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LOCAL COMMUNE ADMINISTRATION AS A REGULATOR OF THE LOCAL WATER SUPPLY AND SEWAGE DISPOSAL SERVICES MARKET

Abstract

In this article the author discusses problems related to the regulation of water and sewage disposal services market. In the beginning he describes the processes of water supply and sewage disposal taken by the local commune administration as a natural monopoly. Next he characterizes the structure of this market in Poland. Then he presents the role of local commune administration as a regulator. The author concludes by evaluating the existing Polish system of regulating water supply and sewage disposal services.

Key words: public services, monopoly, regulation, infrastructure.

1. Introduction

Local authorities are responsible for providing public services such as: sewage disposal and supplying water to households. These are their legal duties. The provision of water and sewage services is based on a natural monopoly. In theory, a company which is a monopolist produces goods cheaper. In practice, though, it doesn't necessarily mean that they sell cheaper. Due to the lack of competitors in the market there is a risk that the price of goods or services sold by a monopolist exceeds significantly their original costs. Competition forces companies to cut prices. With no competition in the market, monopolists can claim unreasonably high levels of expenditures. Numbers in terms of this type of abuse are difficult to estimate. Therefore, public authorities should regulate the monopolistic market in order to protect consumers.

The aim of the article is to analyze the range of tasks assigned to local commune administration as a regulator and the tools available for them in order to carry out those tasks. Moreover, the article evaluates if the existing Polish legal environment stands up to the standards required to carry out these

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regulatory tasks successfully. It is a vital issue as the actions of regulators don't only protect consumers but prevent public service receivers from claiming excessive costs. Whether a regulator is effective or not has an effect on the process of introducing free market rules into the water and sewage sector. If a regulator isn't strong enough, the privatization of communal enterprises makes no sense because a public monopoly is replaced by a private one. Economic stimuli connected with the process of introducing free market rules wither and die.

2. The market of water supply and sewage disposal services as a natural monopoly

A natural monopoly is said to exist in two situations. In the first case the natural monopoly operates on such a scale as to justify the existence of only one firm in the market [Stiglitz, 2004: 223]. In the second case the natural monopoly stems from a limited access to rare goods [Baehr, Stawicki, Antczak, 2003:18].

Public services such as supplying water to households and sewage disposal are provided using transmission and distribution networks. The technical infrastructure is a basic component of water-supply-and-sewage enterprises. They cannot perform their own tasks without the existence and proper maintenance of this infrastructure. This water supply and sewage disposal infrastructure is characterized by its longevity as well as its persistent and technically indivisibility. This last feature signifies that the infrastructure has to be built in such a way that it exceeds the current demand for services and takes into consideration future demand [Dziembowski, 1983:30]. These aspects mentioned above hinder the water supply and sewage disposal infrastructure, not allowing it to function efficiently, and in particular in the first stage of its usage.

The supply of water and sewage disposal needs to be constant as it is deemed a necessary service. The process of providing services has the following stages: first services are sold and then they are produced while at the same time they are used by consumers [Marketing..., 2003:36]. It is technically impossible to organize water and sewage services in advance.

In addition, water supply and sewage disposal enterprises need to have a reserve of production capacity. This is due to the fact that different groups of people have different degrees of demand for water supply and sewage disposal at particular hours of the day and on particular days of the year. [Dziembowski, 1983:29] Therefore the production capacity of water supply and sewage disposal enterprises has to cover the demand which tends to be higher than average.

The technical features of providing services and investment processes mentioned above have economic consequences. They involve the high capital absorption of facilities (mostly water mains and sewer systems) in relation to results. The percentage of permanent costs in the terms of total operating costs is significant. If the production capacity of the infrastructure increases, permanent costs will decrease.

Characteristics of the water supply and sewage sector indicate that it is based mostly on the first type of natural monopoly. Advantages of operating on a high scale as mentioned above bring advantages in production, range and transmission, which are all the features of a natural monopoly [Sadowy, 2010:9].

If a firm extends production, its costs for the manufactured goods will be reduced. In this case we can talk about the advantages of the high scale of production. In water supply and sewage disposal the costs of produced and provided services include mainly the costs of water mains and the sewer system maintenance. If these facilities already exist, the cost of providing services to the next receiver will be comparably lower.

A company could provide services to many kinds of consumers. Their demands for services are discrepant because of their various lifestyles and jobs. The imbalance in demand for services permits better utilization of facilities.

Advantages of transmission appears when a provider of water and sewage services uses only one water main and only one sewer system. The duplication of these devices causes transmission costs to increase. Such circumstances influence the cost of provided services with the usage of a network. In this situation the cost of provided services is lower when one firm operates on the market.

M. E. Porter's model of the market is very useful in explaining rules of a water supply and sewage services market. This model is used to analyze the risks and profitability of a company's performance on the market and consists of five elements: suppliers, competitors, receivers, substitutes and barriers to new companies [Porter 2000:22].

It is not important for a provider what kind of activities a supplier of products takes because all stages of water and sewage services are usually carried out by the same company. Besides water and sewage transmissions are expensive. Therefore the usage of one water main and one sewer system by more than one company isn't cost-effective. [Kopańska, Bartczak, Siwińska-Gorzela 2004:114]. That is why this solution shouldn't be opted for.

There are no competitors in the water and sewage services market because the activities of only one company in this market is economically reasonable.

Due to the lack of a substitute for water the threat of finding a replacement doesn't exist.

Consumers of water and sewage services are in a worse position than providers because there is no competition and or substitutes.

Market entrance barriers are connected with the possibility of the appearance of a potential competitor on the market. High investment costs are the obstacle to entering a water and sewage services market and only exist when there are no water mains or sewer system. In this case these devices already exist and there are no economic reasons to double them up. Therefore the possibility of the appearance of a potential competitor on the water and sewage services market is improbable.

Technical and economic development stems from the fact that elements such as suppliers, competitors, receivers, substitutes and barriers for new companies exist in this competitive market. The water and sewage services market is a monopoly. Therefore these rules don't apply here.

3. The structure of the local market of water supply and sewage disposal services

Water supply and sewage disposal activities are the assignments of a local commune administration. Local authorities have to guarantee the constant providing of public services, such as a quality water supply and sewage disposal to the local population. These public services include the collection of water, purification of water, water distribution, sewage disposal and sewage purification. Local commune administration is able to assign these tasks mentioned to one firm or divide them between two or more enterprises.

Public services provisions are just that, to serve the public. Public authorities are always responsible for their efficient functioning. They have the right to choose a public services provider. They might do that in different ways: They may set up their own units or subcontract the work to outside suppliers.

In the first case local authorities might establish their own units in the form of legal enterprises. These units might be one person or not [*Komentarz...*2007:155]. Local authorities might set up companies and maintain full ownership. Companies such as limited liability companies and joint-stock companies are legal entities. A local commune is capable of establishing organizations which aren't legal entities. [Miszczuk, Miszczuk, Żuk 2007:124]. These units, such as a budgetary unit or a budgetary institution are a part of a local commune administration. Local authorities might also set up other units such as limited partnerships or limited joint-stock partnerships. These partnerships can be established in order to enable the forming of a public-private partnership agreement.

In the second case local commune administration might subcontract the provision of public services to outside private suppliers. Local authorities may invite a public tender for the provision of water and sewage services. Then they adjudicate the tender and choose the best supplier. The firm would provide water and sewage services for the commune population using public infrastructure. Local authorities may also cooperate with a private firm establishing a public-private partnership. Public authorities and the private partner sign an agreement in which they divide responsibility for the provision of water and sewage services among other responsibilities. The public-private partnership creates a network structure in public administration. Networks are created by independent (in a legal sense) organizations which cooperate to not only achieve individual aims but also common aims. They are established around the process but not around institutions or power centers. Networks consist of nodes and ties [Bielski 2002:150]. Network nodes are task forces. A task force manager bases his power on his knowledge and skills. Network ties are very different (e.g. formal and informal). The essential feature of network structure is lack of hierarchy. Instead of hierarchy there are strategic levels.

The network structure enables the introduction of modern management systems to water and sewage sector such as a process management system. In the process management system managers ought to delegate their responsibilities and tasks to subordinates, who provide services directly. In this way the service provider is able to make decisions more quickly. Therefore responsibility and task delegation guarantee not only better service quality but also cost cutting of subordinate control [Kowalczyk 2011:44].

On the 1st of January 2011 there were 2479 local communes in Poland. According to the data collected by The Treasury Department, which monitors the privatization of public property, the total number of public providers of water supply and sewage disposal services was 1119 [*Informacje o przekształceniach...*2009]. The total number includes 49 budgetary units (which was 4.4 % of the total number of public providers of water supply and sewage disposal services), 522 budgetary institutions (46.6%), 528 limited liability companies (47.2%), 20 joint-stock companies (1.8%).

The data shows, that very often a provider of public services is a part of local commune administration or conducts its activity as a company whose shares are possessed by a local commune. The most popular legal forms to conduct water and sewage activities are limited liability companies and budgetary institutions. A legal form such as a budgetary unit and a joint-stock company are rarely used.

Shares of companies which provide water and sewage services are mainly possessed by local authorities. The number of limited liability companies, in which local authorities have all shares accounts for 469 (from the total number

of 528 limited liability companies). While the number of joint-stock companies, owned by local authorities, accounts for 15 (from the total number of 20 joint-stock companies) [*Informacji o przekształceniach...*2009].

The figures mentioned above shows that the Polish water supply and sewage disposal industry is enormously divided. One firm usually provides services to the population of one local commune. The limited range of an enterprise's activity results in there being no advantage of scale effect. The most popular form of ownership is a municipal property.

4. The assignments of local commune administration related to water supply and sewage disposal market regulations

The Polish system of water supply and sewage disposal market regulation is a cost model. In this model water and sewage company have to show and prove its costs as well as methods of cost allocation for different kinds of receivers. So in a cost model, there is a regulator who controls the provision of services by water and sewage firms [*Uzasadnienie projektu rządowego...*].

Local commune administration such as a market regulator carries out assignments related to controlling water supply and sewage disposal. The aim of regulatory activities is the protection of consumers. This protection is based on the optimization of services costs provided by water and sewage companies. Local authorities could conduct their regulatory functions by utilizing the following "tools": 1) granting concessions to carry out water supply and sewage disposal activities 2) approving tariffs for water supply and sewage disposal services 3) establishing rules related to water supply and sewage disposal services 4) imposing fines for water and sewage companies which don't pay tariffs. The usage of such legal tools is shared between a mayor and a council. A mayor is entitled to grant concessions and impose fines. Whereas a council approves a tariff and passes an instruction [*Komentarz...* 2007, s. 121].

In a cost model, the basic legal regulatory tool is a tariff approved by council. Each water and sewage entrepreneurship fixes a tariff for one year. It calculates a tariff based on necessary revenues. The firm forecasts the amount of turnover from each group of consumers. The tariff includes prices and rates which could be different for each group of receivers but the first company has to prove that the costs of provided services for each group of consumers are various. As the most common consumers of water and sewage services are chiefly members of households, schools, hospitals and small enterprises, we can distinguish the most common groups of receivers of water and sewage services: households, public services providers and industry [Kopańska, Bartczak, Siwińska-Gorzela 2004: 114].

Tariffs for water supply and sewage disposal services consist of fees for each group of receivers and rules for fee usage. A fee includes a price and a rate. They have to be published in a local newspaper. There are three kinds of fees: a global sum fee, a quantity fee and a mixed fee [Moszoro 2005:173]. The global sum fee is constant because it doesn't depend on the quantity of provided services. But more often water and sewage companies are introducing quasi global sum fees. This kind of fee depends on the number of members in a household [Sadowy 2010:69]. The quantity fee is based on the quantity of provided services. Whereas the mixed fee consists of a changeable fee and a constant fee. The changeable fee depends on the quantity of provided services. While a constant fee depends on productive capacity and depends on the water and sewage company.

The mayor and council are responsible for approval of tariffs. Their approval is necessary to protect clients. In this way local authorities control water and sewage prices and rates. This control consists of two stages. In first stage the mayor analyses the tariff. He verifies whether the tariff is lawful and proper. In the second stage the local council must approve the tariff. The council is able to refuse approval of a tariff isn't consistent with the law. The council has to undertake such a decision within a 70 day period starting from the day the enterprise fixes the tariff. The verified tariff becomes valid if council doesn't come to a decision within the period mentioned above. In such a way local authorities prevent overpayments in the price of water and sewage, and thus protecting water and sewage service receivers.

5. The evaluation of Polish water supply and sewage disposal market regulations

Independence is an essential quality of an effective regulatory body. A regulator is deemed independent if it is located in a separate office and isn't subordinated to other public authorities. An office is defined as a team of people who contribute to perform particular public administration functions. We should differentiate between a clerkship from a clerk (a person who holds an office) since they vary in meaning in administrative law. First of all, a clerkship is used to precisely assign tasks and responsibilities to the members of an organization [*Prawo gospodarcze...*2007: 250-252]. In this way an organization is able to collect knowledge and ensure repeatable and constant functioning. In scientific literature this feature is called institutional memory. Only in such circumstances will the regulator be effectively able to act. It means that a regulator will effectively protect consumers against the infringement of their rights.

In Poland a local commune administration is a water supply and sewage disposal local market regulator. A local commune is a basic level in Polish self-government. It is responsible for all local public affairs. Local authorities are chiefly responsible for satisfying public services demands [Dolnicki 2001:163]. Therefore, regulation tasks are one of many assignments of a local commune administration. A few regulation tasks, such as tariff approval are conducted once a year. Specialist knowledge is required for tariff control. Local authorities may acquire this knowledge in different ways. They might hire well-educated and skilled staff in local commune administration or train already employed clerks. But such expenditures of public money seem irrational chiefly for small communes. Due to various public assignments and rare tariff control local public administrations don't generally possess the specialist knowledge, which is necessary to conduct regulation tasks effectively. The lack of competent employers leads to regulatory inactiveness. This fact has been confirmed by Competition and Consumers Protection Office in its report. [Raport UOKiK... 2011:127]. The report points out that in 54.7% examined cases, water and sewage firms fixed tariffs without control (The Office examined 131 entrepreneurship)

A local commune is really a political organization because the mayor and a council are chosen in elections. These facts affect decisions made by local authorities. The ubiquitous decision making model in local communes is based on political rationality. According to political rationality conflicting interests are reconciled and conflicts are resolved in a way which is accepted by ruling political parties. Thereby parties are responsible for public affairs because they were chosen in the election. [Kozuch 2004:171]. Public authorities usually keep continuity of making decisions only in periods between the previous and the next election. In these circumstances a regulator isn't capable of maintaining institutional memory.

Local commune administration controls all water supply and sewage disposal firms which provide services in the commune area, no matter what their legal form is and who their owner is. Local commune administration controls private firms as well as its own units and companies. In relation to budgetary units, budgetary institutions and companies whose shares are possessed by local commune, local authorities exercise their owner rights. In this case public authorities have conflicting interests, since local commune administration as a regulator has to care for public services receivers' interests. Alternatively, the local commune administration, as the owner, should protect the economic interests of its own units and companies. Therefore local administration doesn't have a fair policy because of the concentration of economic and administrative power. In this case the local commune administration is both an arbitrator and in a partial relationship

with other firms. [Wojciechowski 2003:161]. At present local communes own the majority of water and sewage entrepreneurships. In most cases local administration controls its own units and companies. Therefore there are no independent regulators in Poland.

Changes in Polish water supply and sewage disposal market regulations must be introduced. A province self-government administration, instead of local commune administration, should be the water supply and sewage disposal local market regulator. The provincial self-government is simply a higher level of the Polish self-government. In such a case a regulator won't be an owner of enterprises being audited. He would audit more than one water and sewage firm. Therefore his knowledge of expenditures would be more rational.

The establishing of a regulatory office for the whole Polish water and sewage sector is the wrong solution because of huge expenditures involved. In this case a regulator would have to audit too many companies.

A cost model of regulation has shortcomings which are mentioned in other literature about economics [Shleifer 1985:319]. This model of regulation doesn't solve the problem of efficient cost reduction in water supply and sewage disposal firms. Companies have no economic incentives to cut costs when the price of the service depends on these costs. A regulator also doesn't know about the proper level of service providing costs. That is why he isn't able to evaluate a service provider's efficiency.

6. Conclusions

There is no effective regulation in the water supply and sewage disposal market in Poland because of a lack of proper regulations controlling it. The essential feature of an effective regulator is independence. Additionally, an effective regulator has to have knowledge and an institutional memory. Polish regulators possess none of these features.

Local commune administration, as the regulator, isn't impartial. Local authorities own most of the water and sewage enterprises. In this case the regulators' independence is limited because public authorities audit their own firms.

Local commune administration controls firms only in the local market. In most cases there is one company which provides both kinds of services (water supply and sewage disposal). Besides, local authorities verify tariffs very rarely. Under these circumstances there are no incentives for public administration to become more educated in this field.

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