

Water in Bucharest

A Utility's Efficiency Gains under a Concession

In March 2000 Bucharest entered into a concession contract for its water utility with the aim of turning around the utility's faltering performance. Under the private operator the utility has raised service quality above Romanian standards and toward Western European levels. By 2008 efficiency gains had produced cost savings totaling US\$349 million. The concessionaire has financed US\$259 million in investment, without public subsidy, while keeping tariffs well below the Romanian average. Not all water concessions have been as successful. What accounts for the gains under this one?

After Romania's communist dictatorship fell in 1989, responsibility for water service in Bucharest was transferred to RGAB, a municipal water utility. By the late 1990s service was intermittent, water pressure was low, water quality fell short of health standards, and there were outbreaks of waterborne disease. The system needed more than US\$1 billion in investment, but neither the municipality nor the national government was able to finance an investment of this size.

The municipality decided to bring in a private firm to manage the system and finance improvements. The World Bank helped pave the way by developing a public-private partnership strategy, and the International Finance Corporation (IFC) supported the municipality as the transaction adviser between 1998 and 2000. The competitive bidding process, based

on tariff level, was concluded in 2000. The winning bidder, Apa Nova Bucuresti, a subsidiary of the international water operator Veolia, took over the operation in November 2000.

Benefits for Bucharest

Apa Nova improved service markedly over the first 10 years of the concession while keeping the connection rate high (93 percent in 2007) and only moderately increasing the typical household bill.

Faster gains in service quality

Water quality tests went from less than 70 percent compliance before the concession to 100 percent by 2006. Water supply is now continuous and at good pressure, and water quality exceeds Romanian and European Union standards. Complaints fell to less than a seventh of

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their previous level, while customer satisfaction with overall service climbed from less than 50 percent to 75 percent.

Service also improved in a group of 10 Romanian municipal utilities without a public-private partnership. But Bucharest's utility, under the concession, improved faster and reached better levels than most of these utilities on four of six key service indicators—water coverage, sewerage coverage, water quality, and customer complaint level (figure 1). On two indicators—sewer blockages and pipe breaks—the Bucharest utility's level of performance was still below average in 2007. But on all the service indicators reviewed, its performance improved faster than the average rate for the 10 other Romanian utilities.

Low tariffs—and no subsidies

Before the concession, the average combined water and wastewater tariff in Bucharest was around US\$0.18 per cubic meter. By 2009 the combined tariff had reached US\$1.08. In local currency terms the real price increase over

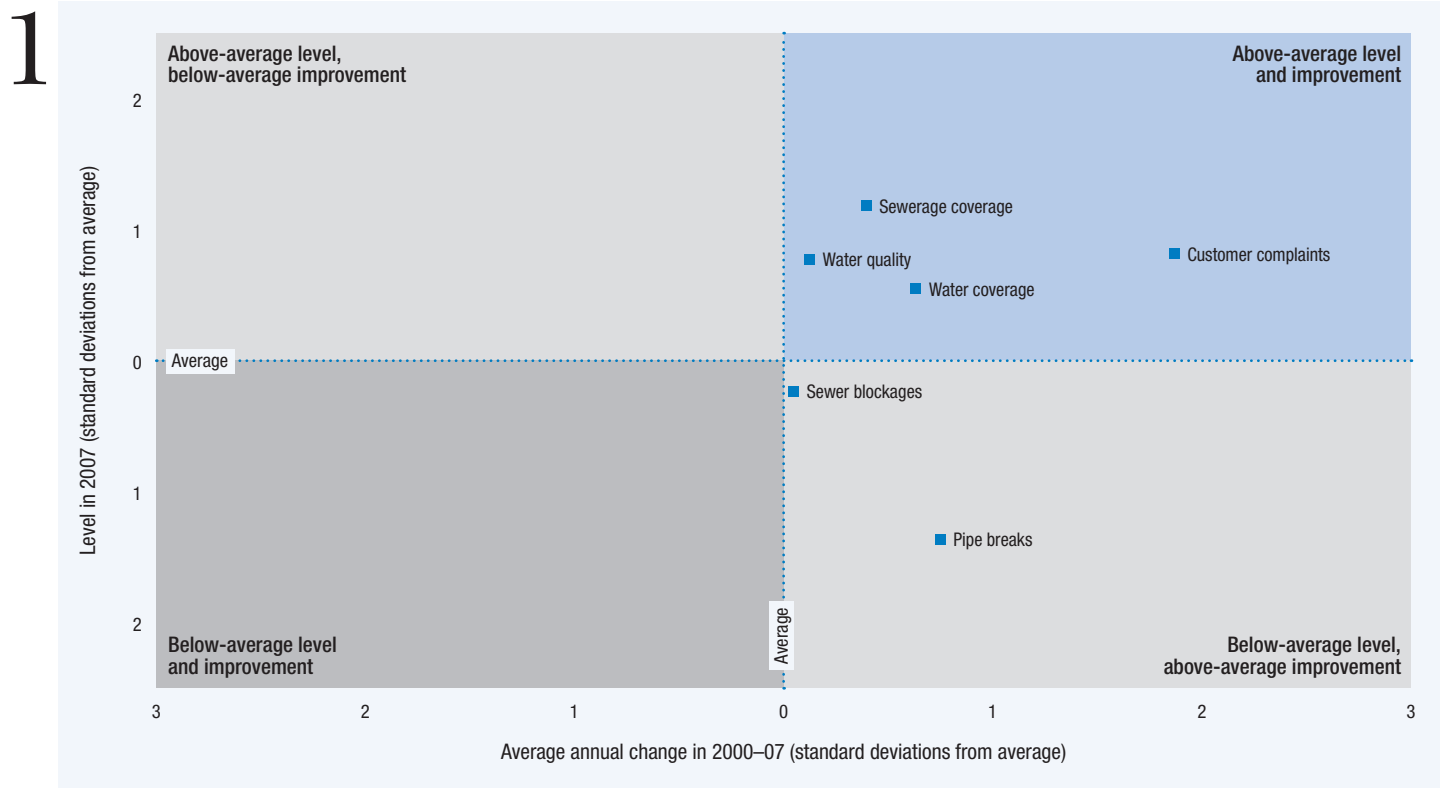
the period averaged 11 percent a year. While the increase seems large, tariffs in Bucharest remain well below the average for the 10 other Romanian cities as well as for European capitals such as Rome (US\$1.40) or London (US\$3.60). Moreover, unlike the other Romanian utilities, Apa Nova financed all its operations and investment without subsidies. And the tariff increases were tied to improvements in service.

Gains in efficiency

Significant efficiency gains allowed Apa Nova to generate the operating cash flow needed to service the utility's loans and provide a return on equity invested. From 2000 to 2007 Apa Nova kept its operating cost increases below the average for the other Romanian utilities. Indeed, Bucharest's utility has the fourth lowest unit operating costs among the 11 utilities for which data were available.

The biggest factor in Apa Nova's ability to contain operating costs was the gain in labor productivity achieved by the new managers. Bucharest's utility went from being one of the

Figure 1 Service quality and improvement in Bucharest compared with other Romanian cities



Source: Authors' calculations based on data from the International Benchmarking Network for Water and Sanitation Utilities (IBNET) and Apa Nova.
 Note: Averages are based on available data for 10 Romanian utilities operating without a public-private partnership in municipalities with more than 80,000 inhabitants. The averages do not include Bucharest's utility.

least efficient in the use of labor in Romania to one of the most efficient as staff per thousand connections fell from 75 in 2000 to 20 in 2007.

Clearly, labor force reductions of this magnitude were traumatic for all concerned. Relations between Apa Nova's management and staff were difficult between 2000 and 2003. The management wanted to reduce the workforce rapidly, and unions led several strikes in response. But relations improved after the first three years as Apa Nova started delegating more responsibility to the staff and also invested in new equipment that increased employee safety and productivity. In addition, as part of the social plan included in the concession contract, Veolia sold 10 percent of Apa Nova's shares to staff in 2007. This sale brought staff members into a partnership with Veolia as equity holders and improved relations between management and the staff. Workers now feel they are better off than before, according to Apa Nova's federation of unions.

Apa Nova also achieved other efficiencies:

- *Energy efficiency.* Bucharest's utility had the second slowest rate of unit energy cost increases in the sample.
- *Collection efficiency.* In 2007 Apa Nova collected 98 percent of bills, compared with an average for the 10 other utilities of about 95 percent.
- *Reduced waste.* A demand-side management campaign involving customer awareness, expanded metering, and more cost-reflective tariffs reduced consumption toward Western European levels. Water consumption in 2009 was 40 percent of the 1999 level of 571 liters per capita a day.
- *Reduced nonrevenue water.*¹ Bucharest's utility cut the level of nonrevenue water by nearly half, from almost 350 cubic meters per kilometer of network a day in 2000—the highest in the sample—to 176 in 2007. While the 10 other utilities reduced nonrevenue water by 6 percent a year on average, Bucharest's reduced it by 10 percent a year.

Over the first nine years of the concession Apa Nova invested US\$66 million in pipe replacement and other measures to reduce leakage. In the short term this pushed up the cost of service. But over the long term this investment will help keep costs and tariffs down.

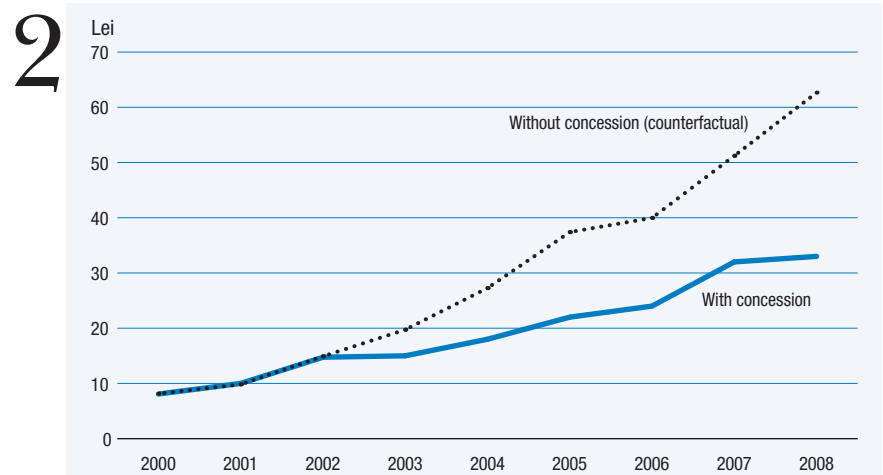
Impact on costs

To test the total impact of the concession on costs, a financial simulation model of Bucharest's water utility was constructed. The model shows that if the utility had made the same investments in improved service, but with the efficiencies observed in Romanian utilities that do not have a public-private partnership, the total cost of service provision over the period 2000–08 would have been US\$349 million higher.

The people of Bucharest would have borne this additional cost, through either higher taxes (if the municipality had been called on to subsidize the company) or higher bills. Indeed, under continued public management, achieving the same investment levels that Apa Nova did would have required almost doubling the bills for a typical household. Instead, compared with a scenario with no concession (and no subsidy), the concession reduced household bills by 33 percent on average between 2000 and 2008 (figure 2). And the savings keep growing. The 2009 bill for a typical household was just over half what it would have been in the scenario with no concession.

These estimates are based on conservative assumptions. For example, the calculations assume that the utility under public management is just as efficient as the private company in capital expenditure. But studies of public-private partnership projects show that publicly run projects tend to have higher capital expenditure (Duffield 2010).

Figure Average monthly household bill with and without the concession, 2000–08



Source: Authors' calculations based on Apa Nova financial statements.

The estimates also assume that investment and service improvements would have been possible without a concession. This is doubtful. RGAB had difficulty mobilizing finance because it was making losses and lacked any credible commitment to turn itself around. Investments made while the company was under public management often failed to yield the intended results. All this suggests that the estimated savings are a lower-bound estimate of the value that the concession has brought to the citizens of Bucharest. Over the lifetime of the concession (2000–25) the public-private partnership will save citizens a total of US\$1.38 billion (present value as of 2008).

Insights from project implementation

All the evidence points to the concession contract as the root cause of the improvements in service and efficiency in Bucharest's water and wastewater services. Yet not all concession contracts have been as successful. In Argentina, for example, concession contracts for Buenos Aires and several other cities and provinces ran into serious difficulties and were canceled. In Manila, where two concession contracts were awarded, the concessionaire for the west zone went into default and had to be financially restructured. Are there distinctive features in the design and implementation of Bucharest's concession that contributed to its success?

The teams involved played a key part in that success. Senior officials in the municipality and utility were committed to a public-private partnership. In particular, the head of the municipal utility, convinced that it could not operate effectively under direct government management, championed the reforms. While most of the IFC team was based in Washington, DC, the team brought on board a Romanian adviser with strong reform credentials who was known and trusted by senior officials in the government. His role was to ensure that the advisory team's technical expertise could be effectively communicated to the right people in government and to stay on top of the management of the complex and fluid transaction process.

Mechanisms for regulation, monitoring, and dispute resolution were also key to success. The technical regulator created within the municipality was innovative and did its job well. An international expert panel (whose selection was agreed to by both the municipality and the concessionaire) has been crucial in maintaining the relationship between the contracting parties. Because the expert panel is neutral (the contract requires that the members be neither from Romania nor from the country of the investor, in this case France), accepted, and readily available, the parties have turned to it before disagreements become conflicts.

Conclusion

The concession of Bucharest's water utility has brought its citizens higher-quality water services, at a lower cost, than they could have had under continued municipal provision. The credit for this goes to the leadership of the municipality and the municipal utility in the late 1990s, which saw that private finance and management were needed to reverse the cycle of poor performance. Credit also goes to the managers and staff of Veolia and Apa Nova, who have made the utility work; the union leaders, who were able to chart a course through the labor force reductions; and the municipal technical regulator, which ensured that the public interest was protected throughout.

Note

1. Nonrevenue water consists of leakage and commercial losses due to underbilling, theft, and other deficiencies in the commercial system.

Reference

Duffield, Colin. 2010. "Report on the Performance of PPP Projects in Australia When Compared with a Representative Sample of Traditionally Procured Infrastructure Projects." University of Melbourne. Available at <http://www.partnerships.vic.gov.au>.

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