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“Social policies and private sector participation in water supply – the case of Hungary”

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1. Introduction

After more than a decade with experimenting with PSP¹ in the water sector, we still do not have a clear picture about the privatization process in Hungary and its impact. This chapter will try to provide an in-depth analysis on some of the results achieved so far.

The Hungarian water sector has gone through a major transition influencing both its economic and social performance and the democratic accountability of the system since the early 1990s. Before the 1990s drinking water provision had been the responsibility of the state. State managed companies had only very little incentives to follow the profit logic, their main goal being to get enough subsidies from the government and to meet the goals set out by the economic plans. The New Economic Mechanism introduced in 1968 was unique in the socialist region in terms of the space it provided for private incentives in the operation of the companies. However, water provision and management was the sole responsibility of the few state operated utilities.

During the socialist era household water and sanitation services were free of charge². This was changed only after the 1990 regime change, when fees had been gradually introduced. Water and sanitation prices have been steadily increasing in real terms over the past 15 years. However, the prices are kept arbitrary low by the local governments. The reason is that people were used to free water and therefore making them pay for the water and sanitation services is still a politically sensitive issue.

The local government act (1990) transferred the responsibility of water provision to the local governments, declaring water provision as mandatory, sewage and drainage as non-mandatory tasks. In 1991 and 1992 the 33 water companies were replaced by five regional and a vast number of local companies owned by the local governments. However, municipalities had the right to refuse the transfer and in some cases it indeed happened. In some places the state ownership remained, just like in the case of the five regional companies. Thus the changes resulted in a mixed ownership structure (about 20% of the water companies are still state-owned) and a highly fragmented structure, with altogether 369 companies supplying drinking water and/or sewerage service by the end of 2001. Around half of the water companies run water services in only one town or village. The process of decentralization was also strengthened by the raise in operational costs and water prices. Those utilities that could provide water from local water-sources got decoupled from the regional companies (Somlyódy et al. 2002). A further complication in management was created by starting privatization in 1994 in the water sector at local level and the concession agreements signed for management purposes.

Hungary has been leading in Central and Eastern Europe in terms of privatization of public services: the entire energy sector and many of the waterworks have been privatized. Today about 40% of the water is distributed by private companies/joint ventures; and about 20% of the water companies are privatized. Some companies are Hungarian, but the well-known multinational companies have also been very active in Hungary: Veolia, SUEZ, RWE, E-on, and Berlinwaters, among others. The fact that different types of ownership are present in Hungary makes room for a comparative analysis.

The intention of this paper is to investigate how private sector participation (PSP) in the water supply industry impacts upon the poverty-related issues of equity, access and affordability and how social policies are designed to help the poor. We investigated the

¹ When we refer to “privatized water companies” we mean a partially privatized companies owning a long-term management rights.

² This was a general policy during the socialist era: the prices of public services were kept artificially low (or they were non-existent). This was a social transfer (welfare measure) which partly compensated people for low salaries.

national level framework, sketched up the functioning of the regulatory institutions, quantitatively analyzed the involvement of the private sector. The backbone of the study is based on a dataset provided by the Hungarian Waterworks Association³. The database contains data about some 120 water and sewage companies from 1995 to 2004. In our analysis we used only data from water companies, around 90 companies. In terms of the number of Hungarian water companies our database represents less than one third of the total number of waterworks, since in Hungary 369 water and sewage companies exist (state of Summer 2005). However, the database contains data about the members of the Hungarian Waterworks Association, which are basically the largest water companies. Therefore the companies covered by the database actually provide more than 90% of the water produced in Hungary, serving about 9.5 million people (total Hungarian population is 10.2 million people). A great number of the Hungarian waterworks are extremely small village waterworks, and many of them are not members of the Association.

The structure of the paper is as follows. First, we provide a general description about the Hungarian water sector, including data about access to, and affordability of, water. Second, we provide a presentation of the Hungarian social policies concerning water. Third, we present an outline about the trends of water privatization in Hungary. Here we include the results of data analysis on private sector involvement and water price.

2. Characteristics of the Hungarian water sector

2.1. The meaning of access and affordability

2.1.1. Access

Access to water in Hungary is not a problem by international standards. The World Health Organization requires that people have access to safe drinking water within the reach of 200 meters from their home. Hungary meets this requirement. Piped water is available to almost all of the settlements (99.7% of the settlements), and where it is not, or quality problems impede water consumption, water is transported. Public fountains free of charge are provided in towns and villages. Water provision is a compulsory task for local governments. The provision of public services is basically defined as part of the tasks of local municipalities by the Act on local municipalities and other laws.

The fact that piped water is available in almost every settlement suggests that if people are not connected to the pipeline, it is not because of physical, but financial constraints. Indeed, important inequalities still exist in terms of connectedness, as the data of Table 1 below clearly show. Even by now only 81% of the poorest families have tap water in their house, and this ratio was only 75.5% in 1992. Almost all of the families of the richest income groups have piped water in their home, although data are striking in showing that piped water coverage is not 100% even for these groups.

³ The database was provided by the Hungarian Waterworks Association (Magyar Vízközmű Szövetség). We would like to thank the Association, and in particular dr. Mária Papp, the President of the Association for the help given to our project.

Table 1: Proportion of dwellings supplied with piped water by income groups (%) and the change between 1992 and 2003 (%)

Year	Income groups										Average
	1	2	3	4	5	6	7	8	9	10	
1992	75.5	82.3	86.1	88.0	89.7	90.7	93.2	93.6	96.8	97.6	89.3
1993	73.4	82.8	85.9	88.2	88.7	89.7	92.9	95.5	96.6	98.3	90.2
1994	79.0	85.3	86.6	88.9	91.0	89.9	92.2	94.4	96.6	98.3	91.0
1995	75.8	84.9	86.8	87.0	89.8	93.0	93.3	93.9	97.3	97.9	91.0
1996	76.4	86.5	90.3	91.5	90.6	91.7	93.7	95.6	96.8	98.1	92.1
1997	73.3	86.1	90.5	90.1	90.7	91.4	92.5	95.9	97.7	98.7	91.8
1998	79.1	87.5	90.3	89.8	91.9	93.9	94.1	94.7	96.7	98.6	92.6
1999	77.6	85.9	89.2	90.7	92.6	93.7	94.1	96.6	97.3	98.9	92.8
	1 st	1 st			3rd				5 th	10 th	
	dec	quintile	2 nd	quintile	quintile		4 th	quintile	quint	dec	Average
2000	80.7	85.7	92.0		93.9		97.2		99.0	99.4	94.4
2001	77.8	84.2	93.8		95.9		98.0		99.4	99.4	95.1
	1	2	3	4	5	6	7	8	9	10	Average
2002	79.1	90.8	92.5	94.5	95.5	96.8	97.0	98.5	98.5	99.3	95.2
2003	80.7	91.0	92.7	95.8	95.2	96.7	97.3	98.6	98.5	99.4	95.5
%											
2003/1992	107	110	107	108	106	106	104	105	101	101	107

Source: Hungarian Central Statistical Office

We could eventually redefine the question of access to piped water as an affordability question. It is not the physical and spatial marginalization of whole social groups (or regions) that creates inequalities in terms of access in the first place. It is more about the limited financial capacities of people to pay for the costs connection (and after for the water – which is now available for them from public fountains free of charge). In other words, connection charges hampers access.

The hypothesis that the question of access is indeed a question of affordability is reinforced by data as well. Although access data show variation across the years, and the general trend is more about a slow, gradual increase in terms of access for each income groups, the rate of growth slightly speeded up after 2000. And 2000 was the first year after 1995 when overall household expenditures grew in real terms. This is also the year when water consumption started to increase after seven years of decrease. This suggests that connections maybe determined by the relative income positions of households. If people have better financial status, than they are willing to spend on water connection and related infrastructure (bathroom, or non-essential uses).

Inequalities in terms of access to tap water in the house are important: the difference is almost 20% between the poorest and the richest income group. However, inequalities are slowly decreasing. Over the period 1992-2003 the first six income groups saw their connection rates growing around or above the national average, while this growth has been slower for the four richest income groups (because most of them have already a connection).

As one would expect, inequalities exist also in regional terms and by type of settlements. Table 2 below shows that villages lag considerably behind towns and the capital city. Combined with the table above we can conclude that most of the poor people in Hungary live in villages – and this is indeed the case. In Hungary the distribution of household income shows strong correlation with the population size of the settlements.

Table 2: Rate of flats supplied with piped water by settlements type (%)

	1992	1995	1998	2000
Rate of flats connected to public water supply	89	91	92	94
of this: Budapest	98	98		99
other towns	90	92	94*	93
Villages	73	82	87	87

*With Budapest

Source: Hungarian *Central Statistical Office*

2.1.2. Affordability

We use household expenditure data provided by the Central Statistical Office to assess the amount a household spends on water. We observe that for all the income groups the amount spent on water compared to household expenditures grew between 1992 and 1995. during this period there was an economic recession in Hungary: GDP dropped by about 15%. Revenues were shrinking even more abruptly. Household expenditures for the first income group dropped by 13% from 1992 to 1993 in nominal terms. However, after 1995 we can distinguish three groups in terms of the trends in spending on water.

Table 3: Affordability of water: water bills (without sewerage charges) according to income groups for Hungary (% of yearly household expenditure)

Year	Income Groups									
	1	2	3	4	5	6	7	8	9	10
1992	1.1	1.2	1.1	1.1	1.1	1.0	0.9	0.9	0.9	0.8
1993	1.2	1.2	1.3	1.2	1.3	1.2	1.3	1.2	1.0	0.8
1994	1.2	1.3	1.3	1.2	1.2	1.3	1.2	1.1	1.0	0.8
1995	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.3	1.1	0.9
1996	1.4	1.5	1.5	1.4	1.4	1.3	1.4	1.2	1.2	0.9
1997	1.4	1.6	1.5	1.4	1.4	1.4	1.4	1.4	1.2	0.9
1998	1.4	1.4	1.3	1.4	1.4	1.3	1.2	1.3	1.1	0.9
1999	1.5	1.5	1.4	1.5	1.4	1.5	1.3	1.2	1.2	0.9
	1st decile	1st quint	2nd quint		3rd quintile		4 th quintile		5th quint	10th dec
2000	1.5	1.5		1.5		1.5		1.3	1.0	0.9
2001	1.4	1.4		1.4		1.3		1.2	0.9	0.8
2002	1.5	1.5		1.4		1.3		1.2	0.9	0.8
	1	2	3	4	5	6	7	8	9	10
2003	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.1	0.8

Source: Hungarian Central Statistical Office

The first five income groups saw their water spending stabilizing around 1.4 - 1.5% of the household expenditure between 1995 and 2003. This means a 36% increase in water expenditure as percentage of overall household expenditure for income groups 1 and 3, and an increase about 26% for income groups 2, 4 and 5 for the whole period. Income groups 6-9 experienced a slow decrease of water spending in their household expenditures from 1995 to

2003. Water spending from household expenditures peaked around 1996-1997 and after it has been slowly decreasing. For the whole period this means an increase in spending around 30% (groups 6 and 8), 44% (group 7) and 22% (group 9). The members of the richest social group have been spending almost the same on water throughout the whole period. In 2003 they spent 0.8% of their expenditures on water – the same percentage as in 1992.

We can say that these figures are not high enough to cause a burden on households. Of course, it is difficult to decide what is the benchmark, but Fitch and Price (2002) propose the threshold of 3% of the income spent on water services (water and sanitation together) to define water poverty. This threshold has been widely used since.

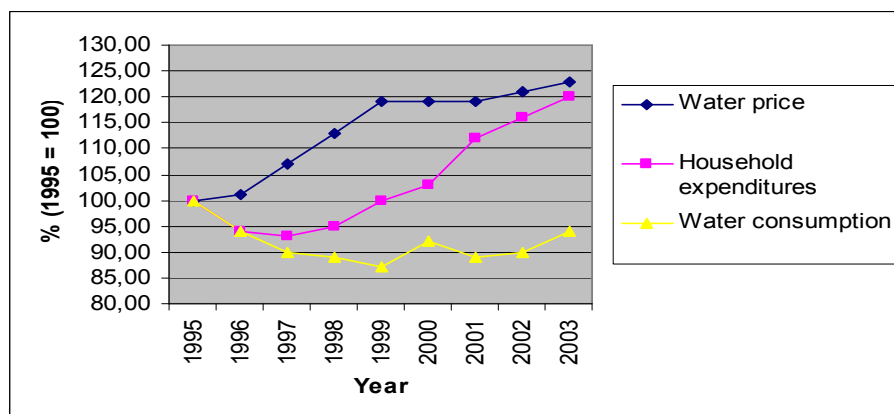
Table 4: Affordability of water: water bills and sewerage charges according to income groups for Hungary (% of yearly household expenditure)

Year	Income Groups									
	1	2	3	4	5	6	7	8	9	10
1995	1.98	1.94	1.87	1.84	1.79	1.96	1.81	1.77	1.56	1.30
1996	1.87	2.03	2.05	1.83	1.96	1.96	1.97	1.74	1.68	1.36
1997	1.81	2.15	2.05	1.88	1.93	1.94	1.92	1.99	1.79	1.40
1998	2.05	1.90	1.87	1.87	1.89	1.84	1.83	1.96	1.71	1.43
1999	2.10	2.20	1.96	2.16	2.01	2.14	2.04	1.90	1.94	1.44
	1st decile	1st quint	2 nd quint		3rd quintile		4th quintile		5th quint	10th dec
2000	2.29	2.30	2.39		2.37		2.22		1.80	1.64
2001	2.22	2.15	2.20		2.23		2.04		1.60	1.45
2002	2.01	1.95	2.29		2.24		2.13		2.17	1.53
	1	2	3	4	5	6	7	8	9	10
2003	2.47	2.63	2.62	2.53	2.45	2.38	2.42	2.21	2.07	1.72

Source: Hungarian Central Statistical Office

Table 4 above refers to expenditure data instead of income. The combined water and sewerage expenditures do not reach the 3% even in the case of the poorest income groups. This implies that water affordability does not seem to be a problem in Hungary. However, water consumption data suggest that people were feeling the burden of increasing water price. As water price increased sharply in real terms all over the 1990s, water consumption decreased to the 87% of the 1995 consumption level at the end of the 1990s. This is a considerable fall in water consumption. (See Figure 1 below.)

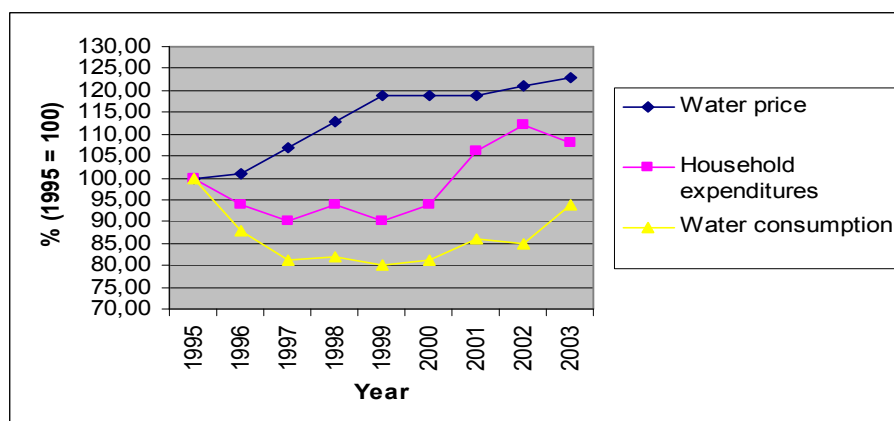
Figure 1: Average household expenditures, average water price increase and household water consumption (% change in real terms, 1995 = 100)



The picture is just a little bit different for the poorest income group (see the graph below). Water consumption dropped for them as well between 1995 and 1999. This drop was even more pronounced than for the whole population (to the 80% of the 1995 level – versus 87%). However, with stabilizing water prices and rising household expenditures water consumption began to increase again, and by 2003 reached the same level as for the whole population (94% of the 1995 level), despite the fact that income growth has been more modest than for the whole population.

Water consumption shows a significant variation over time. This is rather peculiar since water is considered a basic necessity and therefore has low price elasticity. One explanation would be that rich people decrease their consumption on non essential issues (pool, gardens, etc.) whereas there is very little scope for decreasing water consumption for the poor. As can be seen from Figure 2, water consumption has changed considerably, following the variations of water price and to some extent, income.

Figure 2: Household expenditures of the 1st income decile, average water price increase and inflation rate (% change in real terms, 1995 = 100)



Does PSP in the Hungarian water industry has had some effect on the water price increase observed in the past ten years? Has private sector involvement contributed to the growing (though still not dramatic) water affordability problems in Hungary? Even if water

poverty does not seem to exist in light of income decile data, locally poor people may be considered as water poor, since water prices vary by a factor of 3 from one locality to another. We do not have local water expenditure data, but looking at water prices and their relation to private sector participation in water can provide some explanations to whether water privatization has any effect (either positive or negative) on water affordability.

The reason is that water affordability measured in terms of water expenditures per total income (or expenditures) is a composite indicator, which depends on water price, water consumption, and income. Income itself may be affected by social policies. So using water expenditures per total income as an affordability measure may obscure the effect of privatization on price. Increasing prices caused by privatization may be counterbalanced by falling consumption, increasing income or social policy measures.

3. Social policies

3.1. National level social policies

The Hungarian water tariff compensation scheme has to be transformed not later than 2015 in order to comply with European Union Water Framework Directive. This directive, among other things ensures that the prices charged to the consumers reflects the true price of abstraction, distribution, and treatment. Getting prices right will ensure provide incentive for sustainable use of water. In Hungary the price does not reflect the true cost and is based on a subsidy approach. The amount of subsidy is decided yearly within the national budget. This sum is distributed among those water companies, of which the costs of water production (and therefore the water prices) exceed a given threshold. Companies receiving the compensation can lower their water prices to the threshold level. The threshold changes yearly, being the function of the sum to be distributed. Since this sum has decreased constantly in real terms, the threshold of subsidy has increased constantly in the past 10 years. Still, the subsidy is able to reduce the price of water at those few localities where (for either geographical or technical reasons) the costs of water provision are very high. (As we already mentioned, there is 10-fold difference between the water utilities with the lowest and the highest costs of water production.)

There is certainly a need for state intervention. Our study also shows the importance of state and local government intervention in keeping the prices at a tolerable level (provided that water was free in the socialist era). Although the affordability data shows us that it is not a problem, we should bear in mind that the costs of water provision vary to a great extent. Even with the Ministry setting the maximum water price, there are 3-fold differences in water prices around the country.

3.1.1. Weight and significance of the national compensation scheme

Without state intervention, water prices would be very high in some regions. Table 5 presents the amount of water compensation between 1993 and 1999 per m³ of water. We can see that water prices have a huge dispersion, ranging from 30 HUF to 2176 HUF per m³ in 1999. In the case of highest producer prices central government subsidies cover the decisive proportion of the price, reaching above 90% from 1995. The amount of compensation decreased after 1995 and 1996, which is due to the steep rise in the absolute value of compensation transferred to local governments (jump in producing costs and inflation). This shows that central budget subsidies could not keep abreast with the rise of producer prices: overall the compensation figures had been also rising but with a slower pace.

Table 5: Water prices and compensation, HUF/m3 (1993-1999)

	1993	1994	1995	1996	1997	1998	1999
Producer price minimum	19	25	44	32	34	49	30
Producer price maximum	79	362	1472	1565	1874	2033	2176
Household price minimum	21	27	50	36	38	55	34
Household price maximum	52	66	87	114	146	182	207
Compensation minimum	0	0	0	0	0	0	0
Compensation maximum	32	302	1394	1537	1696	1871	1991
Compensation ratio (with maximum prices)	41%	83%	95%	98%	91%	92%	92%

Source: Hajós (2000: 43) and own calculations

Looking at the absolute amount of central government household water compensation (Table 6) we can see that it had been constantly rising from 1995 on (1,5 → 2,0 billion HUF) until recently, with a 0,4 billion HUF drop in 2005 at nominal value. Calculated at 2002 base value we can see that the subsidy has fallen significantly in the first years, and oscillating around 4,8 billion HUF during the following years. With a tight budget in 2005, the government had to cut spending. Water subsidy was reduced as a part, offsetting the real increase of the first years of the 2000s. The amount spent on water compensation represents only a marginal part of government budget (0,0422%). Total value of household water consumption calculated at average minimum price for the year 2003 was 63.625 billion HUF⁴. Accordingly, state subsidy corresponds to 8.8 % of the total household water consumption in 2003. This does not seem to be a huge amount. However, we should not forget, that this subsidy is somehow targeted to those operators where the production costs are high. That is, targeting of the national policy happens not in terms of social groups in need, but in terms of localities (water companies) where the costs of water provision are excessively high. The state intervention is very important for those few regions where water prices would be very high without it. Together with local authorities right to set the prices, this small amount of central subsidy plays an important role in securing basic rights and welfare of citizens.

In 2002, 12 water companies out of 80 in our database received central budget subsidies (15% of the companies), among them 3 privatized operators (one multinational company and two small, local operators).

Table 6: Household water-services compensation (billion HUF)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
By year	1,5	1,5	1,5	2,0	2,5	3,0	3,4	3,8	4,1	4,5	4,9	5,6	5,9	5,5
At 2002 base value	6.5	5.3	4.5	4.6	4.7	4.8	4.7	4.8	4.7	4.7	4.9			

Source: Koskovits and Rákosi (2002) and budget acts

⁴ Total water consumption by households (excluding non-household consumption) was 395 187,8 * 1000 m3 in 2003 (395 187 800 m3). Average water price in 2003 is 161 HUF / m3 (calculated as the average of the minimum prices, average maximum was 176 HUF, however, the majority of the providers falls into the first category).

We have to point out, that also an important, although hidden tool of social policy is keeping household water prices very low by excluding some cost elements from the calculation. For example, Ungvári and Mohai (2004) argue that prices are usually set very low, which excludes investment and depreciation costs. Prices are not able to cover even the operational costs. Utilities are not responsible for investments, since it is the municipality's responsibility with subsidies from central government some EU funding (Koskovits and Rákosi 2002). Upon agreement (like in the case of Budapest) a so called "improvement ratio" may be added to the price to cover a part of the investment costs, but this is very rare. By keeping prices low, the fairness of this policy tool is questionable, as it diverts flows towards the well-off⁵.

In 2002 the threshold to which the central budget supported household water services was 240 HUF/m³, and in the case of combined water and wastewater services it was 434 HUF/m³. With the increase of operational costs and the amount requested from the central budget a ceiling had to be introduced – this was 95,4% in 2002. This means that local governments received a maximum of 95,4% of the difference of the costs of the threshold value. As Koskovits and Rákosi (2002: 53) also point it out, the threshold value had been increasing far faster than the inflation, i.e. the real-value of the highest household water tariffs also increased significantly, with approximately 20% from 1997 to 1999.

3.1.2. Guidelines of the compensation

As mentioned, overall amount available for household water compensation is set yearly in the national budget. In 1993, this was decided at an inter-ministerial level (inter-departmental). The central subsidy has to flow through the local government and cannot be directly transferred to the operator. The guidelines for considering individual applications are not defined in the budget acts: they are left to the ministry responsible for water issues. The ministry (or the interdepartmental committee) either issues a communication or, as the recent practice has been, a ministerial decree.

As it has been criticized by the State Audit Office in 1996, in the first half of the 1990s there have been some serious problems with the compensation scheme: local governments did not understand the application procedure, and did not receive written information about the guidelines for considering individual applications. Local governments have to report yearly about the subsidies. If not the whole subsidy has to be transferred to the government. Initially, due to the frequent changes in the organizational structure of the water sector, the interdepartmental committee could not define standard, universal principles but allocated the disposable sum based on individual deliberations. As the report of the Audit Office (1996) points out, several local governments misused central budget subsidies by manipulating water prices and used the funds for other purposes.

For example, the guidelines of the application procedure for the 2005 compensation were set in a ministerial decree that states the following among others: Those local governments may receive central budget drinking water price compensation that fulfill the following criteria:

- in case of regions with sewerage services 60% of the network is connected to the sewerage system;

⁵ We could observe the same type of hidden social policy also in the case of energy, especially household gas prices, that were kept artificially low by the previous government to ease household burdens. The issue became highly politicized latter during elections in 2002, and is still a central topic. Certainly, this is a legacy of the old socialist system, in which the prices of public services were kept artificially low.

- specific costs of drinking water service exceed 175 HUF/m³ in case of water bought from another water utility;
- specific costs of drinking water service exceed 319 HUF/m³ in case of regions without sewerage;
- specific costs of combined drinking water and sewerage services exceed 601 HUF/m³ in case of regions with sewerage system.

The interdepartmental committee decides the extent of individual compensations based on the following principles:

- depreciation does not exceed 200 HUF/m³;
- the rise in salaries does not exceed 6.5% compared to the previous year;
- the rise in material-type costs does not exceed 2% compared to the previous year;
- the rise in overall specific costs does not exceed 8% compared to the previous year;
- if the price setting agency sets a different price for non-residential water consumption, this price must not be lower than the residential water price;
- in case of water bought from another water utility, water loss does not exceed 20%.

3.1.3. Monitoring and abuses

The main tool to monitor and to evaluate the use and efficiency of the water price subsidies is to compare actual water tariffs and producer prices. In terms of the impact of this national level policy we can assume that it tries to ease the water services bills of households. This scheme could be criticized since it benefits more the richer population than the poor, since it the upper and middle classes who consume more.

3.2. Local level social policies

With no reliable data, we can only provide a general description of local level social policies. We argue that the central government subsidy in pricing is quite significant, compared to the limited scope for social policies at the local level.

Local level social supports for water payments are provided in the general household maintenance supports: expenses on distance heating, house rental, fuel, electricity, gas, water, wastewater and waste collection. These charges are calculated together as household maintenance expenses. If these charges exceed a given amount, support can be given by reducing the bills. The local government transfers the money to the utility. The social support is usually operated by the social and health committee of the local governments. An interesting example is that of Budapest where an additional Foundation was set up which receives funding from the water utility and addresses the most vulnerable through an application-compensation scheme.

Local governmental social policies related to the water sector can have three basic forms, all defined in the national level Act on Social Provision⁶ (1993) and operated by local governments: *normative household maintenance*, *Debt management support*, and *local household maintenance support*.

The local governments have a high degree of freedom in making decisions about social supports schemes. The support they allocate varies from one municipality to another, and also from year to year, according to the financial situation of the local government.

⁶ Act 1993/III on Social Policy and Social Services

Based on our interviews with local government representatives, we conclude that this form of social support is much less important than the national level tariff compensation, and especially the hidden support coming from the artificially low water prices. The main reason for this is that local governments do not have sufficient funds for local social policies. Despite this, the scheme is important, because it really targets the poorest people. The situation may change in the future, and local level social policies may become more important, as this form – contrary to the tariff compensation – is compatible with the EU rules. If this happens, the capacity of local governments to design, operate and monitor social policies has to be further increased, both in terms of knowledge and in terms of resources.

To conclude this section, we have shown the central government compensates for 8-9% of the spending on water, in addition to keeping water prices 5-90% lower than full-cost recovery (depending on the locality). We also demonstrated that there is some assistance provided at the local level.

4. Arguments for private sector involvement – under scrutiny

Here we look shortly at the political debates surrounding water privatization within the Hungarian context (this may also be relevant to other transition economies). Privatization, including water-privatization in Hungary is introduced within the context of “general” privatization and transition to market economy, which implies selling of state property. Generally, there is no specific sectoral debate regarding water utility privatization *per se*.

Privatization took place in an era of general political and economic transformation, and privatization itself was an important element of this transformation. The importance attached to privatization is understandable given the specificity of the centrally planned economies where almost all productive assets were in the possession, or under the tight control, of the state.

Privatization in the transition economies is unique in many respects, not “just” because of the political importance assigned to it. The quantity of the assets that changed ownership is huge and touched upon almost all sectors of the economy. The speed of the process, especially in countries leading the reforms, like Hungary, has also been unprecedented. The privatization process is also unique because it has happened in a dynamically changing environment. In Western Europe for example, privatization is somehow defined by the existing legal, political, cultural and economic conditions. But in the transition economies, the general regulatory or political framework is not clearly defined.

Some of the arguments leading to privatization were increasing efficiency, increase government revenue, increasing investment, and the state should disengage from production. These arguments are well researched and there is no need in going into detail (Prasad in the this volume). However, there are some specific points to be made within the Hungarian study. In order to increase efficiency, employment in public sector was shredded. For example, the activity rate in the economy is some 10% lower in Hungary, compared to the EU average. In the water sector, Debrecen Waterworks reduced its employees by half within 10 years. Regarding increasing government budget, it is argued that the Budapest Waterworks was (partially) privatized to secure revenue since it was already restructured, and there was no substantial need to investments.

Regarding the argument of seeking additional investment we show that for example Debrecen (as a private company) has not been more efficient in securing additional funds compared to local governments (who can seek cheaper loans to finance investments without serious price increases). In the case of Budapest Sewage Work, the most important investments were financed from the central government’s or the city’s budget. Another example comes from the city of Pécs with its partially privatized water works (1997 SUEZ).

The local authorities are having difficulties since the prices are increasing while investments are not coming. In addition, since the waterworks is partly privatized, the city is having difficulties securing EU funds for water infrastructure development.

We have shown that water privatization took place within the general wave of privatization and no specific debate on water took place. However, since privatization has delivered what it promised, a referendum in 2004 managed to block privatization the health care. There is a growing feeling that government should operate basic services.

5. PSP in the Hungarian water sector

5.1. General trends of private sector involvement

As already mentioned, after the political regime change the ownership structure of the water system changed considerably. Currently, the ownership structure is not just fragmented, but it is also blurred: in some regions the state ownership remained, while the majority of the waterworks are owned and managed by the local municipalities. A further complication in management was created by introducing privatization of water at the *local* level. The city of Szeged was the first to start negotiating a concession in 1994 and several other cities and regions followed. Now it is estimated that around 30% of the water is distributed by private companies/joint ventures (Owen 2006). Many companies are Hungarian (like the private company operating in the city of Szolnok and the small companies operating the water works of several small towns and villages), but the well-known multinational companies have also been very active in Hungary: Veolia, SUEZ, RWE, E-on, and Berlinwaters, among others.

We do not have a clear picture about the privatization process for several reasons – the research behind the present study is the first systematic attempt to draw a general picture about it. One reason is that there is no a kind of Office of Water which would monitor the privatization process. The water authority deals only with technical, environmental and quality issues related to water management. The economic-financial aspects are not monitored. Local governments have a high degree of autonomy to make decisions without having the expertise or the relevant information⁷.

Another reason for not having a clear picture about the state of privatization in the Hungarian water sector is that even the companies which were not privatized were formally transformed into a public corporations or limited liability companies, and the local government became the owner.

Looking at the different analytical approaches to categorize PSP we can point out some important commonalities. The typologies set up by Rees (1998), by the National Research Council (2002) and by Mohajeri et al. (2003) differentiate between full public ownership, partial privatization or public-private partnerships and full privatization. Public-private partnerships display a significant variation rooted in the different options of short terms or longer term contracts, the scope of tasks delegated, responsibilities and different ownership-construction of the assets. Limited private sector involvement may take the form of outsourcing, management contracts, operations contracts, whereas deeper and longer forms of private involvement may take the form of acquisition, full or partial divestiture, joint stock companies, concession contracts, build-operate-transfer (BOT) or build-operate-own contracts.

Looking at the brief Hungarian history of PSP we can see some major commonalities, but also some differences between the different privatization cases. Most importantly, full

⁷ For instance the transfer of ownership from the state to local governments was done without a proper evaluation of the value of the assets, and/or after making a careful inventory of the state ownership. Local governments do not even know the value and the physical status of the assets they possess.

privatization, the complete acquisition of state, local government assets by private companies is illegal. Hungarian local governments may chose from the options of outsourcing, long-term concessions and management contracts or setting up a joint company. All of these forms occur in Hungary with a special preference towards joint ventures and management contracts.

Since local governments cannot sell all the assets (as in the case of Szeged, Budapest, Pécs and several other cities), local authorities mostly opted for partial privatization, i.e. only a minority (less than 50%) stake of the company is transferred to private sector. This gives the municipality control, potentially giving them power to protect the public. However, this is often offset by the privatization agreement, which gives management rights to its private partners, thus limiting the authority of the municipality. The minority owners – typically a multinational company or a consortium of companies – gets the management rights for a long term concession contract for 15 or (as in the case of Budapest) 25 years.

The privatization contracts – or at least some parts of them – are kept secret. We have made attempts to get enough information on the content of these contracts. In most of the contracts, there is no obligation for, but only maintenance of the infrastructure (Juras – Schenk, 2005). For example, the city of Pécs expressed its discontent (over the fact that no additional investments were required, but water prices were increasing) by threatening the operator of withdrawing from the contract.⁸ This is even more alarming since water price do not reflect the cost-recovery principle.

5.1.1. Company size

We identified 12 privatized companies in our company database, which make up for the 13-20% of the sample. This is slightly below the estimated rate of privatized water works, which is around 30% (Ungvári – Mohai, 2004). Out of these 12 privatized companies we distinguish the multinationals (6 companies) out of which 5 operate in cities (Budapest, Pécs, Szeged, Kaposvár, Hódmezővásárhely) and one is a regional company. The rest of the privatized companies consist of a small number of Hungarian firms which manage the water work for villages or small towns.

Measured by the number of employees there is no significant difference on average between the size of community-owned and private companies. However, if we sort out the multinational companies, the picture is rather different. Compared to the average the multinationals are larger companies, while the other privatized ones are small firms. The difference is even more accentuated if we consider the value of company assets. The value of the assets of multinationals is 4-5 times bigger than the average, while the other private companies are much below the average.

However, this picture can be misleading. When talking about company assets a basic problem is that capital account balances of water companies are extremely unreliable (Ungvári – Mohai, 2004: 29). The average length of the water pipeline per person served would be more appropriate. Multinational companies have the lowest figures, because they operate in cities, while many other publicly owned and operated large companies are regional water utilities. Another feature of the privately operated water companies is that they have grown faster than the community owned firms. This is illustrated by the rate of increase of the average length of water pipeline operated by a company. We find that pipeline system of multinationals have grown by 15%. The length of pipelines could have grown by

⁸ Pécs is an interesting example, because some years ago the city took back the previously privatized waste collection company as well on similar grounds: it turned out that prices increased and infrastructure development became more difficult to finance, since the private operator did not invest, but the city had difficulties in accessing EU funds for a formally private company.

constructions and by mergers and acquisitions. Evidence suggests that the latter must have played the more important role.

5.1.2. Efficiency/productivity

A general argument for privatization is that private operators might increase the efficiency of the company. Therefore we looked at some efficiency indicators to test this hypothesis. We limited our attention to some general aspects of company productivity. For turnover per employee, an increase took place for the community-owned waterworks and for the multinationals. The magnitude is the same (around 30%), but the trend seems to be steadier for the multinationals. On the other hand, no efficiency improvement can be noticed for the small private waterworks. An increase in productivity can be noticed for all types of water companies during the past ten years, as measured by the length of water pipeline operated per employee. For community-owned companies the average length of pipeline per employee has grown by 40%, and 88% for multinationals, and about 30% for other privately operated companies.

We assumed that larger companies might have more opportunities for increasing productivity (laying off people). Our data reveals (Table 7) that the twenty largest water companies laid off less employees than the average of the community-owned firms. Multinationals have been leading in reducing their work force.

Table 7: Change in the number of employees, % (1995 = 100)

	Community-owned companies	The 20 largest companies	Multinationals	Other private
1995	100	100	100	100
1996	92	92	88	106
1997	80	90	81	115
1998	75	89	78	107
1999	74	90	76	110
2000	75	87	68	121
2001	72	86	65	100
2002	70	84	62	97
2003	72	83	62	93
2004	74	82	61	87

We find that the multinational companies pay 14-25% higher wages than community-owned companies. The lowest wages are paid by the small private waterworks. Again, we assumed that larger companies may pay higher wages, so we compared the average wage paid the multinationals to the wages of the twenty largest companies. Indeed, the advantage of the multinationals has been reduced, but it still remains.

However since we lack data on the profitability, amount of investment and cost of operation we cannot have a complete picture about the efficiency of different companies. We can only affirm that multinational companies shed labor to improve.

5.2. The effect of private sector involvement on water price

With an increase in efficiency observed in most type of companies, we would like to investigate who benefits from such improvements? Does it lead to a decrease in prices, increase in coverage or do the companies take them as profits?

These questions would be meaningful only in full-cost recovery setting, which is not the case here. As discussed above, water prices are below the level needed to cover investment and depreciation costs, and hardly covers operation costs. As mentioned earlier, the main reason is that local municipalities do not let the prices grow fast for political reasons. Therefore if in the past ten years water prices have grown beyond the inflation rate (as they indeed have) this should be seen as normal from a business point of view. Indeed, more price increase is projected by experts if full-cost recovery (as promoted by the EU water director) will become the norm for pricing. Although price setting depends on the local governments (and the ministry for state-owned companies), and therefore it is not a decision which would be based on economic logic. If there are differences between the prices of privatized and non-privatized companies, this might signal at least a difference in relative bargaining power of the firms.

However, price analysis has some problems and shortcomings in our case. First, some of the cases in the database are conglomerates of several small, local companies. Being conglomerates, they are still not very large companies, because they unite small, village water utilities. But they still set different prices for the different settlements. That is, about 25 companies do not have one water price in the database for each year, but two: a minimum and a maximum price they set for their consumers. Since water prices are in general lower in towns (because of the lower marginal cost of supplying water) minimum price would reflect the reality.

Table 8: Average household water prices, minimum values (HUF, nominal values)

<i>Year</i>	Community-owned		Private operators		Total	
	<i>Price</i>	<i>N</i>	<i>Price</i>	<i>N</i>	<i>Price</i>	<i>N</i>
1995	57.23	52	51.63	8	56.49	60
1996	71.49	56	60.96	10	69.89	66
1997	86.52	63	83.35	11	86.05	74
1998	101.13	70	103.22	12	101.43	82
1999	116.14	71	121.42	12	116.90	83
2000	126.74	68	141.02	11	128.73	79
2001	140.18	70	146.54	12	141.11	82
2002	148.83	71	155.28	12	149.76	83
2003	160.37	70	164.68	12	161.00	82
2004	172.91	67	177.02	12	173.54	79

Data shows that from 1998, the prices of private operators are 2-11% higher than the prices of community-owned companies. We conducted some extra statistical calculation to see if ownership led to the difference in price. We can say that water privatization has not lead to price increase in Hungary. Apparently, the standard deviations of the prices are relatively high within each groups in order to make a difference between the groups. For instance, in the case of the multinationals water prices for 2004 vary from 124 – 277 HUF among the 6 companies. We also observe that small private companies have higher prices than the

multinationals. The prices of the multinationals correspond almost exactly to the prices of the community-owned waterworks. The other, small privatized companies have some 10% higher prices.

Table 9: Average household water prices, minimum values (HUF, nominal values)

	Community-owned companies		Multinationals		Other private		Total	
	<i>HUF</i>	<i>N</i>	<i>HUF</i>	<i>N</i>	<i>HUF</i>	<i>N</i>	<i>HUF</i>	<i>N</i>
1995	57.23	52	50.97	6	53.60	2	56.49	60
1996	71.49	56	59.95	6	62.47	4	69.89	66
1997	86.52	63	81.55	6	85.52	5	86.05	74
1998	101.13	70	97.15	6	109.28	6	101.43	82
1999	116.14	71	113.82	6	129.01	6	116.90	83
2000	126.74	68	126.50	6	158.44	5	128.73	79
2001	140.18	70	138.87	6	154.21	6	141.11	82
2002	148.83	71	149.95	6	160.60	6	149.76	83
2003	160.37	70	158.68	6	170.67	6	161.00	82
2004	172.91	67	168.40	6	185.64	6	173.54	79

Other factors (apart from ownership per se) might be the determinants of price, such as technology used by the individual companies, the geographical characteristics, availability of water etc. But it might also be that other, external factors explain the price variations, like political decisions made by the given municipality.

However we need to be cautious since geography (cost of production) and type of ownership may be linked. In this case, the prices may be higher in private firms, but not on an absolute, but on a relative scale. Since the costs of water production are different in different places (experts say that there is a ten-fold difference in the costs of the most expensive and the least expensive water production sites in Hungary), the private operators could have chosen those settlements where the production costs are low in absolute terms. In those places even a low price might hide an extra profit, given that the costs are even lower. Indeed, there are signs of “cherry-picking”, especially from multinational investors who carefully selected the larger cities with high population density. One would expect that water tariffs should be lower in bigger cities. This might suggest that some overpricing is indeed happening in towns and cities.

Another plausible explanation might be that private investors have been seeking to increase efficiency and tried to raise their profits in reducing costs, instead of increasing prices. Data revealed that the multinationals were reducing their workforce. A third, and also very plausible explanation would suggest that the institutional setting of the privatization deals determines the behavior of the companies. Our case studies suggest that there are guaranteed fixed management fee for the companies. Or, as in the case of Budapest, the management fee is not linked to the profits, but to the efficiency improvements. If so, the private investors do not necessary have to increase the prices to realize gains. This leads us to our previous explanation of why private companies may choose to increase efficiency rather than increasing prices.

6. Conclusion

In this chapter we demonstrated that there is lack of state capacity to control and monitor PSP in water. PSP often takes place at the local (municipal) level, and there is no central authority

(Office of Water) that would control, or monitor the process. The National Water Authority deals only with environmental, water management and technical issues. However, local governments do not necessarily have the capabilities to regulate the private operators. We argued that PSP in water started in Hungary without the proper institutional and legal framework and led to several local conflicts.

We also demonstrated that Hungary has some strong social policies in place. We argued that water price is heavily subsidized in Hungary, including cross-subsidization (household water prices are lower than industrial prices), water prices are kept low by local governments (for political reasons), which is regarded as a hidden subsidy. Water tariffs are not able to cover the operation costs. We also highlighted that the role of central subsidies in keeping prices below a threshold: the central government covers a non-negligible part of the water costs from the state budget.

Such social policies in keeping the prices low leads us to argue that water affordability does not seem to be a problem in Hungary. However, water prices have been steadily growing in Hungary since the regime change in the early 1990s. Despite this rapid increase, the poorest income group does not spend more than 1.5% of their household expenditure on water and 2.63% on combined water and sewerage services. Similarly, access to water is not a problem in Hungary by international standards. Piped water is available in practically every settlement, and public fountains are provided free of charge for people within the reach of 200 meters. However, an important fraction of the population, which accounts for almost 20% of the poorest households, do not have piped water in their home. This access problem is in fact an affordability problem: people do not have the financial capacities for connecting to the main pipes.

The rate of price increase is slightly higher in the private companies compared to community-owned companies. However, Privatized companies do not seem to have higher water tariffs. We formulated three explanations for this (none of them is exclusive): the specificities of the social policies, which provides other incentives for the private operators (fixed management fees or fees linked to costs cut, etc.); the efficiency improvements made by the private operators (which allows them to realize gains without necessarily increasing the prices); and the “cherry-picking” of private investors (choosing those companies where efficiency gains could be easily realized and prices are *ab ovo* not high).

Private water companies (especially multinational corporations) have been successful in increasing efficiency (productivity). However, this has not led to falling prices. Private companies have not contributed to investments in the infrastructure.

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