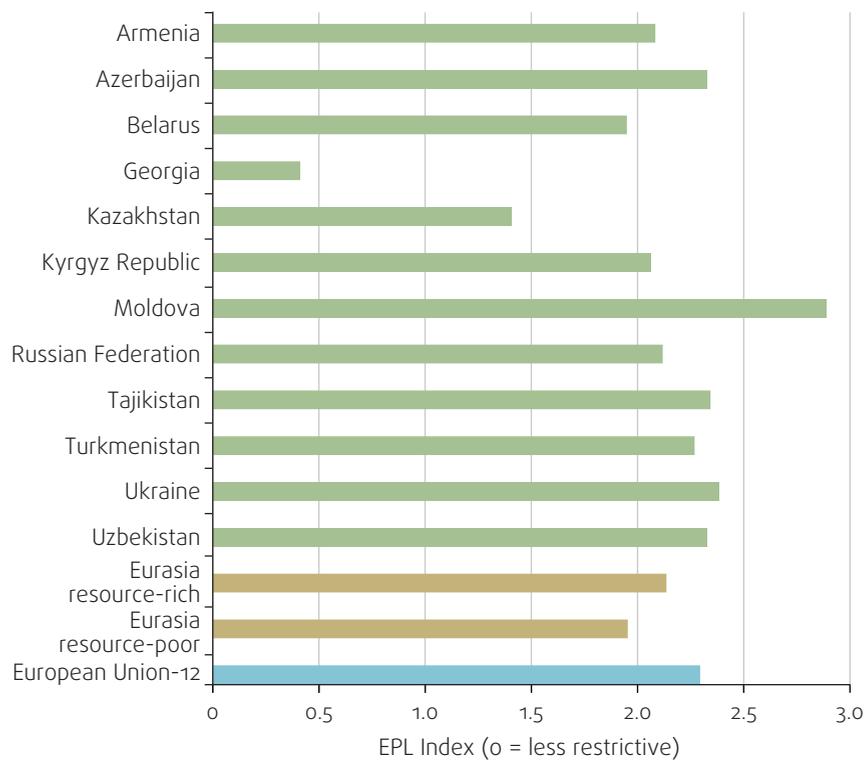


Figure 6.13. Employment protection legislation (EPL) is not cumbersome

Source: Muravyev 2010.

Note: Data are for 2009, except for the European Union-12 (2007).

Other policies may discriminate. In Azerbaijan, international firms are required to present a certificate attesting that a foreign worker is free from yellow fever, hemorrhagic virus, HIV, hepatitis B and C, and mental disorders—but only from approved medical facilities in the country. Kazakhstan’s Expatriate Workforce Quota and Work Permit Rules require the workforces of medium-size and large firms to be 90 percent local, making it hard for firms to obtain an expatriate work permit in highly technical fields where Kazakhstan cannot supply the skilled workers (U.S. Department of State 2012). In Turkmenistan, foreign investors face higher tax rates than most local companies. In Uzbekistan, currency conversion is one of the biggest problems for foreign firms, making profit repatriation difficult.

Insolvency proceedings can be cumbersome, time-consuming, and costly in Eurasia, holding back the entry decision of would-be entrepreneurs and reducing the availability of risk capital. *Doing Business 2013* assesses that resolving insolvency is far harder in the Kyrgyz Republic and Ukraine than in the other four resource-rich countries in Eurasia.<sup>8</sup> An efficient mechanism to resolve insolvency makes rehabilitating distressed but viable businesses easier, reduces the cost and time for bankruptcy proceedings, and increases the recovery rate for creditors. A good insolvency regime can therefore promote the creation of new firms, by encouraging entrepreneurs to take risks and innovate, and promote healthy competition in the economy (chapter 5). Firm entry across

**Figure 6.14. Restrictive trade regulations discourage nonresource trade and limit access to advanced technology**



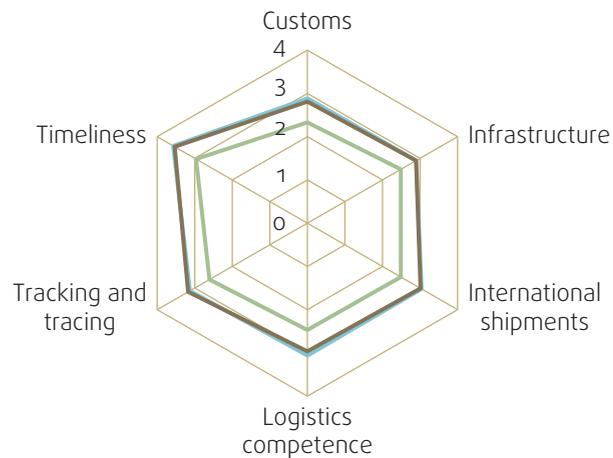
Source: World Bank 2013a.

Source: EBRD and World Bank 2008/09.

**Figure 6.15. Trade logistics are poor**

(Logistics Performance Index, 5 = best)

- European Union-12
- East Asia and Pacific
- Eurasia



Source: World Bank, n.d.a.

Eurasia appears, however, lower than the burden of closing a business would justify (figure 6.16).

### Capture by powerful interests limits competition

Inconsistent enforcement of laws and regulations and pervasive corruption are typical symptoms of weak governance, and Eurasia is far behind comparator

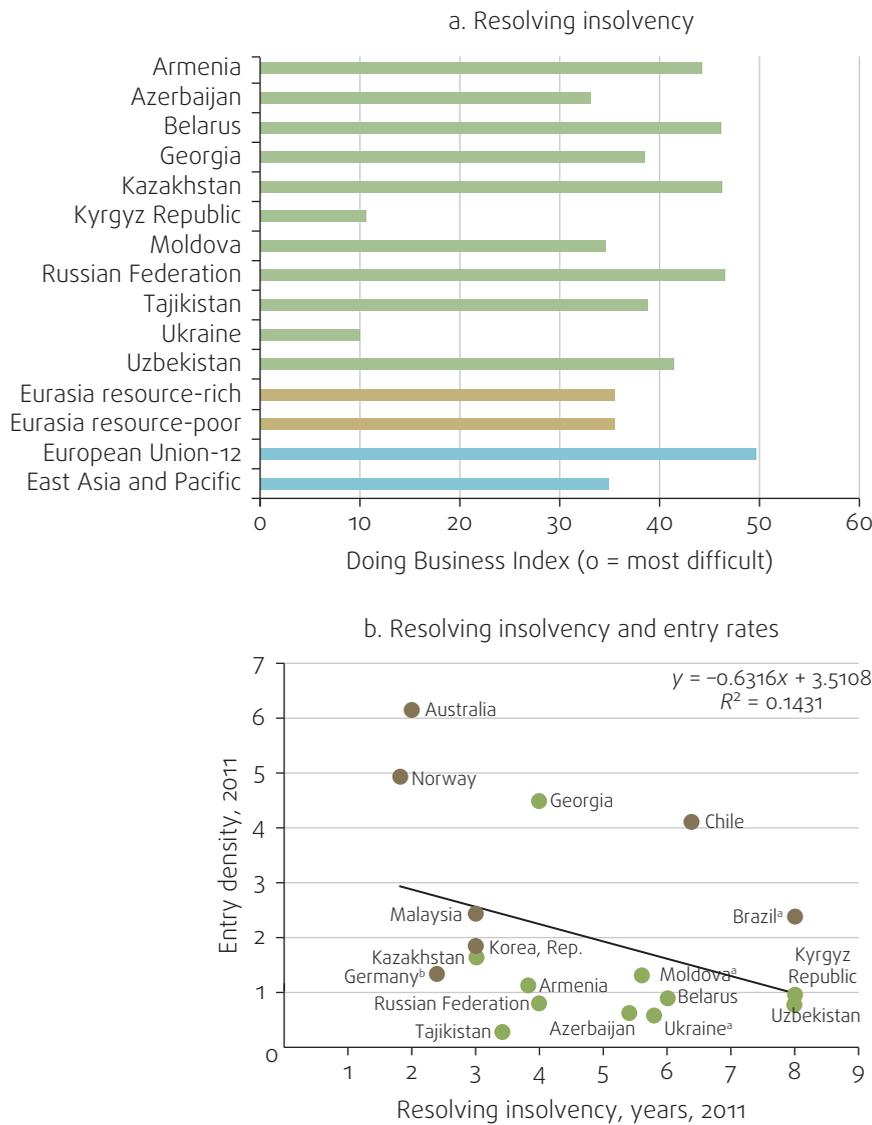


Figure 6.16. Lengthy processes in closing a business raise the cost of failure and reduce the incentives to start one

Source: World Bank 2013a.

a. Data for Brazil, Moldova, and Ukraine are for 2009.

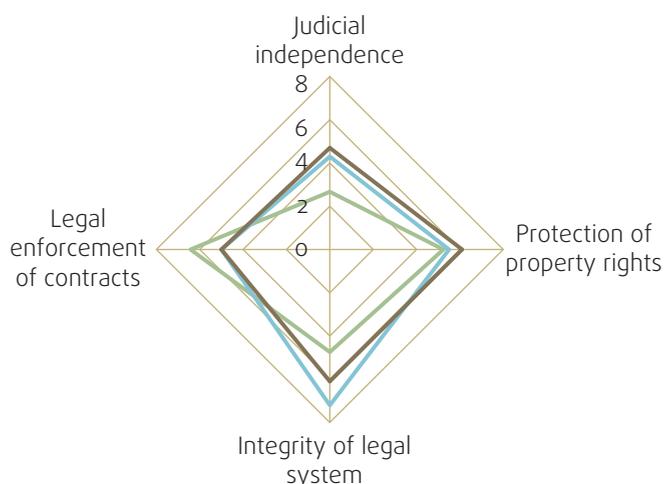
b. Data for Germany are for 2010.

countries in all elements of governance and transparency. Rule of law, corruption, and accountability are especially problematic (figure 6.17). Among the subcomponents of the rule of law, Eurasia appears particularly weak on judicial independence, integrity of the legal system, and protection of property rights. Firms in Eurasia repeatedly complain that the judiciary is subject to political influences and—particularly in Ukraine—that the legality of government actions or regulations is difficult to challenge in court. Although private ownership is enshrined in legislation across Eurasia, enforcement of property rights is weak, which translates into a major deterrent to firms that wish to invest and innovate and constrains financial development. Firms in Russia and Ukraine are least protected in their property rights among Eurasian countries. In Belarus, the reversibility of privatization deals poses a serious concern of appropriability—that is, the investors’ ability to capture profits generated from their investment or innovation.

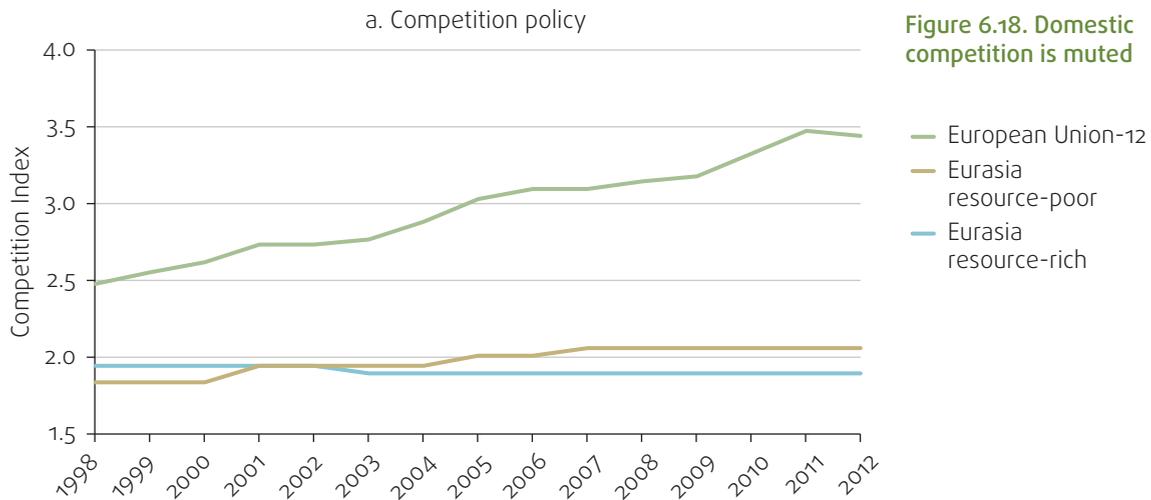
Powerful vested interests that effectively capture lawmakers and the judiciary lie at the root of the failure to translate formal regulatory improvements into a favorable environment for private enterprise in Eurasia—colloquially, “the playing field is not level.” Corporate activity is often dominated by less productive incumbents, many of which are owned partly or wholly by the public sector or have close links to the political establishment. In some countries, these firms maintain better access to natural resources, markets, credit, and licenses than private entities do. More-efficient enterprises, especially small and medium-size firms and start-ups, cannot compete with public sector entities and incumbent firms on an equal footing. Government commitment to competition seems shallow, in stark contrast with the rapid progress in the EU-12 countries (figure 6.18). According to the World Economic Forum, Eurasia ranks 119th (on average) of 144 countries on the intensity of competition in local markets, and worse on antimonopoly policy.<sup>9</sup>

Figure 6.17. Weak rule of law

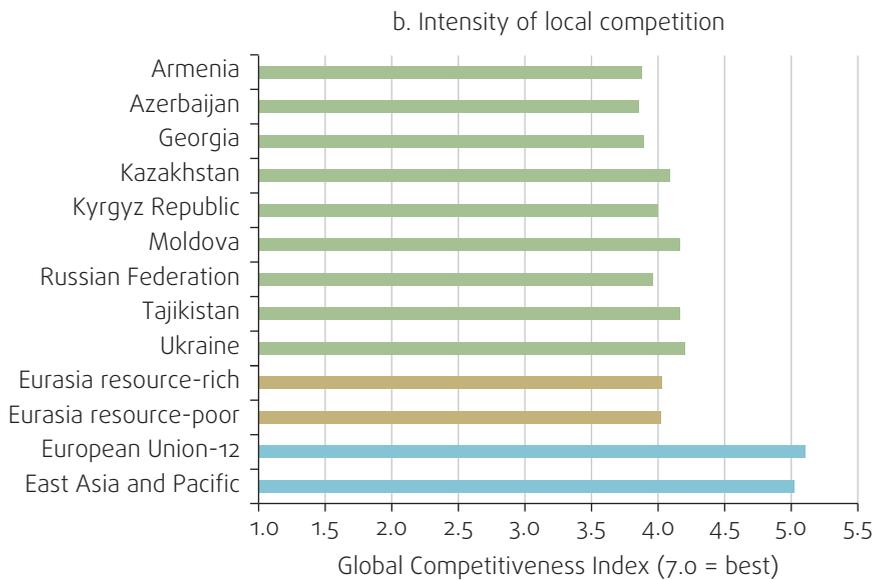
- East Asia and Pacific
- European Union-12
- Eurasia



Source: Fraser Institute 2012.



Source: World Bank and EBRD 2010.



Source: World Economic Forum 2012.

In Ukraine, SOEs are allowed to acquire inputs and capital goods without following transparent competitive bidding procedures prescribed by the state procurement law. In Turkmenistan, wool carpets produced at state factories are exempt from customs duties, whereas private carpet producers are subject to 100 percent customs duties for exporting carpets. Similarly in Russia, state corporations are exempt from competition law and many other laws meant to ensure competition, allowing SOEs to dominate the market and reducing the scope for private involvement (World Bank 2013c).

Incumbent firms are also given preferential treatment in the form of the provision of cheap inputs, lower tax rates, or even tax exemptions. In Russia, energy is provided at a discounted rate to large, less productive incumbent companies (steel and cement plants), while new forms of retail organizations face tax liabilities eight times larger than those for existing wholesale markets (World Bank 2013c). In Belarus and Turkmenistan, the financial sector—dominated by state-owned banks—channels a predominant share of financing to less productive firms, including SOEs, at subsidized rates, crowding out private investment.

Why then is the playing field not level? This is surprising given that the legal framework for competition in Eurasia was assessed by the OECD (annex 6C) and rated adequate with only a few remaining legal gaps in some countries. (The least advanced were Belarus and Turkmenistan.) Most Eurasian countries had adopted modern competition laws quite early in the transition process, such that by 1999 all but two (once more, Belarus and Turkmenistan) had enacted modern competition frameworks, with regulatory bodies in charge of enforcing legislation.

Implementation efforts remain weak and uneven, partly because of limited institutional capacity, resource constraints, and a lack of relevant information but mainly because of the inability of young competition agencies to resist anticompetitive and distortive policies aimed at favoring businesses that are directly or indirectly connected to political parties or to the legislative or executive branches.

The enactment and early implementation of competition law was often stopped or overruled by distortive government interventions and biased court decisions. Recent examples from Russia and Ukraine are a good illustration of how government discretionary decisions can undermine competition, create dominant market position, and worsen market efficiency. In 2012, Ukraine's cabinet passed a decision allowing state-owned companies to acquire inputs and capital goods without following transparent competitive bidding (tender) procedures prescribed by the state procurement law. This, to a large extent, undid the efforts that went into passing a procurement law aligned with best international practice and, more important, created a gap that will feed corruption, preclude the private sector from competing in state purchases, and increase state budget spending. Similar setbacks have arisen in Russia, where SOEs are not subject to provisions of the state procurement law, competition law, bankruptcy law, and many other laws relevant for efficient market operations (such as disclosure and audit of income statements, balance sheets, and other financial reports).

## Fiscal institutions to manage volatility

Should the fiscal institutions for managing resource rents such as oil funds be designed with the relatively modest objective of steadying government revenue over the business cycle, or should they have longer-term objectives such as boosting productivity and employment? Weaknesses in the overall governance framework would suggest that Eurasian countries are best advised to use fiscal instruments for the still crucial but more short-term objective of reducing volatility.

Countries rich in natural resources face the challenges of resource revenue exhaustibility and volatility. Resource exhaustibility calls for intertemporal consumption, savings, and investment decisions, with long-term implications for the development of nonresource sectors, intergenerational equity, and fiscal sustainability. Revenue volatility, on the other hand, gives rise to a mechanism to prevent the transmission of fluctuations into output, fiscal policy, and real exchange rates.

Addressing these immediate and long-term considerations simultaneously is a complex policy challenge. Because of that, it is no surprise that very few countries are achieving both goals. Many resource-rich emerging and developing countries have adopted some form of fiscal institutions to manage volatility while attempting to address longer-term objectives, by building productive capital to foster alternative engines of growth and saving part of resource rents for future generations informed by the intertemporal framework.

Nonetheless, the record is poor. Evidence suggests that the greater use of fiscal institutions has neither shielded countries from procyclicality nor helped build the productive capital—physical and human—needed to foster nonresource sectors (box 6.3). Empirical studies attribute unanimously the disappointing outcome to political and administrative constraints (for example, Arezki and Brückner 2011; Arezki, Lederman, and Zhao 2011; van der Ploeg 2011). In the face of large natural resource rents, inadequate political institutions make it difficult for countries to resist pressures to increase spending and lower taxes, which may induce higher fiscal profligacy and encourage rent-seeking activity. Weak implementation capacities add to these constraints.

There is a negative correlation between government effectiveness and macroeconomic volatility, measured by the volatility of inflation, suggesting that countries with weak institutions tend to adopt poor economic policies to manage volatility of commodity prices (figure 6.19). The same exercise using indicators of the quality of infrastructure and of human capital also shows that countries with weak institutions tend to fail in using natural resource rents effectively to build the productive assets needed to foster nonresource sectors (figures 6.20 and 6.21).

How should Eurasia manage natural resource rents? With weak institutions, simultaneously addressing multiple policy objectives of resource management may be too ambitious for Eurasia. Given that the region as a whole has a fairly long reserve horizon, perhaps the best strategy for the Eurasian resource-rich countries may be, for now, to focus on the narrower (but important) policy objective of managing volatility while working hard to raise the quality of institutional capital closer to the level of Chile.

Volatility management is crucial because volatility in natural resource revenue can result in volatility of GDP, government outlays, and the real exchange rate. Such macroeconomic volatility prompts consumers and businesses to be more cautious, hampering investment and growth. While macroeconomic stability alone is not sufficient for long-term growth, it is absolutely essential.

Public finances can be delinked from fluctuations of resource revenue. The mechanism should be designed to control the expansion of government spending by filtering large inflows of resource revenue that could be excessive

### Box 6.3. Stabilization funds

Following the first establishment by Kuwait in 1953, a number of countries have introduced special fiscal institutions, such as stabilization funds and fiscal rules, to help the implementation of fiscal policy in the face of commodity price volatility.

But apart from a handful of exceptions (such as Chile), successful examples of stabilization funds are very few in developing countries. The empirical evidence of the effectiveness of stabilization funds—both case studies and econometric—is tenuous at best. On the one hand, studies find that countries with a stabilization fund have attained stabilization goals. For example, a cross-country analysis by Shabsigh and Ilahi (2007) shows that stabilization funds are associated with stable inflation at low levels, though there is a statistically weak negative association between the presence of stabilization funds and volatility of real exchange rates. Sugawara (2013) finds robust results that stabilization funds have contributed to smoothing government spending. Merlevede, Schoors, and van Aarle (2009) find that the introduction of the oil stabilization fund in the Russian Federation has mitigated economic fluctuations caused by the oil price shocks, as reflected in the decline in oil elasticity of government spending.

On the other hand, researchers fail to find evidence that stabilization

funds have effectively insulated the domestic economy from the volatility of commodity prices. Fassano (2000) examines six stabilization funds (Norway, Chile, República Bolivariana de Venezuela, Kuwait, Oman, and the U.S. state of Alaska) and finds mixed results about the effects of the funds on fiscal management. Crain and Devlin (2003) employ panel data covering 71 countries over 1970–2000 and show that stabilization funds can actually increase the volatility of government spending in oil-exporting countries because these funds do not ensure fiscal restraint. Davis and others (2001) find that government spending tends to be less correlated with fluctuations in resource exports in countries with resource funds than in those without, but the causal relationship is reverse, meaning that countries with prudent fiscal management tend to establish stabilization funds.

More recent studies focus on the role of institutions in influencing the effectiveness of stabilization funds in resource-rich countries. A seminal work by Ossowski and others (2008) finds that the quality of governance institutions—measured by government stability and corruption—had a significant impact on the fiscal outcome in oil-rich countries over 1992–2005. However, when controlling for the quality of governance institutions, the study finds no evidence that fiscal institutions helped constrain

spending growth during the oil boom, suggesting that stabilization funds need to be accompanied by strong governance institutions to overcome a voracity effect of resource windfall. A similar conclusion is drawn by Bagattini (2011), who finds that stabilization funds have led to better fiscal outcomes but that the rules and governance of the funds are crucial factors in determining their success.

Case studies of Norway and Chile reinforce the argument that institutions play a more dominant role for the functioning of stabilization funds. Norway and Chile have been able to stabilize over the business cycle and from resource revenue-induced spending volatility because they are well endowed with institutional capital and thereby have good fiscal frameworks in place. One cannot attribute their success simply to the existence of stabilization funds.

Overall, the empirical literature emphasizes the importance of governance institutions. The introduction of a stabilization fund itself is not a substitute for fiscal prudence. Whether a particular stabilization fund is effective in shielding the domestic economy from volatility in global commodity development depends largely on government commitment to fiscal discipline and macroeconomic management, rather than on stabilization funds.

or volatile by investing in offshore assets. The operational rules anchoring fiscal policy should be simple but transparent for effective implementation and greater accountability. Kazakhstan's fixed transfer rule, or its variant, is appropriate for smoothing expenditures.

Rules that involve the estimation of long-term commodity prices or business cycles (such as Chile's structural balance rule) are complex to implement and, in Eurasia, unlikely to have a big advantage over a credible, clear, and simple rule. Besides being technically demanding, the estimation of variables could be influenced by political interests. Countries with structural balance rules have on occasion discovered systematic biases in the calculation of permanent output and other variables, which have had to be corrected later.<sup>10</sup> To mitigate this risk and maintain credibility of fiscal policy, Chile uses independent boards of experts to set key parameters and recommend policy to government.

Unspent resource rents can be saved for liquidity purposes and invested in offshore financial assets, which can be drawn down to increase government

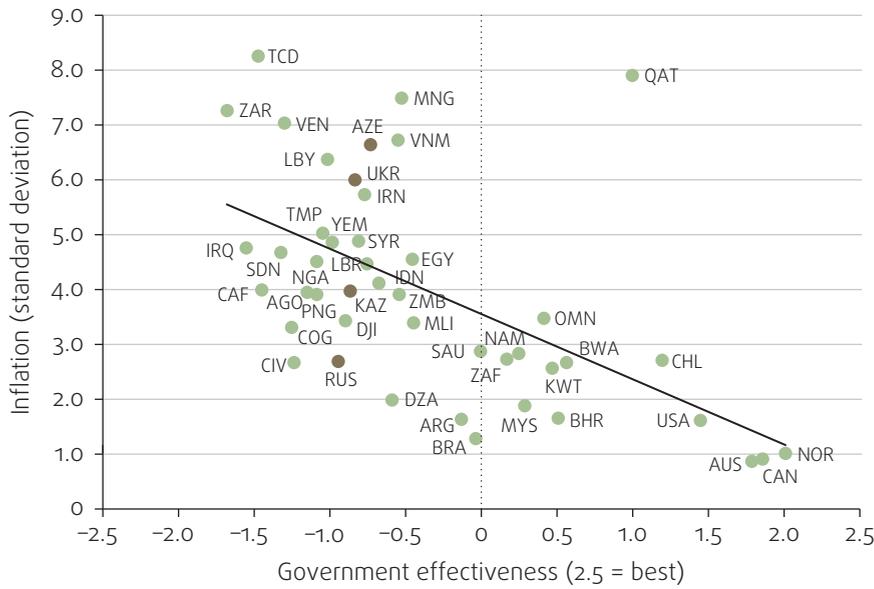


Figure 6.19. Volatility and government effectiveness in resource-rich countries

Sources: World Bank, n.d.c; IMF, n.d.; World Bank staff estimates.

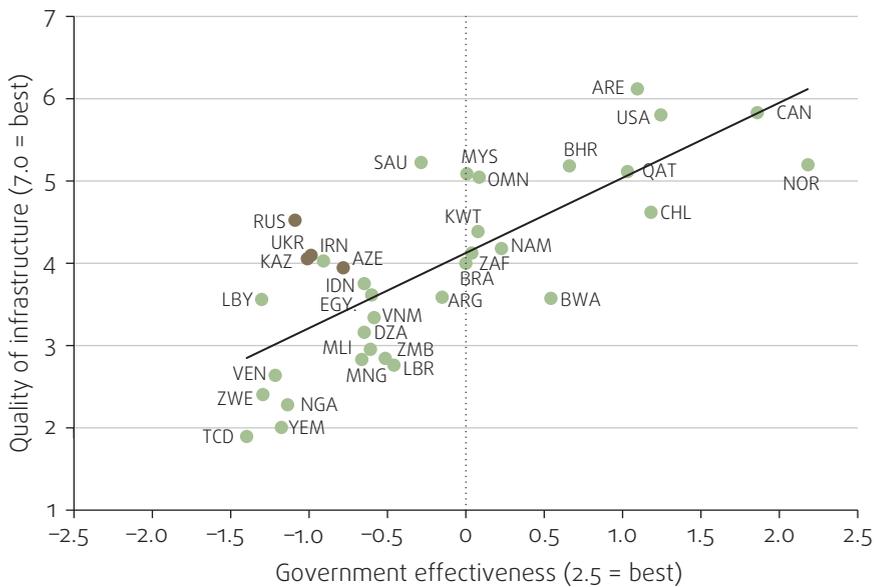
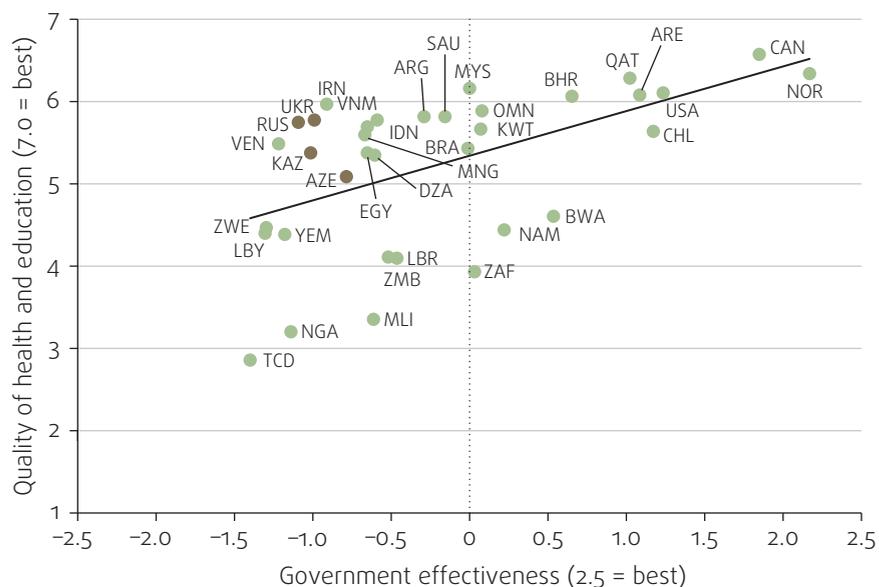


Figure 6.20. Quality of infrastructure and government effectiveness in resource-rich countries

Sources: World Bank, n.d.c; IMF, n.d.; World Economic Forum 2012.

spending during periods of low commodity prices or in the event of an external shock. Often, countries create a separate fund with the explicit objective of saving resource rents for future generations. But experience shows that these funds can seldom withstand political pressure and survive long, except

Figure 6.21. Quality of health and education and government effectiveness in resource-rich countries



Sources: World Bank, n.d.c; IMF, n.d.; World Bank staff estimates.

in a few countries (chapter 4). A large pool of resources kept in the funds is always a tempting target for politicians to exploit—for example, to expand public employment to increase political patronage networks. Considering this, there may be a merit of keeping resources longer in the ground, rather than extracting them and building financial assets that are more easily raided. This could be achieved by managing the issuance of exploration and production licenses in a way that shifts resource production and the corresponding flows of resource rents into the future.

Stronger fiscal institutions need to be accompanied by improved macroeconomic policy coordination and more prudent banking sector regulation and supervision. The boom and bust Eurasia experienced recently were driven by the policy failure to effectively sterilize resource windfalls and foreign capital inflows, the latter not subject to stabilization funds. In the face of a surge in capital inflows, monetary policy needs to play a greater role in ensuring macroeconomic stability, along with tightened fiscal policy. At the same time, prudential regulations and bank supervision should be strengthened to protect the financial sector from volatile capital inflows and prevent asset bubbles.

## The role of public institutions in increasing productivity

High productivity is crucial for sustaining high growth. Rapid productivity gains were fairly easy to achieve in the first years of recovery from the deep transitional recession until 2007. Using excess capacity, shedding excess labor,

and acquiring foreign machinery and equipment made huge productivity gains possible in a short time.

Eurasia's healthy economic performance before the financial crisis was powered by rising total factor productivity (TFP; figure 6.22). Over 1999–2007, increases in TFP were the dominant driver of output expansion, accounting for nearly 90 percent of real GDP growth, while growth in labor and capital made a limited or even a negative contribution. The main force behind TFP growth during this



Source: Conference Board and World Bank staff estimates.

period was the efficiency gains from the transition process, which entailed major structural changes, with the reallocation of excess capacity to more productive sectors of the economy.

Over time, capital accumulation grew to account for a larger component of output expansion, while labor's contribution became more limited, particularly in the resource-poor Eurasian countries. At the same time, and very clearly since 2005, TFP growth slowed, as productivity gains from first-generation reform were wearing off.

How does Eurasia's growth pattern compare with those of other regions? A growth-accounting exercise for the EU-12 and East Asia shows an interesting contrast with Eurasia's growth composition (figure 6.23). In the EU-12 and East Asia, factor accumulation has been the main driver of output growth since the late 1990s, while in Eurasia this started only in the mid-2000s. In East Asia, sustained capital accumulation supported by a high saving rate has had a particularly strong impact on output growth over the past 15 years.

Growth accounting for other resource-rich countries also highlights the unique growth pattern of resource-rich Eurasia (figure 6.24). In both advanced and emerging resource-rich economies, growth has been driven mainly by factor accumulation, not productivity growth, confirming that the rapid TFP growth in Eurasia in the early years was driven primarily by the transition process.

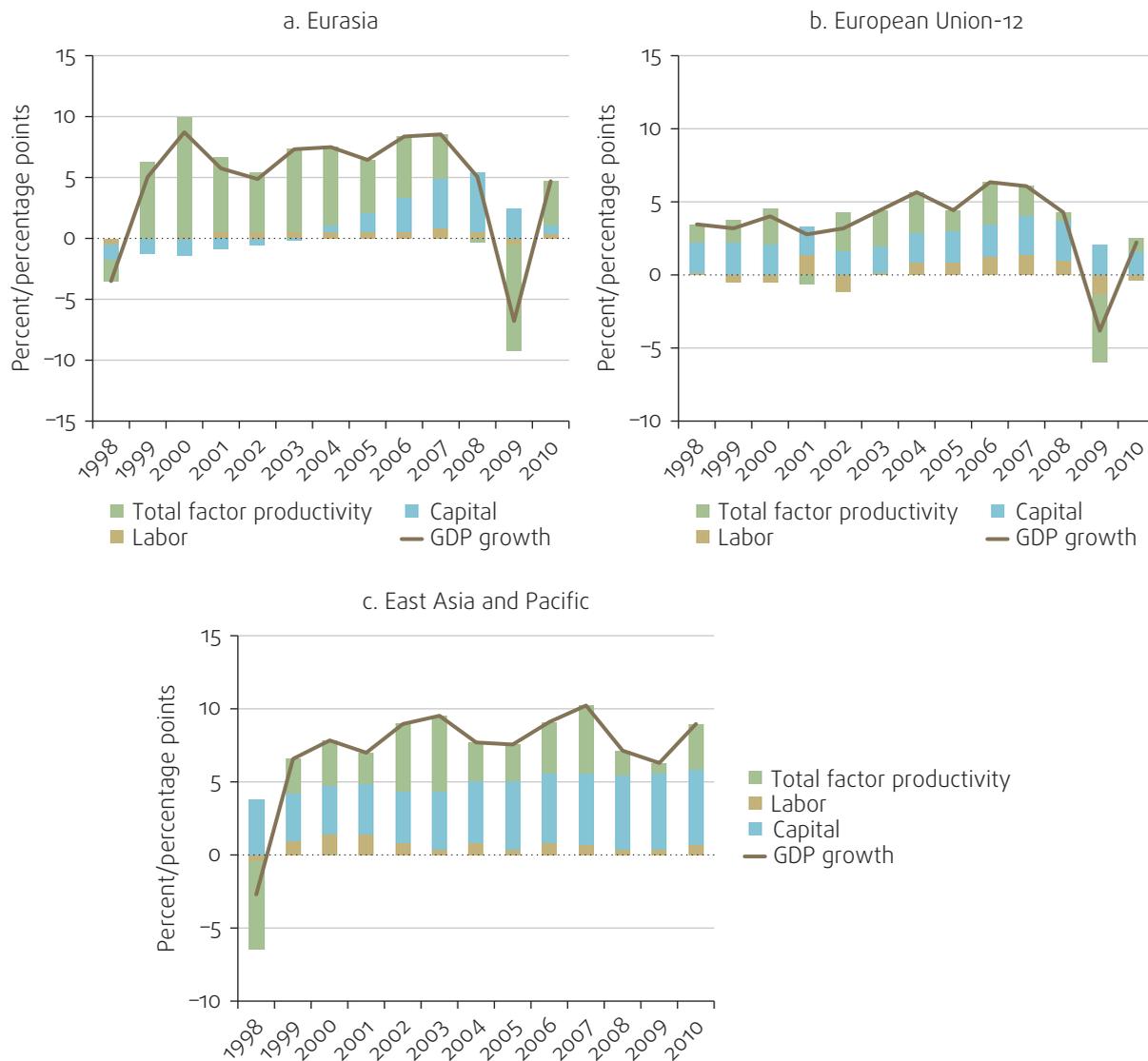
### Considerable scope for increasing productivity

Many firms in Eurasia, particularly SOEs, still operate inefficiently in the absence of robust competition. The quality of education services and poor infrastructure also serve as major obstacles for firm efficiency. Removing these impediments will go a long way toward facilitating sustained growth in employment, productivity, and output.

In a recent study, Peña (2013) benchmarks the performance of Eurasian firms against European peers and sheds light on the role of underlying assets in explaining differences in productivity across countries.<sup>11</sup> Eurasian firms are, on average, less productive than their European peers, and the gap seems to be explained largely by differences in asset portfolios (spotlight three). An estimate of the relative contribution of physical capital, human capital, and economic institutions to firm-level productivity is illustrated in figure 6.25. In all countries, underlying assets explain the bulk of firm productivity, once other differences in firm, sector, and country characteristics are accounted for. The role of economic institutions—here proxied by red tape, informality, access to finance, and competition—is particularly prominent, accounting for more than 50 percent of TFP in the average Eurasian country. When physical endowments and, especially, human capital are added, the total share of covariates representing underlying assets is even higher, explaining almost three-quarters of the productivity of Eurasian firms. The pattern in Russia is somewhat different, with variables connected with human capital, international integration, and innovation playing a larger role.

Industry-level analysis confirms that value-added growth in Eurasian industry is significantly affected by the quality of the institutional environment.

Figure 6.23. Growth pattern comparison: Eurasia, the EU-12, and East Asia and Pacific



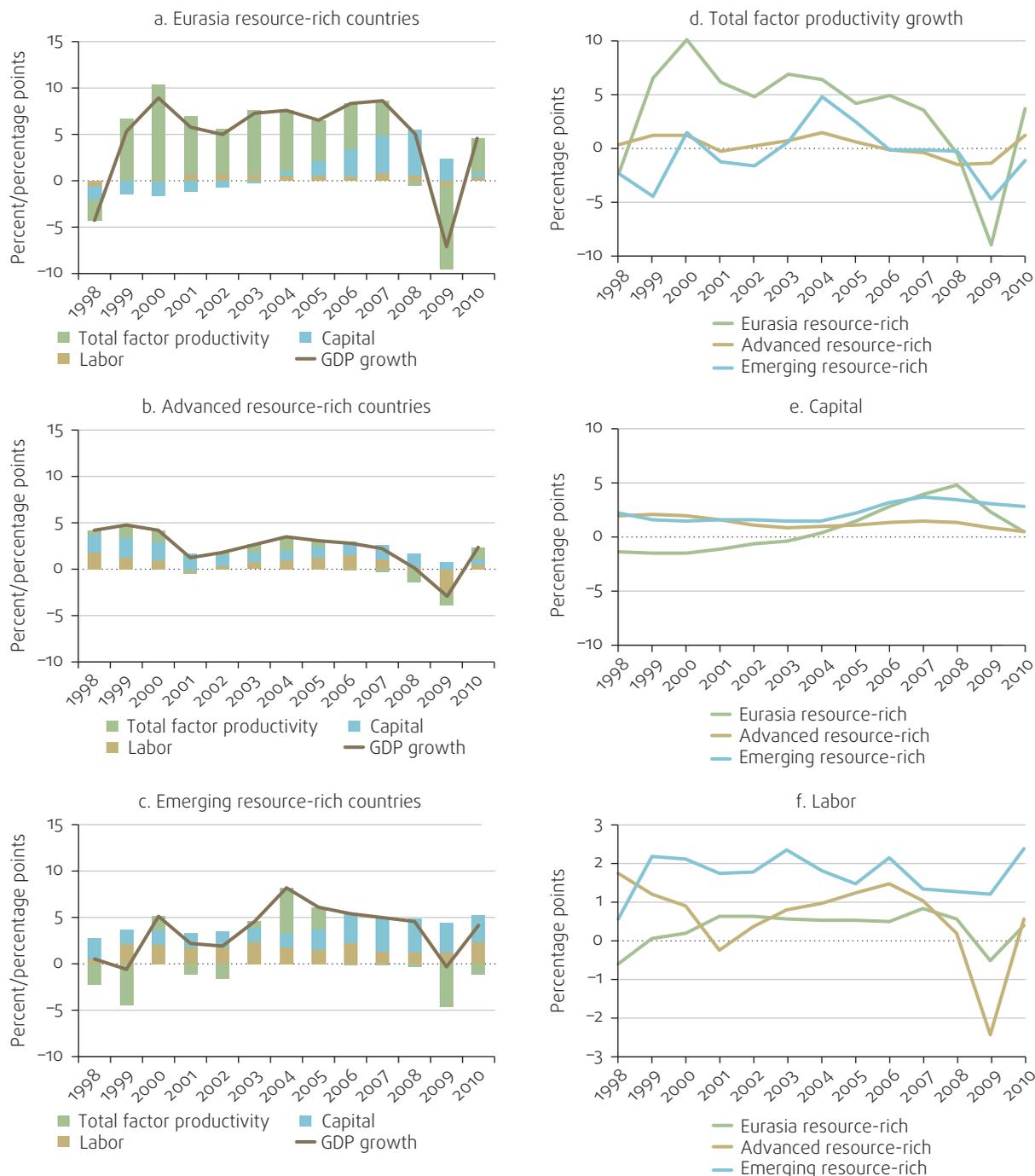
Sources: Conference Board and World Bank staff estimates.

Note: Weighted by GDP. The EU-12 excludes the Czech Republic. East Asia and Pacific excludes the Lao People's Democratic Republic, Mongolia, and Papua New Guinea.

A 1 percentage point gain in rule of law is estimated to increase value-added growth 0.23 percentage point (annex 6B).

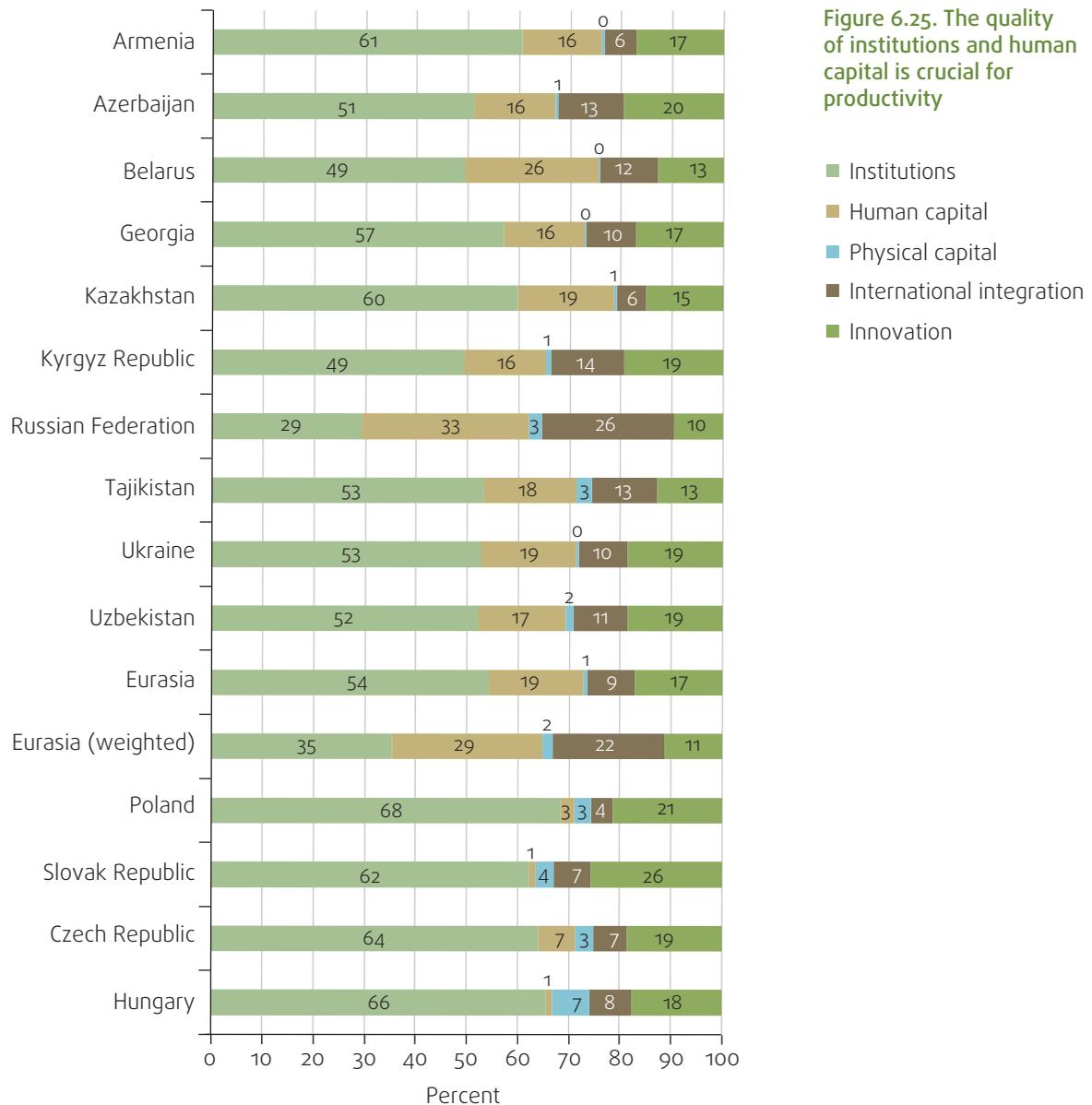
Another illustration from Russian firm-level data confirms that variables connected with adequate public services (infrastructure and education) and with the business environment (regulation and competition) explain up to 36 percent of aggregate log TFP (figure 6.26).<sup>12</sup> Of the 20 statistically significant

Figure 6.24. Comparison with other resource-rich countries



Sources: Conference Board and World Bank staff estimates.

Note: Figures are weighted averages. Emerging resource-rich countries excludes Botswana.

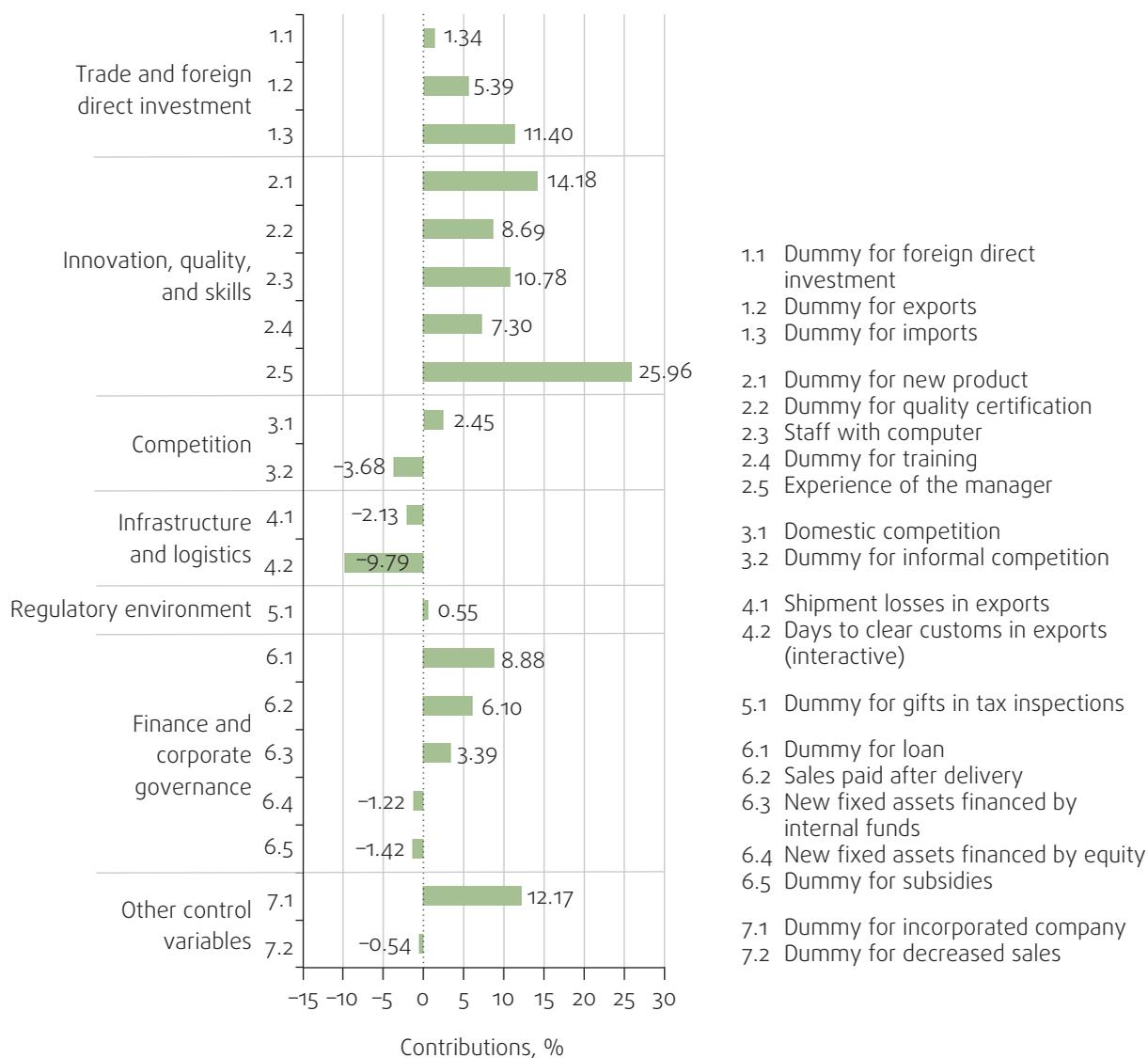


Sources: Peña 2013 based on EBRD and World Bank 2009.

Note: A methodological explanation is provided in annex 6A (equation 4). The graph illustrates the portion of estimated “demeaned” (excluding firm, industry, and country fixed effects) total factor productivity (TFP) associated with each block of explanatory variables. The explanatory variables reflect survey responses by firms on various features of the business environment that are (positively or negatively) related to TFP. These are: institutions (red tape, informality, access to finance, and competition); human capital (labor skills); physical capital (infrastructure); international integration (exports, imports, and foreign direct investment); and innovation (foreign technology, information and communications technology, and process innovation). Eurasia (weighted) represents contributions weighted by GDP.

**Figure 6.26. Determinants of productivity in Russian firms**

(Contributions of measured variables to aggregate log, total factor productivity, percent)



Source: World Bank 2013c.

variables, 17 are related to the “investment climate” and cover public service provision and the business environment.

Distortion of competition has an adverse impact on productivity. A decomposition of Russia’s productivity shows that the current contribution of the allocative component (how much of the output is commanded by the more productive firms) to aggregate productivity in the country (about 20 percent)

corresponds to half the value for Brazil in the early 2000s.<sup>13</sup> Firms facing domestic competition display an estimated 19 percent higher productivity and are 8 percent more likely to export than firms that do not face such competition. Public subsidies seem to be associated with lower productivity, while informal competition negatively influences TFP, employment, and investment in research and development.<sup>14</sup>

Among other variables, innovation, labor skills, and exporting and importing activities are all associated with higher TFP. Technological upgrades—defined as the share of staff with access to a computer, import activity, and quality certification (an indication of technical conformity)—and managerial skills appear among the most relevant factors. Innovation-related variables (investing in research and development, introducing a new product, and holding a quality certification) contribute to roughly 46 percent of the total effect of investment climate variables on firms' export propensity. The positive contribution of the dummy for incorporated companies can be seen as evidence of the importance of efficient corporate governance rules.

### Public services as productivity enablers

Weaknesses in public service provision in Eurasia stem from poor prioritization of spending and an inadequate focus on results. Eurasia could follow the lead of OECD countries and shift to performance-oriented public sectors that emphasize efficiency and accountability. Eurasian countries need systems—including enlisting private companies, academic institutions, and nongovernmental organizations—to monitor indicators of public service delivery. The role of external performance audit will also become important in determining whether delivery units comply with their contractual obligations, on the basis of which they receive budget financing.

The global economic crisis has provided an opportunity and impetus to rethink and accelerate public sector reforms, especially in improving public expenditure management. It is important that these lessons not be lost as business returns to usual after the crisis. Increased efficiency can be achieved by identifying functional categories of unproductive spending to target for cuts in the medium term and by creating room for priority expenditures. This approach would require systematic reviews of public spending to identify the scope for service delivery improvements and to advance institutional reforms.

### Regulations for economic activity

Apart from imposing additional costs, regulation can be manipulated with the objective of creating unfair competitive advantages for some firms (not necessarily the most productive) with welfare losses for the rest of the economy. In the long run, an economy where competition is restricted, by captured regulation or by other means, will be less productive because its firms will face reduced incentives to be efficient and adopt new technologies. The consequences may be particularly severe for economies far from the technological frontier, such as those of Eurasia, since the ability to adopt new technologies is essential to productivity growth and convergence to the levels of more developed economies (see Aghion and Griffith 2005; Aghion and Howitt 2005; Acemoglu, Aghion, and Zilibotti 2006).

Promoting equal opportunities for businesses can be achieved through systematic elimination of distortions and enforcement of transparent rules. These include: phasing out of tax exemptions, tax expenditures, and special benefits granted to selected sectors and companies; enforcement of transparent and cost-effective procurement rules with minimal or no exclusions; improved governance standards and stronger financial discipline and oversight for SOEs; and competitive allocation of budget resources for state programs along with quality monitoring and reporting on achieved results.

The approach to competition policy in Eurasia should be expanded to include institutional aspects, as well as the overall regulatory framework. The competition environment in which businesses operate not only is shaped by the provisions normally included in competition legislation (antitrust laws, for example) but also spans other types of government interventions and the regulations that govern business entry, operation, and exit. The key policy and regulatory functions of competition agencies are set up in line with a narrow definition of competition: professional capacity, available information, and reporting format do not allow the assessment of complex legal, institutional, and political economy considerations and their impact on competition. Taking a broader view of competition policy will help reduce the costs faced by firms and curb the power of special interests (box 6.4).

The strengthening of competition agencies should be seen in the context of a better distribution of roles and responsibilities in the public sector. The main task of competition agencies should be a complex assessment of all legal and regulatory aspects relevant for advancing a fair and equal competition environment. For instance, competition laws often provide state regulatory bodies with special legal rights in regulating monopolies or granting privileges, preferences, or subsidies when broader policy goals or public interest justify it. These state interventions are justified when the sum of benefits from correcting market failures exceeds the costs and losses incurred by intervening in individual markets. Competition agencies should have a special role in reviewing and monitoring legal and regulatory acts that potentially undermine competition to process reported violations and take corrective actions.

## Fostering job creation through a better business environment

Eurasia's transition to a market economy in the 1990s was accompanied by a sharp decrease in total employment, as less-productive firms contracted or disappeared and survivors became more efficient by shedding excess labor. But despite liberal labor market regulations, Eurasia's rapid economic expansion in the 2000s did not create many net jobs.

### Jobs have not been created quickly enough

Employment opportunities remained comparatively limited even during the rapid economic expansion that Eurasia experienced before the global economic crisis. Net employment grew 6.5 percent over 2003–08 in Eurasia, compared with 9 percent in the EU-12 and 12 percent in East Asia. Employment rose

### Box 6.4. Competition policy in Eurasia: narrow or broad?

A competition legal framework can be defined with regard to the competition law itself (*narrow definition*) or to the competition law and other business-related legislation affecting all aspects of economic competition (*broad definition*) including business entry, operation, and exit.

In the narrow sense, the Organisation for Economic Co-operation and Development (OECD) definition envisages the following areas to be covered by the competition law itself:

- Market dominance, defined as an abuse of market power by dominant firms or attempts of not-yet-dominant firms to monopolize markets. Abusive practices typically include predatory pricing, loyalty rebates, tying and bundling, refusals to deal, margin squeeze, and excessive pricing.
- Monopolistic agreements and concerted actions, defined as horizontal agreements between companies not to compete with one another by means of price-fixing, output restrictions,

market allocation, and bid rigging (the submission of collusive tenders).

- Unfair competition, defined as a fraudulent, deceptive, or dishonest trade practice that is prohibited by the law.
- Antitrust investigation, defined as an inquiry conducted by any antitrust investigator for the purpose of ascertaining whether any person is or has been engaged in an antitrust violation.
- Implications for infringers, defined as legal consequences of being involved in violation of competition law.

There is growing consensus that the relevant criteria for evaluating competition policy implementation must be broader and capture three main dimensions: legal enforcement, competition advocacy, and institutional effectiveness.

Early empirical studies (Dutz and Vagliasindi 2000a, 2000b) found a robust positive relationship between effective competition policy implementation and the expansion of more efficient private

firms. They also found that competition authorities in transition economies must expand their traditional role of investigating alleged anticompetitive practices by enterprises to pursuing cases against government bodies whenever their conduct restricts competition. Competition authorities must also act as advocates of competition principles in legislative and regulatory activities of the government and educate all key economic actors of the benefits of competition. For maximum impact, the competition promotion activities should seek to enhance the entry opportunities for new enterprises and provide support to innovative firms and activities.

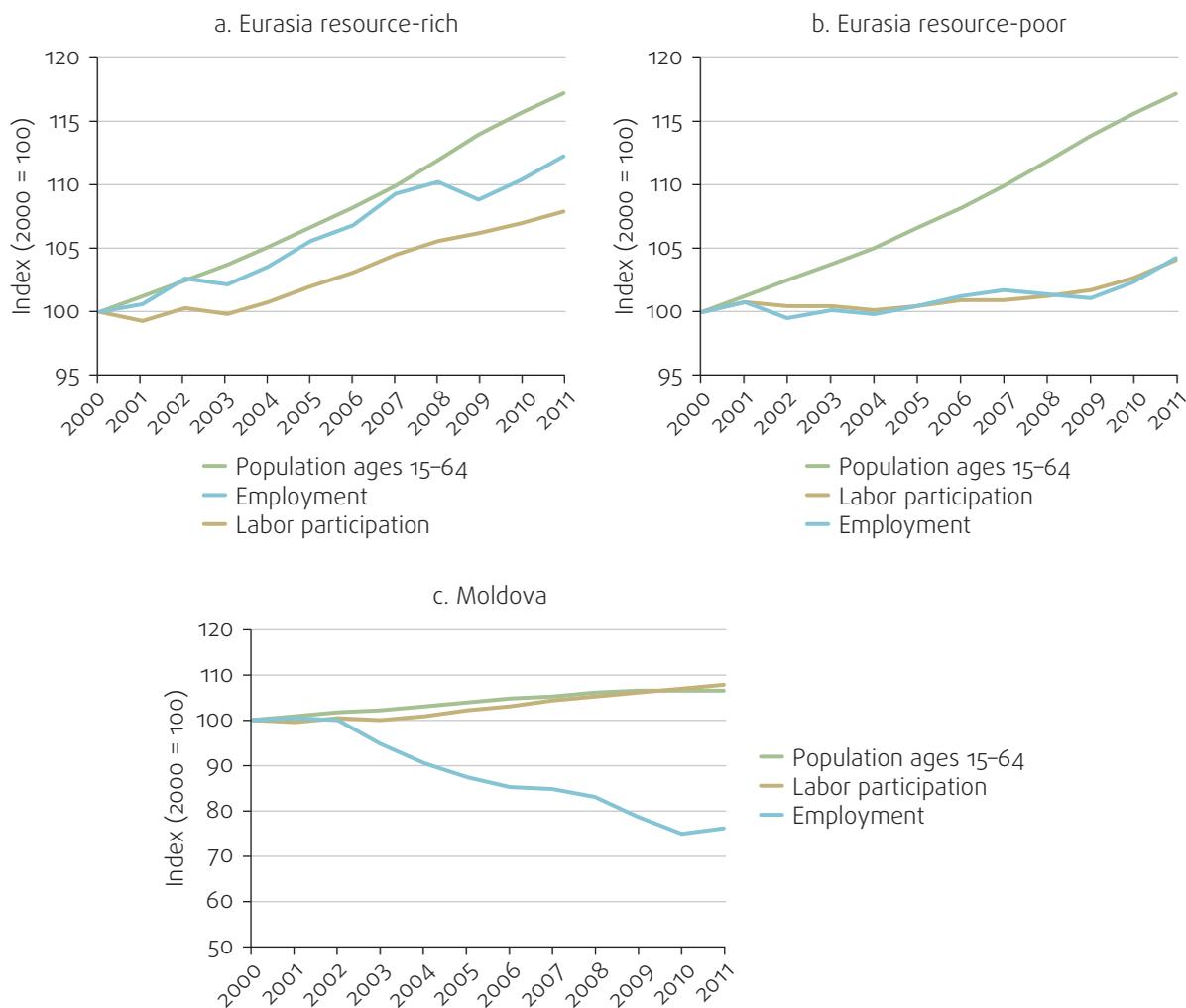
Merely having a competition law on the books, or having an up-and-running competition agency, is not sufficient for effective implementation. To foster the entry and growth of enterprises, competition authorities should safeguard against undue influence from pressure groups and be more accountable to all stakeholders, including civil society.

Source: Shkurupiy 2013.

1.2 percent a year over 2003–08 in Eurasia, far slower than the average GDP growth of 9.4 percent. During the boom period of 2003–08, 1 percentage point of GDP growth was associated with only 0.07 percentage point of employment growth in Eurasia, versus 0.23 percentage point in the EU-12 and 0.12 percentage point in East Asia. And while the working-age population rose in most countries, Eurasia's labor force stagnated or even declined over 2000–11, as in some countries many workers emigrated for work (figure 6.27). In Moldova, for instance, the labor force contracted 25 percent over the period, against working-age population growth of 6.6 percent.

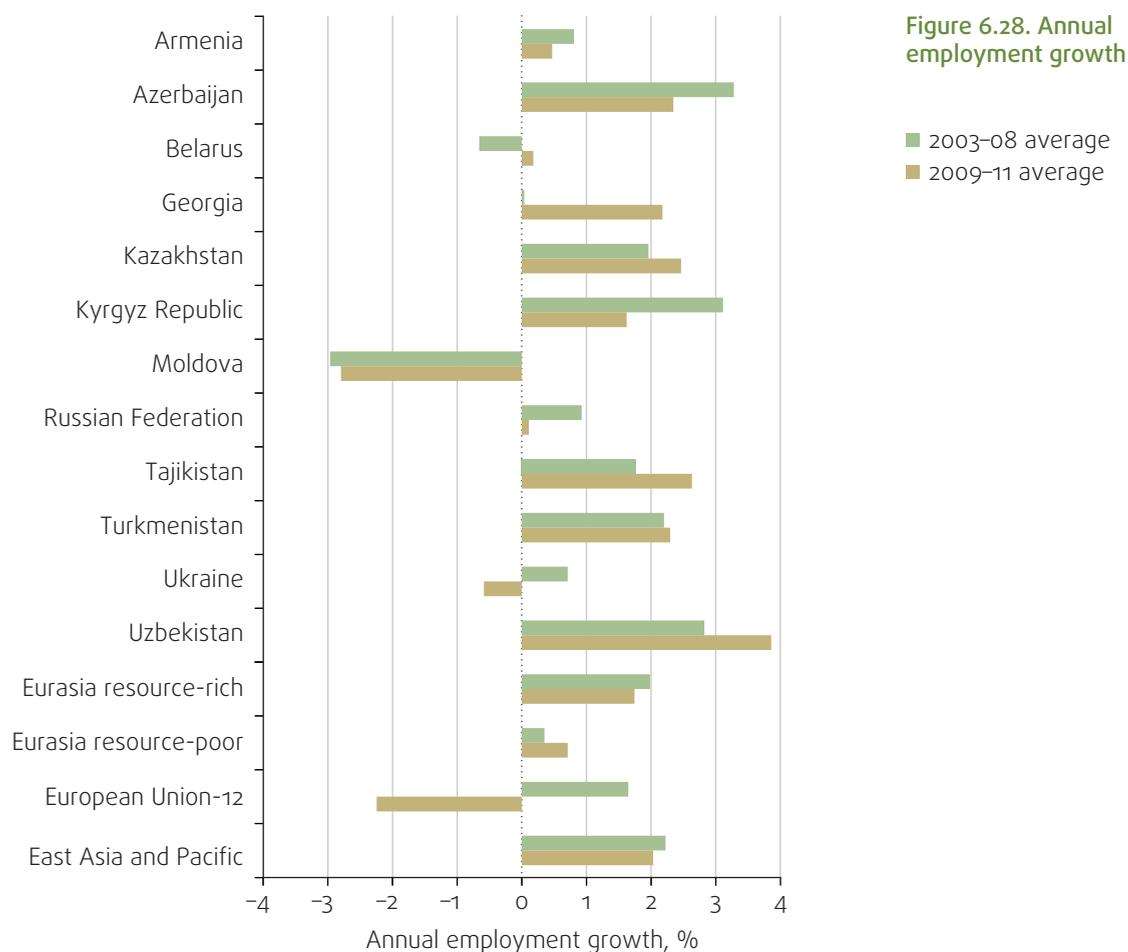
Employment gains differed considerably across countries in the boom years (figure 6.28; see chapter 3). Labor market outcomes were much more favorable in the resource-rich countries, where employment rose 11.5 percent from 2003 to 2008 against 1.6 percent in the resource-poor countries. Job creation was particularly robust in Azerbaijan, where the private sector was the driver of job creation in resource-poor sectors, such as information and communications technology, construction, and hotel and restaurant sectors, supported by large government spending facilitated by buoyant resource rents. In Kazakhstan, the public sector, including firms under Samruk-Kazyna (the National Welfare Fund), has been a major contributor to rapid job growth. Labor market performance was more disappointing in resource-poor countries, despite strong economic growth.

Figure 6.27. Changes in labor participation, working-age population, and employment



Source: World Bank staff estimates.

Eurasia's precrisis growth translated into steep real wage increases. Over 2003–08, real wages more than doubled, averaging 15 percent annual growth. Across the world, only China experienced wage growth of comparable size, but unlike in other regions, Eurasia's real wage growth outpaced GDP and labor productivity growth over the past decade (figure 6.29).<sup>15</sup> To some extent, the sharp wage increases in Eurasia are the consequence of the rebound from the very low levels following the transition to a market economy. In Russia, real wages had fallen to less than half their 1990 level before recovering after 2000 and climbing above 1990 levels only in 2006–07. Similarly, real wages in Ukraine



Source: World Bank staff estimates.

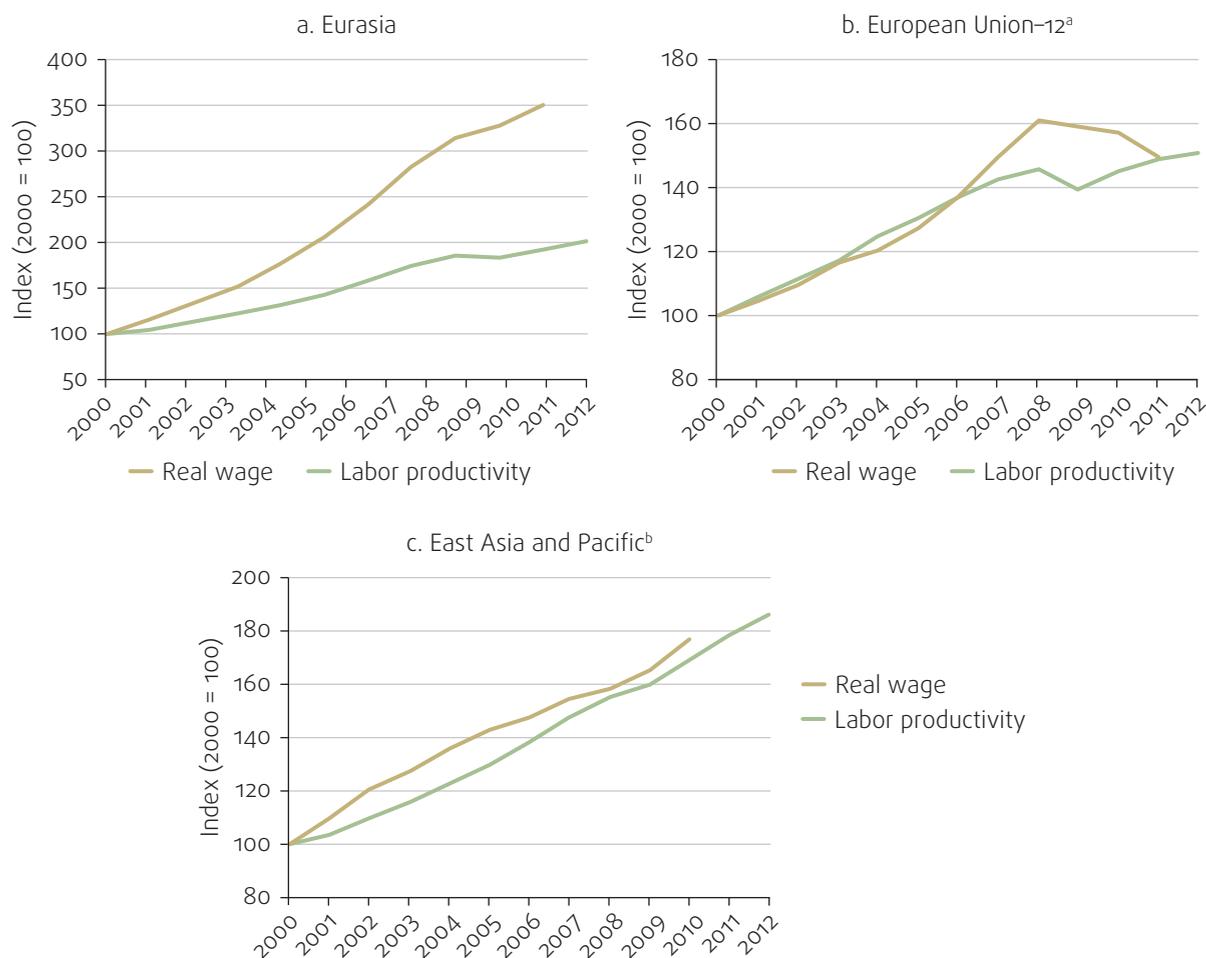
fell sharply over 1992–99 before showing a more than threefold gain by 2009 (World Bank 2013b).

Despite the rapid wage increases, Eurasia—especially its resource-poor countries—still has lower labor costs than other regions. However, the region loses luster when compared with developing East Asia (excluding the Republic of Korea and Singapore), which offers better-skilled labor at lower costs, as well as a better business climate.

### Making market institutions job-friendly

Why did the strong growth of the past decade not translate into jobs? Labor market institutions in Eurasia are not restrictive by comparative standards. Hence, the answer must be broader and encompass the overall regulatory conditions for doing business. Indeed, a recent World Bank study, finds that

Figure 6.29. Labor productivity and real wage growth



Source: World Bank 2013b.

a. Includes Bulgaria, the Czech Republic, Estonia, Hungary, Poland, and Romania.

b. Includes China, Indonesia, the Republic of Korea, and Malaysia.

the labor markets' lukewarm response to growth in Eurasia reflects poor overall regulation (World Bank 2013b). The study—based on regression analysis of employment creation in 20 European and Central Asian economies—finds that better-functioning market-oriented institutions and a stronger business environment are associated with longer periods of positive and sustained employment growth. While some Eurasian countries with a poor business climate experienced high employment growth during some years, advanced reformers, essentially EU-12 countries, were the only group that systematically experienced positive and significant annual employment growth over a period

of six to eight years in the 2000s. Further, the study finds that the payoff to reform often materializes with a lag and only among countries that have managed to implement and sustain broad reform agendas.

The extent to which countries have moved toward a market economy has fundamentally affected the relationship between growth and employment creation. Except for Georgia, Eurasian countries have been “late modernizers,” with uneven progress that focused on some areas and neglected others. Reforms with the largest impact on employment creation have been particularly slow. These include lowering the cost of restructuring (privatization and enterprise restructuring), leveling the playing field in product markets (competition), and improving the overall governance structure. Russia, for example, greatly improved its trade and foreign exchange policies but did not sufficiently reform its market institutions, notably by curbing the state’s direct or indirect role in the economy.

Employment growth is positively correlated with several governance indicators, including more corruption control, better regulation, more government effectiveness, and greater voice and accountability. Better competition policy and improved governance lead to higher employment creation among late modernizers (Richter and Witkowski 2013). Reforms that directly tackle labor market rigidities and imperfections are certainly important, but they become more relevant once these “first-generation” reforms have taken place (box 6.5).

The importance of governance and regulation for employment creation is confirmed by firm-level evidence. Employment growth is positively associated with a less burdensome regulatory environment, decreased incidence of corruption, access to higher-quality infrastructure, and judicial and bureaucratic efficiency. The same drivers of employment growth are important for high-

### Box 6.5. Labor market institutions

The laws, practices, policies, and conventions that fall under the umbrella of “labor market institutions” determine what kinds of employment contracts are permissible; set boundaries for wages and benefits, hours, and working conditions; define the rules for collective representation and bargaining; proscribe certain employment practices; and provide for social protection for workers.

The last two decades have seen major controversies over the role and impacts of labor market institutions. Research in the 1990s typically found that strong protective legislation slowed job growth and increased unemployment in

Organisation for Economic Co-operation and Development (OECD) countries, thus leading to policy recommendations in support of flexible rules for protecting employment and setting wages and hours, and unemployment and welfare systems that minimized work disincentives.

A parallel body of evidence did not yet exist for developing countries, but the dominant policy message was similar: while institutions were introduced with good intentions and had a role in addressing market failures, they often had unintended negative consequences in both efficiency and equity. However, the numbers over the last decade imply

that the overall impact of employment protection legislation and minimum wages is smaller than the intensity of the debate would suggest.<sup>a</sup> It is likely that employment legislation and regulation will become a more binding constraint as other barriers to employment related to the overall business environment disappear. Firms in advanced modernizers are more likely to identify labor regulation as a binding constraint to employment creation than firms in intermediate and late modernizers, while the latter are more likely to complain about the negative impact of, say, corruption. Labor market institutions are not the only determinants of labor market performance.

Source: World Bank 2013b.

a. See Betcherman (2012) for a comprehensive review of the literature.

growth firms and other firms alike. Greater concentration of market power is significantly associated with slower growth (World Bank 2013b).

Direct state intervention in the economy is also likely to hamper employment growth. Governance problems and biased regulation that favor SOEs undermine competition among enterprises, weakening the most potent incentive to reduce costs and innovate. These problems are particularly acute in network sectors, such as energy and transport, which have a large impact on the performance of the private sector. Results from an accounting decomposition exercise suggest that GDP growth and changes in public sector employment are the two largest contributors to changes in private sector employment during 2000–10 (Soto 2013). Countries that have failed to successfully reform the SOE sector are paying a high price in terms of productivity and employment growth. In Belarus, overemployment in SOEs is estimated to stand at more than 25 percent in the industry and construction sector alone. Labor hoarding in SOEs continues to hinder productive labor reallocation. Again in Belarus, around 15 percent of workers in SOEs are in loss-making enterprises (World Bank 2012b).

## From tangible improvements to investments in intangible assets

To conclude, it is worthwhile to revisit the questions posed at the beginning of this chapter. What are Eurasia's weaknesses? How should resource rents be used? Are public services a drag on productivity growth? Is economic activity being regulated well?

### **Eurasia's development gaps are greatest in the least tangible aspects.**

The less tangible the outcomes or results, the greater the institutional gaps in most Eurasian economies. Countries in the region have done better at managing resource rents, less well in providing high-quality public services such as education and infrastructure, and least well in regulating production in a manner that promotes competition among enterprises and encourages entrepreneurship.

**Oil funds should facilitate short-term stabilization, not finance long-term development.** The conclusion of this chapter is that the arrangements for managing resource rents such as oil funds should be designed with the modest objective of maintaining macroeconomic stability over the business cycle. Countries in the region have to improve in how they do this. There is evidence that oil and gas revenue has been used in Azerbaijan, Russia, and Turkmenistan in ways that have made their economies more volatile. More important, it is clear from the experiences of disciplined governments, such as Kazakhstan's, during times of crisis that this task will be made easier if the longer-term objectives of boosting productivity and employment are left to other instruments of economic policy.

**Weak institutional quality is becoming a drag on productivity growth in Eurasia.** While productivity has increased since the early 1990s, there is evidence of slowing productivity growth since the early 2000s. This is related at least in part to a growing shortfall in education and infrastructure and to weak

competition. The slowdown in TFP growth may be the single most worrying feature of Eurasia's economies, because it characterizes both resource-rich and resource-poor economies.

**The regulation of private enterprise does not adequately encourage job creation.** Jobs should be a special concern in the resource-rich economies of Eurasia. The design and enforcement of private sector regulations do not appear to have exacerbated the weak employment potential of extractive industries, but they have not offset it either. Greater resource dependence implies that countries in Eurasia have to make their business environments much more job-friendly than successful economies in Eastern Europe and East Asia. For Eurasia, the biggest imperative is instituting the rules and mechanisms that foster competition. Put simply, many countries have to streamline the rules for starting, operating, and closing a business, and all have to ensure that these regulations are implemented in ways that do not favor SOEs or cater to the special interests of influential investors.

It is clear that the asset portfolios of countries in Eurasia are weighted toward "hard" endowments: natural resources; physical infrastructure; and access to basic health, primary and secondary education, and other public services. This is especially true of the resource-rich countries. As their softer assets are examined—the quality of public services, the robustness of the rules and instruments to manage resource rents, and the ability of governments to create an environment friendly to enterprise and innovation—the portfolios start to look lopsided. This is not news.

But given the special needs of resource-rich economies, the extent and depth of these weaknesses are especially disturbing for Eurasia. If more than half of all grade 9 students are functionally illiterate, the quality of education is unacceptably low. If health systems have not yet adjusted to aging populations and the maladies that accompany prosperity, the institutions that govern them have not been updated. If the rules for private enterprise have been changed for the better but governments still play favorites in implementing them—by sheltering SOEs from competition or by succumbing to the narrow interests of oligarchs—then a fresh round of improvements in institutions is necessary. If sensibly designed rules for managing the revenues from natural resources over booms and busts have not been able to reduce the volatility of government spending to acceptable levels, then both the design and implementation of the fiscal rules and oil funds should be reassessed.

Over the last decade, Eurasian economies have improved the efficiency of public investments so that (at least) Azerbaijan, Kazakhstan, and Russia now add more to their tangible nonresource assets than what they deplete through extraction of natural resources. But they have not commensurately improved the quality of institutions that manage public saving, even less the delivery of essential services such as education, and less still the implementation of the rules for private enterprise. These are the intangibles needed for development. If this is the case, Eurasian economies may be weakening their asset portfolios even as they add to the endowments that they can see and measure. Even as they keep growing their incomes, their development may be becoming less diversified.

Why should this be a problem when poverty rates in the region are down, incomes are up, and quality of life gets better every year? It is commonly proposed that the weaknesses are apparent in the composition of exports and economic activities, which have become more concentrated since the days of the Soviet Union. Actually, the reasons are related to economic efficiency, proxied by recent trends in productivity, employment, and volatility. While it is difficult to prove, the evidence appears to point to a systematic slowdown in productivity growth in the region during the last decade. While it may be too soon to say for sure, Eurasian economies have exhibited an excess volatility that will inevitably discourage long-term investment and employment creation. While their circumstances have been unique, Eurasia's policy makers should be aware that the experience of others indicates that resource-intensive development paths are especially demanding of institutions.

This report proposes that national asset portfolios consist of natural resources, built capital, and public institutions. It shows that, with some effort, these can be estimated to provide an approximate yet informative quantitative estimate of the extent of diversification of a country's asset portfolio. Spotlight three contrasts the portfolios for successful resource-rich countries with those of Eurasian countries. By juxtaposing their strengths and weaknesses—assessed in chapters 4, 5, and 6—with the experience of countries like Norway, Canada, Australia, the United Arab Emirates, and Chile, it is possible to identify the pressing priorities for reform. While the specifics will differ somewhat among countries in the region, it is not difficult to conclude that what Eurasia's resource-rich economies need most is what East Asians had identified as a priority for themselves more than a decade ago: a shift in governance from the "rule of man" to the "rule of law." Eurasia's toughest task now is to strengthen its softest structures.

## Annex 6A Endowments and total factor productivity: evidence from Business Environment and Enterprise Performance Surveys

Peña (2013) applies robust microeconomic techniques to microlevel data from the 2008–09 Business Environment and Enterprise Performance Surveys to explore the determinants of total factor productivity (TFP) in Eurasian countries.

TFP is assumed to be explained by three main blocks of investment climate variables, which can have a positive or negative effect. The first captures the endowments (physical capital, human capital, and institutions) available in the economy. It encompasses the following covariates as proxies for endowments: infrastructure (physical capital); labor skills (human capital); and red tape, degree of informality, financing sources, and competition (institutions). The second group of explanatory variables captures the extent of firm-level innovation. It contains (dummy) variables that reflect the use of foreign technology, information and communications technology, and process innovation. The third group captures the extent to which the firm is integrated with the global market. It contains (binary) variables on exports, imports, and foreign direct investment (FDI) inflows. Firm characteristics such as age and legal status, as well as industry-size-region (or country) fixed effects are used as additional controls in the model.

The assumed data-generating process for the TFP equation is:

$$\omega_i = \alpha_p + \alpha_l' I_i + \alpha_x' X_i + \alpha_E' E_i + \delta_D' D_i + \delta_Z' Z_i + \varepsilon_i \quad (6A.1)$$

where  $\omega$  stands for productivity (or TFP), which is associated with the implicit level of “competitiveness” of the firm. The vector  $I$  contains a set of innovation variables;  $X$  is a vector of international integration variables;  $E$  contains the endowments of physical capital, human capital, and institutions, including competition variables (for example, competition from foreign and domestic firms or from suppliers, and the number of competitors in firms’ main market). Finally,  $D$  contains a set of industry-size-region (or country) variables, while  $Z$  contains other controls, like the age or legal status of the firm.

Once the model is estimated and TFP is assessed at the firm level, the demeaned (log) productivity is computed. This isolates the share of firm-level productivity associated with the  $I$  (innovation),  $X$  (international integration), and  $E$  (endowments) vectors of control variables. The firm-level demeaned productivity is defined as:

$$\omega_i^d = \hat{\alpha}_l' I_i + \hat{\alpha}_x' X_i + \hat{\alpha}_E' E_i + \hat{\delta}_D' D_i \quad (6A.2)$$

Firm-level demeaned TFP can be interpreted as the portion of a firm’s productivity associated with the degree of innovation ( $I$ ), international integration ( $X$ ), and endowments ( $E$ ). Thus, alternative demeaned TFP measures can be computed, each associated with a specific set of covariates. For instance,

the endowments-demeaned TFP is the portion of firm productivity associated with the domestic endowments under which firms operate and is defined as:

$$\omega_i^{dE} = \widehat{\alpha}_E^{rE_i} \quad (6A.3)$$

The relative impact of each block of explanatory variables on average TFP can also be computed. All covariates are considered except the firm characteristics and the industry- or country-specific effects. To evaluate the impact of each block of explanatory variables on the sample mean of each dependent variable, the following formula was used:

$$100 = \left( \frac{\widehat{\alpha}_I \bar{I} + \widehat{\alpha}_X \bar{X} + \widehat{\alpha}_E \bar{E} + \widehat{\delta}_D \bar{D} + \widehat{\delta}_Z \bar{Z}}{\bar{\omega}} \right) \quad (6A.4)$$

With this method, each block of variables has a percentage impact over the sample mean of TFP.

## Annex 6B Determinants of value-added growth: industry analysis

A panel of cross-country and cross-industry observations is used to assess the drivers of industrial expansion in Eurasian countries. The panel covers 1996–2009 and includes Armenia, Azerbaijan, Kazakhstan, Moldova, Russia, Tajikistan, and Ukraine.<sup>16</sup>

The following regression is estimated to assess the impact of physical capital, human capital, and the business environment on value-added growth at the industry level:

$$\begin{aligned} \text{Growth}_{i,k,t} = & \alpha + \beta_1 \text{Industry share}_{i,k,t} + \beta_2 \text{GDP growth}_{i,t} + \beta_3 \text{capital formation}_{i,t} \\ & + \beta_4 \text{domestic consumption}_{i,t} + \beta_5 \text{government expenditures}_{i,t} + \beta_6 \text{export}_{i,t} \\ & + \beta_7 \text{exchange rate}_{i,t} + \gamma_{pc} \text{physical capital}_{i,t} + \gamma_{pc,k} \text{Industry}_k \\ & \times \text{physical capital}_{i,t} + \gamma_{ic} \text{institutional capital}_{i,t} + \gamma_{ic,k} \text{Industry}_i \\ & \times \text{institutional capital}_{i,t} + \gamma_{hc,k} \text{human capital}_{i,t} + \gamma_{hc,k} \text{Industry}_k \\ & \times \text{human capital}_{i,t} + \gamma_{nc} \text{natural capital}_{i,t} + \gamma_{nc,k} \text{Industry}_k \\ & \times \text{natural capital}_{i,t} + \sum_j \delta_j \text{Country}_j + \sum_l \delta_l \text{Industry}_l + \sum_u \delta_u \text{year}_u + \varepsilon_{i,k,t} \end{aligned}$$

where  $\text{Growth}_{i,k,t}$  is the average annual growth rate of value added at time  $t$  of industry  $k$  in country  $i$ . GDP growth is the annual growth rate of GDP, and capital formation is the annual growth rate of the gross fixed capital formation. In addition, changes in aggregate demand (final consumption from households and the government) are assumed to influence production on the demand side. *Domestic consumption* is included as the change in final domestic consumption over GDP, and *government expenditures* are included as the annual change in government expenditures over GDP. To capture external demand, the change in the *export* volume is included with the change in the real *exchange rate*.<sup>17</sup>

Physical capital is a crucial growth determinant. Without access to capital, it is difficult for firms to expand production. *Physical capital* is proxied by the capital stock per worker. The data are obtained from World Bank (n.d.b).

The legal system is essential for supporting industrial development. Good governance and judicial independence are preconditions for an efficient business environment. A functional legal system protects outside investors by enforcing contracts and reducing corruption, thus facilitating better allocation of capital, greater availability of external finance, and the creation of new firms. A business environment characterized by secure property rights and enforceability of contracts improves firm productivity. To capture the *institutional capital* effect, the model includes changes in rule of law (obtained from World Bank n.d.c).<sup>18</sup>

Years of schooling are included to account for *human capital*. Better-qualified employees are essential for productivity, especially in more-sophisticated industries. Further, natural capital, obtained from World Bank (n.d.b), accounts for the natural endowment of countries.

Table 6B.1. Value-added growth for Eurasian countries (shown without the industry-specific effects)

	(1)	(2)	(3)
	Growth	Growth	Growth
	Pooled ordinary least squares	Panel regression	General method of moment
Lag industry growth (percent)	n.a.	n.a.	0.0172* (0.00985)
Industry share (percent)	-1.036* (0.392)	-0.799*** (0.149)	-0.721*** (0.190)
GDP growth (percent)	1.105*** (0.445)	1.403* (0.785)	1.381* (0.747)
Change of fixed capital formation (percent)	0.558* (0.181)	0.454 (0.597)	0.378 (0.518)
Change of domestic consumption of GDP (percent)	0.861*** (0.0666)	0.697*** (0.107)	0.790*** (0.051)
Change of government expenditures of GDP (percent)	4.63e-10*** (5.59e-11)	0.0611 (0.141)	0.0765 (0.312)
Change in export growth (percent)	0.391* (0.218)	0.451*** (0.0765)	0.414*** (0.101)
Change of the exchange rate (percent)	-0.583 (0.250)	-1.060*** (0.0907)	-1.083*** (0.154)
Change of the capital stock per capita (percent)	0.545*** (0.197)	1.498 (4.360)	3.693 (3.530)
Change in the rule of law (percent)	0.233** (0.0924)	0.169** (0.0822)	0.233*** (0.0112)
Change in natural capital (percent)	-0.114*** (0.0119)	-0.0236*** (0.00415)	-0.173* (0.0914)
Years of schooling	-5.921 (6.340)	-3.515 (17.83)	-6.841 (15.62)
Constant	121.9* (40.59)	144.4*** (9.676)	133.5*** (22.46)
Observations	929	863	836
R-squared	0.299	0.6719	n.a.
Number of instruments	n.a.	n.a.	78
Hansen-test	n.a.	n.a.	0.484
Arellano-Bond test for AR(1)	n.a.	n.a.	0.035
Arellano-Bond test for AR(2)	n.a.	n.a.	0.975

Sources: World Bank staff calculations based on UN data and World Bank, n.d.b. The measurement of physical capital stock is taken from World Bank staff calculations generated by applying the perpetual inventory method on investment flows and subtracting annual depreciation of the capital stock. Physical capital stock is divided by the labor force to account for the relative abundance of labor. The institutional capital indicator is the rule-of-law rating from World Bank, n.d.c, by Kaufmann, Kraay, and Mastruzzi 2010. Human capital is measured by average years of schooling, a widely used indicator constructed by Barro and Lee 2011 on education attainment of the population older than 15 years.

Note: Robust standard errors are in parentheses (\*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1). Country, industry, and time fixed effects are included in each specification. The panel regression covers 1996–2009. The system general method of moment estimator takes the dynamic structure of industry growth into account. n.a. = not applicable.

Each industry is likely to require different conditions in terms of business environment, capital intensity, and labor skills. Hence, the policy indicators shaping the business environment, physical capital, natural capital, and human capital are interacted with a dummy for each industry.

To account for country, industry, and time unobservable effects, country, industry, and year fixed effects are included.

As shown in table 6B.1, the larger the industry, the lower is growth in its value added on average. The faster GDP grows in the country, the higher the growth in individual manufacturing sectors. Domestic consumption is more important than government expenditures. The effect of the growth of government expenditures is remarkably small. The domestic market is more important than export markets as a driver of value-added growth, as shown by the coefficients for export growth and the negative coefficient for the real exchange rate.

An efficient business environment helps value-added growth in manufacturing. A 1 percentage point change in rule of law increases value-added growth 0.23 percentage points (columns 1 and 3).

Human capital measured by years of schooling is, in general, not significant, both in isolation and when interacting with individual industries.

Finally, countries with larger natural resource endowments are more likely to lag in industry growth.

## Annex 6C The legal framework for competition in Eurasia

Table 6C.1. An assessment by the Organisation for Economic Co-operation and Development

Country	Area of regulation					
	Dominance	Monopolistic agreements and concerted actions	Unfair competition	Antitrust investigation	Implications on infringes	Control over economic concentration
Armenia	1/3 of market, abuse of DP prohibited	Prohibited	Prohibited	In place	In place	In place
Azerbaijan	35 percent, abuse of DP is prohibited	Horizontal prohibited, rule-of-reason approach to vertical	Prohibited	In place	In place	In place
Belarus	At the discretion of ME	Prohibited with exemptions	Prohibited	In place	In place	In place, but some vague procedures
Kazakhstan	35 percent, 100 percent—monopolistic	Concept of anticompetitive agreements and actions	Prohibited	In place	In place	In place
Kyrgyz Republic	35 percent, DP and monopolistic activity prohibited	Prohibited, exceptions in the interest of market	Prohibited	In place	In place	In place
Moldova	35 percent, abuse of DP and restraint of competition prohibited	Prohibited	Prohibited	In place	In place	In place
Russian Federation	35–70 percent (single and collective dominance), DP may be acceptable	Horizontal and vertical are prohibited with exemptions	Prohibited	In place	In place	In place
Turkmenistan	Prohibited but not specified by the law (indirectly in criminal and civil codes only)	Prohibited indirectly (for foreign investors)	Prohibited but not specified by the law	—	Civil and criminal responsibility	— No antitrust regulator
Ukraine	35 percent, dominant or monopolistic position	Anticompetitive actions prohibited with exemptions	Prohibited	In place	In place	In place

Sources: World Bank staff, based on various Organisation for Economic Co-operation and Development sources accessed at [www.oecd.org](http://www.oecd.org).

Note: No information available for Georgia, Tajikistan, or Uzbekistan. DP = dominant position; ME = Ministry of Economy; — = not available.

## Notes

- 1 The East Asian countries are Cambodia, China, Indonesia, the Republic of Korea, the Lao People's Democratic Republic, Malaysia, Mongolia, Papua New Guinea, the Philippines, Singapore, Thailand, and Vietnam. The EU new member states are Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, the Slovak Republic, and Slovenia.
- 2 The countries are Australia, Botswana, Canada, Chile, Malaysia, the Netherlands, Nigeria, Norway, Saudi Arabia, the United Arab Emirates, the United States, and RB Venezuela (see spotlight two).
- 3 Other resource-rich Eurasian countries—Turkmenistan, Ukraine, and Uzbekistan—have also established a sovereign wealth fund. Limited information suggests that the funds are for sterilizing and accumulating foreign exchange revenue and for providing loans and equity investments to strategically important sectors.
- 4 Russia's new fiscal rule proposes a ceiling on federal spending equal to the sum of oil revenue at the base oil price, non-oil revenue, and a net borrowing of 1 percent of GDP. All excess oil revenue (revenue generated due to the oil price exceeding the base price) would be added to the Reserve Fund until its balance reaches 7 percent of GDP. Beyond this threshold, revenue would be split between the National Wealth Fund and priority development projects. In case the oil price drops below the base price, the resulting shortfall of revenue would be covered by the Reserve Fund.
- 5 While a 2004 Presidential Decree articulates the Long-Term Oil Revenue Management Strategy based on the permanent income approach, the operational framework that integrates the State Oil Fund and fiscal policy has not yet been established.
- 6 The EITI was announced in 2002 at the Johannesburg World Summit for Sustainable Development. EITI is a voluntary global initiative consisting of a set of seven standards to promote revenue transparency and accountability in resource-rich countries. The standards require companies to publish what they pay and governments to disclose revenues from oil, gas, and mining.
- 7 *Doing Business* tracks administrative requirements in a country's capital or most important economic center. In Russia, subnational *Doing Business* results suggest a wide variation in a number of regulatory areas across Russian regions.
- 8 The name of this indicator was changed in 2012 from "closing a business" to "resolving insolvency" to reflect the fact that the case assesses the efficiency of insolvency proceedings and considers different outcomes.
- 9 World Economic Forum 2012. Eurasian countries are Armenia, Azerbaijan, Georgia, Kazakhstan, Moldova, Russia, Tajikistan, and Ukraine.
- 10 For example, based on an econometric analysis using data on 33 countries, Frankel (2011) finds that official GDP and budget forecasts tend to be overoptimistic (on average) and that the bias is larger at longer horizons and during economic booms. The conclusion is that official forecasts, if not shielded from political pressures, tend to embellish predictions, and the problem is magnified if the government is formally subject to a budget rule.
- 11 Annex 6A provides a methodological description of this analysis.
- 12 World Bank 2013c. In the application, variables connected with public services and with the business environment are broadly termed as the "investment climate." In addition to "investment climate" variables, other factors explaining aggregate log TFP included in the analysis were export propensity, foreign ownership, innovation, employment, industry/region/size effects, and the constant technical efficiency term (constant term of the TFP equation).
- 13 The Olley and Pakes (2006) method allows decomposing aggregate TFP into an average component and an allocative efficiency component. The former reflects the productivity of the average firm, while the latter provides a measure of the efficiency with which resources are distributed among producers.
- 14 To evaluate how competition is related to the endogenous variables of the system, four variables approximating four measures of competition were defined: domestic, foreign, customer, and informal.
- 15 See chapter 3 for an assessment at the sectoral level.
- 16 Due to data restrictions, the other Eurasian countries could not be included in the model.
- 17 To avoid endogeneity problems, these country-specific variables are included with one lag.
- 18 The financial and regulatory environment indicators are interpolated to account for numerous missing values.

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