

Executive summary

This study reviews the status and performance of the physical infrastructure in the transition economies of the Europe and Central Asia (ECA) region during the last 12 to 15 years and attempts to identify the challenges to be overcome to ensure sustainable provision of reliable infrastructural services at acceptable levels of quality. It basically deals with the transition economies consisting of 15 countries which were part of the former Soviet Union and 12 Eastern European states which were formerly part of the CEMA arrangements with the Soviet Union and refers to the data and experience of Turkey to provide a comparative perspective. As the region, with a population of 475 million, is vast and diverse encompassing 28 countries and over 10 time zones, the analysis is in terms of four subgroups of countries: (a) eight Central and East European (CEE) states - which have recently joined the European Union (EU); (b) seven South East European (SEE) states, which hope to accede to EU in the near future; (c) four large middle income states of the Commonwealth of Independent States (CIS-middle income); and (d) eight smaller low income states of the CIS (CIS-low income)

Chapter 2 discusses what is unique to this region distinguishing it from other parts of the world.

- These are economies transiting from Soviet style central planning to market systems following the collapse of the Soviet Union and CEMA arrangements. They experienced dramatic declines in output and incomes during almost the whole of the 1990s and are recovering since at differing rates. The depth and duration of economic decline was much smaller and recovery much faster in respect of CEE and SEE states than in CIS states. The transition economies as a whole reached the 1990 level of GDP in 2004.
- In respect of key infrastructure sub-sectors like electricity, water, district heat and natural gas (where available), facilities were constructed to provide universal access, and supplies were ensured on the basis of per capita consumption norms substantially higher than in OECD countries, at prices which bore no relation to the true cost of supply. Reliable supply at little or no cost was considered by the population as an “entitlement”. Artificially low administered energy prices induced a high degree of inefficiency of energy use and promoted output with high energy intensities.
- When the outputs and incomes contracted in the 1990s, the demand for electricity, gas, rail transport and other infrastructural services declined steeply rendering the existing stock of infrastructure excessive. Nonpayment for infrastructural services became severe and the cash strapped government budgets could no longer finance routinely the cash deficits of the utilities. The utilities accumulated wage arrears, tax arrears and arrears to their suppliers, and often generators of electricity and heat, and distributors of gas had to curtail or discontinue service for want of cash to buy fuel. There were no funds for maintenance and the assets were allowed to deteriorate. The reliability and quality of service greatly dropped, as the poorly maintained assets could not meet even the greatly reduced demand.
- While most other regions of the world have to invest considerably to expand systems and increase access, the challenge in the ECA region had been to find resources to rehabilitate, operate and maintain existing assets to ensure reliable service at acceptable quality.
- The dimensions of many infrastructural facilities, especially in former Soviet Union, tended to be large as they were designed to meet the demand of large sub-regions covering several constituent republics, rather than the demand of each republic. When these republics became independent states, they had to rely on trade with neighbors to balance their demand and supply, a need which conflicted with their objectives of national self-sufficiency.

Chapter 3 discusses the quality of infrastructural services from the perspectives of the households and businessmen over the last several years, relying on the Household Budget Surveys and Business Environment and Enterprise Performance Surveys. These surveys indicate that the quality deteriorated through the 1990s leading to the sentiment that a service connection does not always mean service provision. The deterioration was more severe in semi urban areas and rural areas. More than 60% of the business respondents considered infrastructural services to be an obstacle to their businesses in the 1999 survey. The surveys in 2002 and 2005 indicated notable improvements. By 2005, electricity was not considered an obstacle by 68% of the respondents. The corresponding percentages for transport and telecommunications in 2005 were 68% and 72% respectively. While improvement during 1999-2005 is laudable, the services have still a long way to go to achieve industry standards of quality and reliability. The frequency and duration of power outages and water supply disruptions are still excessive in many countries of low income CIS and SEE sub-regions and even in some CEE states. Transportation is still considered a bottleneck by a significant percentage of businessmen. Regulatory uncertainty is the proverbial *bête noire*. Nearly 75% of the respondents considered it a constraint to their businesses. Unless the reform agenda is pursued and the quality of service is fully restored to industry standards, infrastructure would prove a significant constraint to economic recovery and growth, especially in low income CIS and in many SEE countries.

Chapter 4 discusses the financial sustainability of the services. In power, gas and water sectors, payment indiscipline, high levels of technical and commercial losses and tariffs inadequate to cover costs are the three key elements for correction to ensure financial viability. Quasi-fiscal deficit or implicit subsidy expressed as a percentage of the GDP is an excellent tool to measure the extent of qualitative and quantitative improvements in this regard across countries and over time. It encompasses the difference between the actual and normative levels in respect of the three key elements. Payment discipline has improved and commercial loss levels have come down in most countries of the region, the exceptions being some of the CIS (low income) countries. Tariffs have reached, in a majority of the countries, short term viability level of collected revenues being able to cover all cash costs and finance some urgently needed rehabilitation. The quasi-fiscal deficits in electricity (4.2%), gas (1.7%) and water (1%) sectors together have come down to the level of about 7% of the GDP by 2003. As in the case of most aspects, here too, the performance is best in CEE (where quasi-fiscal deficits are close to zero) followed by CIS (middle income), SEE and CIS (low income) country groups. The move towards the next step of achieving tariff levels adequate to cover all costs including all O&M (operation and maintenance) costs, debt service and contributions to rehabilitation and expansion costs, and further improving on billing and collection efficiencies, and sustaining such efforts is a challenge, the difficulty of which would also vary across the sub-regions more or less in the same order as above. It is likely to be specially challenging in some of the low income countries in Central Asia, where international assistance may be crucial in managing the large tariff increases needed, while protecting the poorest segments of the population. Achieving financial sustainability in the heating sector would be more challenging in CIS (low income) and some SEE states on account of the present low tariff-base, technological conditions, and the need to stabilize the finances of the municipal governments which own the systems.

In the rail transport, short term viability has been reached by 2003 in the region as a whole if we take into account the inevitable state subsidies for passenger traffic. Such subsidies are higher than 0.5% of GDP in Croatia, Romania, Serbia and Slovakia, and are between 0 to 0.5% in other countries. Railways in Russia, Romania, Poland, Lithuania, Latvia, Georgia and Azerbaijan have short term viability even without taking into account the government subsidies. Further improvement of financial viability would depend on eliminating unprofitable routes, downsizing

labor strength, hiving off non-core businesses and rationalizing passenger subsidies in a transparent manner. Road sector financial viabilities are difficult to measure and establish on similar lines.

Chapter 5 explores the questions whether the people can afford the level of infrastructural services and whether the transition economies can afford the investments needed to provide reliable services at acceptable quality levels. The affordability ratios (ratio of expenses on infrastructure to total expenses of households) at 3% to 4% for electricity, 2% for heat, and 1% to 2% for water for *all households*, and those at 6% for electricity, 3% for heat and 2% for water for *households in the bottom income decile* in 2003 are well within the acceptable limits of 20 to 25% for all services together. Immediate increase of tariffs to cost recovery levels does not seem to result in the violation of these limits in most countries except in the case of Tajikistan, Albania, Bulgaria and Serbia, where graduated increases would be needed. Even tariffs needed for long term viability seem to be capable of being achieved by 2007 or 2010 without exceeding the 20% to 25% affordability limit through the use of graduated tariff increases in the medium term. All the transition economies are registering notable economic growth, and the percentage of the poor in the population had dropped from 21% in 1998 to 12.8% in 2003. Overall, with appropriate social protection mechanisms, the tariff adjustments needed for financial viability appear achievable in the medium term. The resulting social protection costs should be manageable in CEE, CIS (middle income) and most SEE countries. Some of the low income CIS countries may need international support to manage the social protection burdens. Though non-earmarked cash transfer is the ideal mechanism, short to medium term solutions may have to encompass earmarked cash transfers, targeted subsidies, lifeline rates or a combination of some or all these mechanisms.

During 2005-2010, the ECA region may have to invest nearly 7% of the GDP annually to rehabilitate, operate and maintain the infrastructural services at a level and quality needed to sustain the targeted economic growth. Given the new economic dynamism and improved macroeconomic conditions experienced by the region driven by oil and gas prices and exports and associated trade, investments of this level would appear feasible with the adoption of appropriate policies. Accession to EC had been a powerful motivation for adherence to such policies by the CEE states (which have already joined EC) and many of the SEE states which aspire for such accession. Care would be needed to transfer the investment responsibilities to commercial and private finance in all potentially financially viable sectors. The government finances would then be applied to other sectors such as roads, rural services, passenger rail traffic as well as social protection costs.

Chapter 6 discusses the crucial role trade will play in the growth of these economies and how the infrastructure provision and operation should be geared for this. Given the uneven distribution of energy and water resources across the region, the size and location of the large infrastructural facilities, the modest demands in the newly independent states of the FSU, and the existence of transmission systems, trade in energy is both an inevitable consequence and a necessity. The large multi-purpose hydroelectric reservoirs serving more than one state have to be operated in a manner to maximize the benefit for the entire basin through appropriate trade arrangements. While national energy security is a legitimate concern, costs are sought to be moderated through cost effective trading arrangements. Basic sector restructuring in energy (needed to facilitate such trade on a commercial basis) has taken place in most countries in the region, though the trade itself takes place in SEE and CIS only among state-owned entities authorized to carry out such trade. The challenge in the energy sector in SEE and CIS is to promote liberalized energy trade as is being done in EU accession countries. SEE has already commenced this process through the Athens Memorandum of 2002. Electricity trading arrangements among the Central Asian

Republics and among the states surrounding the Black Sea are being revitalized, promoted or studied. Large electricity projects which commenced during Soviet days and had been languishing for want of funds for completion in Central Asia could be economically completed as projects for export of power to Russia, Iran, China, Afghanistan and Pakistan, provided appropriate institutional arrangements are made. Russia, Iran and private investors have shown interest in financing some of these export projects. Russia has emerged as major supplier of energy to EU. Kazakhstan, Turkmenistan and Azerbaijan may soon be able to follow suit and play significant roles. Many of the transition economies are in the transit route of these exports and the power and gas systems in these countries do need substantial investment to keep the system integrity. Russia appears to have understood the implications of this and has been active in acquiring and investing in these assets. EU also needs to look into this aspect and promote investments in such systems to reduce risks to crucial supply routes.

In the road and rail transport sector, goods from the countries in the region pass through several borders before they reach the export destination. Apart from maintaining the road and rail assets in good condition, a great deal of streamlining and harmonizing of the border crossing and customs formalities has to be done. Focus on such trade and transit facilitation would appear to yield significant increases in trade gains.

Chapter 7 discusses the experience in the region in participation of the private sector in infrastructure provision, the key lessons learnt and the outlook for the future. During 1990-2004, investments in the infrastructure projects with private participation amounted to \$139 billion covering 550 projects. About 70% of the investments were in telecommunications, followed by energy (23%) and transport (4%). Bulk of the investments involved divestiture (51%), followed by green field investments (43%), concessions (4%) and management contracts (2%). Privatization receipts at \$42 billion amounted to about 5% of the GDP. With the decline in the interest of the traditional western investors, the role of regional investors is becoming more significant. Similarly, the focus on the so-called strategic investors is shifting to investors who specialize in acquiring poorly performing assets and turning them around into profitable ones.

Chapter 8 discusses the critical factors of success in the sector reform. Sustained financial viability of the sector entities is the key central objective. This may be achieved in several ways: public provision, private provision, regulated monopolies, competitive entities or a combination of all or some of these. Whatever be the route, the key critical factors of success are: a clear recognition of the problems, consistent ownership of the program to overcome them, transparency in all transactions to enable meaningful accountability, and governance adequate to ensure effective sector management and oversight to ensure that the sector agencies provide services to the consumers at acceptable levels of quality and reliability. These encompass concepts of respect for property rights, prevention of theft, enforcement of contracts, and regulation – all of which need to be enabled by the state. They also include improved corporate governance and public enterprise reform. Irrespective of the route chosen—public provision or private provision—the states which focused on these critical factors achieved a measure of success even in the face of turbulent times, while those states which did not focus on these aspects could make little headway.