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PROPERTY RIGHTS IN THE PROCESS OF PRIVATIZATION OF THE POLISH ENERGY SECTOR

PRAWA WŁASNOŚCI W PROCESIE PRYWATYZACJI POLSKIEGO SEKTORA ENERGETYCZNEGO

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Abstract: The Polish model of privatization was mainly based on the implementation of the privatization policy in line with the procedures envisaged by law which preferred privatization on an individual basis, adjusted to the peculiarities of a given company. In a theoretical sense, this model was mainly based upon the idea of a state-led administrative privatization process with only minor elements of capital-market procedures and very modest worker social enfranchisement procedures. Privatization programs promoted privatization of whole industrial or commercial groups over single-entity privatization schemes. The implementation of privatization through programs does not change the essence of its fundamental challenges and problems; it merely affords a different dimension to it. The primary objective of the paper is to examine the issues of property rights in the privatization process of the energy sector.

Keywords: property rights, privatization, energy sector.

Streszczenie: Polski wariant prywatyzacji opierał się głównie na realizacji polityki prywatyzacyjnej według procedur określonych przepisami prawa, preferującymi prywatyzację w trybie indywidualnym, dostosowanym do specyfiki danego przedsiębiorstwa. W sensie teoretycznym opierał się głównie na wariacie państwowo-administracyjnym prywatyzacji z elementami wariantu kapitałowo-rynkowego i w minimalnym stopniu wariantu społeczno-uwłaszczeniowego. W polskiej prywatyzacji mieliśmy też do czynienia z realizacją programów prywatyzacji *sensu stricto* czy *quasi*-programów dotyczących określonych dziedzin gospodarowania takich jak prywatyzacja energetyki. Programy prywatyzacji zakładają odejście od „indywidualizacji” prywatyzacji na rzecz prywatyzacji grup przedsiębiorstw, które mogą być połączone więziami branżowymi (sektor energetyczny) lub też więziami organizacyjnymi (program NFI). Realizacja prywatyzacji poprzez programy nie zmienia jednak istoty towarzyszących jej problemów, nadaje im tylko inną formę. Kwestie praw własności w prywatyzacji w energetyce są przedmiotem rozważań w tym artykule.

Słowa kluczowe: prawa własności, prywatyzacja, sektor energetyczny.

*The reason why men enter into society
is the preservation of their property.*

John Locke

1. Introduction

The problem of privatization of state-owned companies arose in 1989 after the collapse of communism in Central and Eastern Europe. The advocated political transformation model was more or less based on the so-called “Washington Consensus”.¹ One of its crucial requirements was the liberalization of economies and reduction of the number of state-owned enterprises by means of converting them into privately-owned ones.²

The Polish model of privatization was mainly based on the implementation of the privatization policy in line with the procedures envisaged by law which preferred privatization on an individual basis, adjusted to the peculiarities of a given company. In a theoretical sense, this model was mainly based upon the idea of a state-led administrative privatization process with only minor elements of capital-market procedures and very modest worker social enfranchisement procedures [Staniek 2001].

¹ The Washington Consensus refers to a set of, broadly speaking, free market economic ideas, supported by prominent economists and international organizations, such as the IMF, the World Bank, the EU and the US. Essentially, the Washington Consensus advocates free trade, floating exchange rates, free markets, and macroeconomic stability. The ten principles originally stated by John Williamson in 1989, include ten sets of relatively specific policy recommendations.

1. Low government borrowing. Avoidance of large fiscal deficits relative to GDP.
2. Redirection of public spending from subsidies (“especially indiscriminate subsidies”) toward broad-based provision of key pro-growth, pro-poor services like primary education, primary health care and infrastructure investment.
3. Tax reform, broadening the tax base and adopting moderate marginal tax rates.
4. Interest rates that are market determined and positive (but moderate) in real terms.
5. Competitive exchange rates.
6. Trade liberalization: liberalization of imports, with particular emphasis on elimination of quantitative restrictions (licensing, etc.), any trade protection to be provided by low and relatively uniform tariffs.
7. Liberalization of inward foreign direct investment.
8. Privatization of state enterprises.
9. Deregulation: abolition of regulations that impede market entry or restrict competition, except for those justified on safety, environmental and consumer protection grounds, and prudential oversight of financial institutions.
10. Legal security for property rights.

² X-efficiency theory asserts that under conditions of less-than-perfect competition, inefficiency may persist. A nationalized firm owned by the government may face little or no incentive to try and make profit. Therefore, it has less incentive to try and cut costs. The concept of x-efficiency was proposed by Leibenstein [1966]. See also [Stigler 1976].

The Polish privatization model consisted of implementing privatization programs *sensu stricto* or quasi-programs relating to specific industries (privatization in the energy sector). Privatization programs promoted privatization of whole industrial or commercial groups over single-entity privatization schemes. The implementation of privatization through programs does not change the essence of its fundamental challenges and problems; it merely affords a different dimension to it. The primary objective of the paper is to examine the issues of property rights in the process of privatization of the energy sector (see also [World Bank 1993; European Commission 1998, 1999]).

2. Electric power industry in Poland

The electric power industry (representing ca. 15% of total assets) is a strategic branch of the national economy. Electricity distribution is a part of the energy security of the country. Supplying electricity to business entities is a principal state function. Electricity differs from other goods in that it happens to be a commodity that is not susceptible to storage and, as such, it requires a specific transmission and distribution infrastructure connecting generators to consumers. A special role in the grid is played by entities, characterized by a monopolistic physical infrastructure, responsible for electricity transmission. Electricity distribution is a balancing act between the current needs of energy supply and demand. However, due to the very nature of energy, demand can be treated as consumer goods (energy consumption by households) or investment (demand on part of the business).

Transformation in the energy sector is inseparable from the implementation of market mechanisms³ that happen to be a different from the theoretical principles of perfect competition due to: the imperfection of information in the market, expensive network connections, large diversity of producers, limited production flexibility, the need for continuous balancing of energy production and demand (the so-called market balance sheet), the impracticality of energy storage, reduced vendor selection, low price elasticity of demand, lack of free pricing and technical conditions of “easy” monopolization [Energoprojekt-Consulting S.A. 1999].

In the Polish energy sector, there are three market players: energy generation plants, electricity distributors (owners of low-voltage lines) and the transmission network or the grid.⁴ In these shares, there are different conditions for market development; the greatest potential for competition applies to energy generation, though

³ As we read in the report on ownership transformation in 1996 by the Ministry of Treasury: “For decades, energy companies were accustomed that they did not sell, but provided electricity” [Ministerstwo Skarbu 1997, p. 82].

⁴ In Poland, the energy sector included: Polskie Sieci Elektroenergetyczne (Polish Power Grid Company, owner of high-voltage power lines or the grid), Krajowa Dyspozycja Mocy (National Power Dispatch), 33 distribution companies and dozens of power plants as well as combined heat and power plants (CHP). The capacity of all power plants was more than 34 thousand MW. The book value of all

even a strong tendency to gain a dominant position or monopoly is observed. In the transmission segment, competition can be ensured by the principle of “third party access to the network”. Entities that own the grid and distribution network enjoy a natural monopoly. The enforcement of competition does not compromise the level of the country’s energy security, likewise, the principle of third party access to the network provides the user with a choice of energy suppliers. In the Polish energy system, energy generation companies sell it to wholesale companies which can be large industrial and distribution companies (*zakłady energetyczne*). Distribution companies are supposed to supply power to individual customers. Polskie Sieci Elektroenergetyczne (Polish Power Grid Company, PSE), now Polska Grupa Energetyczna (PGE S.A. or PGE Group, Polish Energy Group),⁵ in turn, is responsible for the grid or energy transmission (high-voltage lines).

3. Transaction costs and property rights in economic theory

In economic theory, transaction is the basic unit of analysis. Transactions generate certain costs for exchange for the involved parties and often for third parties as well.⁶ These are search and information costs (such as those incurred in determining the required goods’ availability in the market as well as their lowest price), bargaining costs (the costs required to arrive at an acceptable agreement with the contractual party, execution of an appropriate contract)⁷ and, furthermore, monitoring and enforcement costs (the costs of investigating if the other party adheres to contractual provisions and, possibly, undertaking appropriate actions, often through the legal system). The assumption was that the market players could have availed themselves of two transactional modalities, i.e. either a regular market (exchange) or an enterprise-level exchange (the enterprise being understood as a hierarchical structure); the preferred modality being the least expensive. This way we can question an assumption of neoclassical economics that an exchange market (through its price mechanism) automatically ensures an optimal allocation of resources [Dąbrowski 2009, p. 59–63].

the companies in this sector was ca. 33 billion PLN (end of 1999). It was estimated that the market value/capitalization could have been even 1.5 times greater.

⁵ Polska Grupa Energetyczna is a state-owned power company and the largest power production company in Poland. PGE is listed on the Warsaw Stock Exchange. The PGE Group has its origins in the establishment of Polskie Sieci Elektroenergetyczne S.A. (Polish Power Grid Company) backing to 1990. In 2007 the Transmission System Operator PSE-Operator was separated from the PSE. On 9 May 2007 Polska Grupa Energetyczna was established through merger of PSE, PGE Energia S.A. and BOT Górnictwo i Energetyka S.A.

⁶ The general conclusion in the transaction costs theory is that activities are internalized inside the firm when there is some form of market failure, and most notably market failure of intermediate inputs. Transaction costs theory argues that there are costs to conduct transactions through the market; these transaction costs can be reduced through mechanisms other than markets [Coase 1937; Williamson 1975].

⁷ In the game theory this is analyzed for instance in the game of chicken. On asset markets and in market microstructure, the transaction cost is some function of the distance between the bid and ask.

Only in an ideal world of perfect competition, transaction costs are equal to zero. In the real world agents are forced to spend some of their resources to cover transaction costs. There are a lot of sources allowing for establishing transaction costs and they appear wherever agents seek to reduce uncertainty. In particular, these include all costs incurred in searching for and collecting information, its processing, negotiating agreements, closing and monitoring transactions as well as enforcement of obligations.

Particularly often, heed is paid to the relationship of transaction costs and inaccurate determination of property rights (resultant from imperfect information).⁸ Transaction costs in this case include the costs of regulation and the transfer of ownership, the cost of protection of property rights and the costs associated with the appropriation of profits from ownership. These costs apply to the implementation of many bundles of property rights, in particular, such as the right of ownership, right of possession and use.⁹

Property rights need to be defined, practically applied and protected. At all junctions of the process, transaction costs occur. When determining property rights problems arise of measuring and describing the assets which are the subject of property and the optimal amount of resources for potential ownership. The costs of determining property rights are in their nature sunk costs, i.e. impossible to recover. In this context, one should also mention the problem of valuation and the relationship of values and prices. Protection of property rights requires effective law regulations including constitutional guarantees, incurring costs of an institution-organization or costs of excluding other agents from access to ownership. If the costs of property protection are too large it can render legal regulation of exclusive property rights economically unsound. The transaction costs of property rights protection are reduced through the application of new protection technologies and new forms of regulation and the growing role of social norms.

Practical application of property rights consists of examining the interlinkages between an ownership object with its ownership subject in light of the concurrent bundles of property rights. This needs to be viewed in the context of broadly-conceived privatization. These processes can be made up as part of an institutional settlement to the three possible modalities of privatization (capital-market, state-administrative and social-enfranchisement). In the variant of capital-market,

⁸ Property rights theory has been directly and strongly influential in law and economics [Coase 1960], economic history [Alchian, Demsetz 1973; North 1990], the theory of the firm [Alchian, Demsetz 1972], contract economics [Cheung 1969; Allen, Lueck 1995], early comparative systems research [Furubotn, Pejovich 1972], and resource and agricultural economics [Cheung 1969; Allen, Lueck 1995].

⁹ Depending on the nature of the property, an owner of property has the right to consume, alter, share, redefine, rent, mortgage, pawn, sell, exchange, transfer, give away or even destroy it, or to exclude others from doing these things, as well as perhaps to abandon it; whereas regardless of the nature of the property, the owner thereof has the right to properly use it (as a durable asset or factor, or whatever), or at the very least exclusively keep it.

there is no need for an extensive system of valuations of companies which are to undergo privatization. The sales prices of these companies are established during various auctions. Market criteria decisions favor transactions generating the least costs. In the variant of state-administrative procedures there are costly transactions and accompanying valuations, the cost of employee ownership and monitoring of investment commitments by strategic investors. Relatively highest transaction costs apply to the social-enfranchisement variant due to the costs of trading in securities of type certificates or high costs of financial intermediation. Free distribution of assets is also linked to an increase in the cost of ownership control due to an excessive dispersion of ownership.

Imperfect information results in the impossibility of the exact definition of property rights. Any agent having property rights needs to spend part of the resources to protect these rights. However, if the cost of property rights protection is greater than the benefit of the protection, a rational agent chooses not to protect these rights and so externalities will appear immediately and benefits will be taken over by "non-owners". The consequence of imperfect property rights is thus the existence of externalities. Any attempt to remove externalities leads to better definition of property rights, but at the same time it causes an increase in transaction costs.

The existence of externalities means that part of the interaction between economic actors is not properly described in the functions of cost and revenue. The issue of externalities had been first described by A. Marshall [1920], then it was developed and introduced into formal economic analysis by A.C. Pigou [1932]. An externality exists whenever one individual's actions affect the well-being of another individual, whether for better or worse, in ways that need not be paid for according to the definition of property rights in the society.

Coase's solution is based on concluding market contracts between market players in terms of externalities, property rights and transaction costs. In the case of well-defined property rights and zero (or low) transaction costs direct contracts between market players lead to optimal solutions. In general, the transaction costs of contracts are borne by the agent deprived of property rights. In the case of high transaction costs the possibility of achieving an efficient market agreement depends on the initial assignment of property rights, which deals with the state. At the same time the state can directly reduce transaction costs by example standardization of concluded contracts. It can also better protect property rights and reduce legal costs (as a part of transaction costs). As long as property rights are adequately and more closely defined, a complete solution to the problem of externalities does not depend on who originally holds the ownership. This only affects the initial wealth of the original owner [Coase 1960].

Coase's theorem depicts the possibility of achieving the full internalization of externalities, their introduction into the economic calculation of a single economic agent. However, this requires accurate determination of property rights and their valuation on the following premises:

- A clear delineation of private property rights is an essential prerequisite to market transactions.
- As long as private property rights are well defined under zero transaction costs, exchange will eliminate divergence and lead to efficient use of resources or highest valued use of resources.
- The allocation of resources is invariant to the assignment of private property rights under zero transaction cost and zero income effect.

Finally, those conditions can be reduced to the already known assumption of complete (and non-asymmetric) information. If information is not complete, then every internalization of externalities entails a further increase in transaction costs.

Both the first and the second proposition crash on the same reef of the limitation of information and transaction costs. Perfect information and zero transaction costs both of these proposals are equivalent, and both the concepts of Pigou's and Coase's lead to the same equilibrium point. This reasoning also ignores the costs of fiscal stringency. In real market conditions, before the introduction of the solution to the economic system, we should always compare the improvement to social welfare. Theoretically, there is no clear answer, which solution is better, more versatile and moves the system to a better point of equilibrium Pareto-optimal or Kaldor-Hicks-optimal (see [Greenwald, Stiglitz 1986]).

4. Property rights in the privatization process

Before the start of the reform process in the power industry, ownership rights were assigned to the State, with all the previously discussed problems of state ownership.¹⁰ Creating competitive mechanisms requires a proper policy of ownership and privatization in the pace and scale appropriate for a necessary balance in the interests of investors and consumers. An important reason for the transfer of property rights can be attributed to the opening of the European electricity market.¹¹ Fundamental issues, however, pertain to the capital needs which were certainly beyond the financial resources of the incumbent market players. These needs could be satisfied by investors representing foreign capital. High interest was expressed by foreign investors in Polish power industry companies as a result of forecasts indicating a growing demand for electricity in the country. The possibility of entry of foreign capital is determined by the earlier liberalization of the market. Choosing from investors bidding for energy assets, the government should put especially strong value on the access

¹⁰ In Poland, the need for privatization of the energy sector was greater than in other countries, due to necessity of large investment outlays which exceeded the financial potential of national power companies.

¹¹ *Internal Market in Electricity Directive* is Directive 2003/54/EC of the European Parliament and the Council of 26 June 2003 on common rules for the internal market in electricity and repealing Directive 96/92/EC based in the Treaty establishing the European Community, and in particular Article 47(2), Article 55 and Article 95 thereof.

to new technology. This in turn can be achieved by choosing a strategic investor for the industry because privatization through the stock exchange is less important.¹² The forecast of technology can be helpful in this area. For companies that can ensure fast return on investment, the State must guarantee financial investors. Another problem is the introduction of the shares of privatized companies on the stock market, which from the point of view of the Ministry of State Treasury can be guaranteed by privatization contracts.

Energy companies before privatization should be transformed into 100 percent state-owned companies (Polish: *jednoosobowe spółki Skarbu Państwa*). This form of state ownership permits to start necessary restructuring and preparations for privatization.

The term privatization in the power industry would normally be applied as soon as even a small part of stock was sold to an investor [KERM 1999]. The choice of the pace, type and methods of privatization depended on the chosen energy strategy, the degree of monopolization of the sector and the privatization policy. Due to the strategic importance of energy, the State would normally keep a controlling stake, i.e. at least 25% of shares plus one) in order to have a say in strategic decisions taken by majority investors. Furthermore, it was also ensured that privatization processes would accommodate to the specific characteristics of the distinct elements of the energy value chain. Privatization also focused on specific companies (e.g. power plants) rather than the overall energy market.¹³

Clearly, privatization of power generation companies needs to go hand in hand with that of distribution companies. If one of the value chain segments lags behind than it hampers the success of the other.

For energy companies, one of the solutions can be a capital privatization method which combines public offering alongside negotiations with a strategic investor. Simultaneously, the sale of shares is to be connected with an increase in equity value. This should bring about power plants investments and modernization. Energy security is ensured through non-controlling stakes setups for individual investors (between 20 and 35%). Furthermore, a strategy to grant preferential controls stakes to investors with cross-industry investments. Unfortunately, experience with privatization of Pątnów-Adamów-Konin S.A. Group was inconclusive: some 20% stake was sold as much as three times cheaper than similar entities in comparable foreign markets. This stock was acquired by a consortium headed by Elektrim S.A. What is more, the consortium was also committed to raise additional equity (through an external investor) in order to increase its shareholdings to 38% of the whole Group. The investment needs are two to three times greater than the income

¹² When choosing a strategic investor one should always pay attention to its ownership structure: foreign state capital, private capital or mixed capital.

¹³ Until mid-2000 the following had been privatized: Połaniec Power, CHPs in Cracow, Warsaw and Tricity. The State began to privatize power plants in Rybnik and Skawina.

from privatization. Likewise, when it comes to energy companies, we have normally large capital investment requirements. To furnish an example, the investment requirements of Bełchatów Power Plant S.A. (incidentally, with the lowest cost of energy production in Poland) are very significant as old power units need replacing. The industry suffers from the lack of financial resources due to previously concluded long-term contracts setting energy prices below the current market levels. During the privatization process of Power Plant “Rybnik” S.A. in Rybnik, it had to be observed a disagreement between the investor and the State Treasury not so much related to the price of 35 percent stake but rather the purchase terms for coal and the overall period of guaranteed price for energy (see [Steenblik, Coroyannakis 1995; Anderson 1995]). In some cases, privatization processes should be preceded by the necessary process of consolidation, including consolidation with lignite mines.

Privatization of combined heat and power plants (CHP) does not require a prior establishment of power exchanges or early conclusion of the problem of long-term contracts. As far as CHP plants run, the plan was to go for individual-entity privatization, i.e. privatization “company by company.” Transfers of property rights are to be implemented progressively; in the first phase it was planned to sell 20 to 45% of the shares of the companies. The sale of controlling stakes was not prohibited. The sale of shares was intended to occur gradually, depending on the implementation of investment commitments. Part of the shares could be sold through the stock exchange. The CHP plants’ major revenue stream is the sale of heat in local markets. For potential investors, it is essential to estimate the market potential as well as the heat pricing architecture for the future. This may also encourage the interest of local authorities in ownership, e.g. minority interest municipalities. During privatization of CHP Kraków, the strategic investor (Électricité de France, EdF) acquired a 55% stake. At the same time it negotiated a 15-year contract following the conceptions of long-term contracts. In a similar case, the disagreement of the Ministry of State Treasury on such a contract led to the withdrawal of National Power company from privatization offer for Pątnów-Adamów-Konin Group. CHP Będzin was partially privatized through the stock exchange (15% of shares in the IPO), and then the company MEAG agreed to a contract typical for a strategic investor. The privatization through a public offering also applied to CHP Wrocław Kogeneracja S.A. (36% of shares). The CHP in Warsaw was privatized by selling a 55% stake to a foreign investor Vattenfall AB (Swedish State capital), where the sale price above the book value was accompanied by investment commitments and employment guaranties.¹⁴ In combined heat and power subsector of energy, there are the lowest barriers to entry, which can lead to entry into the local market of small businesses, i.e. the so-

¹⁴ It should be noted that the company EdF is owned by the State, which could affect the future of privatized power plants and cause externalities, e.g. in the form of a reduction in the domestic production of the cooperative and complementary nature.

-called micro-cogeneration. The privatized CHP plants should take into account the existence of new competition (in obtaining appropriate technology).

In the distribution sector administrative consolidation was not assumed before privatization, which should favor maintaining competitiveness in the energy sector. The main method of privatization had to be a public invitation to negotiate in the allocation of power plants to specific groups (in the region), having a 12–15% share of the electricity market and having those shares after privatization. To protect the public interest, the State Treasury would keep the right of process control concentration after privatization, and intended to maintain its influence on the strategic decisions of the distribution companies: In the initial phase of the sale, up to 25% of power plants with an option to acquire a majority stake. Exceeding the 50% of shares would require a significant increase in the capital in the privatized entities. The volume of sales of minority stakes is contingent upon investment needs. It should also be emphasized that economic and financial situation of individual companies is not the same and different is also the position of regional energy distributors. This in turn may affect the demand from potential investors. The existence of holding companies is to enable a kind of “tying”; combining and selling of better plants with the weaker ones. Individual privatization is planned only for the Górnośląski Zakład Energetyczny S.A. (GZE) Upper Silesian Energy Company, due to more than 10% of the energy market share. In the first step it was planned to sell 10–25% shares in GZE, and then, after meeting the investment commitments, a future investor will have the right to increase the shareholding in the company through an equity investment.

The initial experience of privatization had shown the necessity of defining the role of foreign investors intending to set up permanent presence in the Polish energy market. The largest scale of investment was planned by the French EDF (a state monopoly), which held a 58% stake in CHP Łęg, 45% in CHP Wybrzeże (the Baltic coast). It was also attempted to acquire shares in a distributor in Wrocław and also in the largest distributor known as Górnośląski Zakład Elektroenergetyczny S.A. (Upper Silesian Distribution of Electricity).

The Privatization of power plants, CHP plants and distribution companies should have encompassed the regulatory role of the State and the public nature of the energy companies. Certain areas of the national energy system must remain under state control and, hence, be excluded from privatization (transmission networks and pumped-storage hydroelectricity (PSH), the main gas pipelines and underground storage of natural gas, oil pipelines and the storage facilities of crude oil and its derivatives). However, the discussion favors large consumers of energy, although in most countries large consumers are the first to obtain a direct access to the network. It is worth mentioning that the privatization of energy networks (PSE S.A. or Polish Power Grid Company) was questionable. The Power transmission subsystem is a classic example of a natural monopoly, in which there are limited conditions for market competition. In this area, such forms of transformation as auction or franchise can be entertained. However admission of rivalry for power transmission may

be encouraged while maintaining the control functions of the State; the potential existence of private ownership (in formal and legal senses) does not change certain property rights belonging to State authorities.

Once the privatization process comes to an end, intensified processes of mergers, buyouts, strategic alliances shall probably be seen, which will be related to changes in the ownership structure (in the context of private ownership). To balance the interests of the consolidation processes, energy consumers may also be included with the aim of reducing the cost. Due to the uneven regional distribution of energy producers, it is to be expected that consolidation in the regional structure will take place. The State Treasury may reserve the right to vote in privatized companies in order to connect them with other companies immediately after privatization and influence the decisions of those companies of strategic importance.

5. Conclusions

The privatization of the energy sector should reveal the strengthening of industry interest groups mostly due to their capital reinforcement, which requires State control. Interests of producers, distributors and consumers of energy are not alike. Energy users (businesses and households) need energy not only in physical units, but also require the certainty of supply, improved energy quality and customer service, choice and convenience in its use. They also want the lowest possible energy prices. Many of these benefits may be moved to shareholders. In practice, however, the interests of large buyers are dominant because they can use the services of transmission and ensure the desired level of supply reliability. K. Majka observes: "As large buyers are dependent on transmission infrastructure, it puts them in a position to purchase energy from higher cost suppliers through distribution companies. The use of transmission services by the big buyers [mass buyers] makes them purchase electricity through distribution companies, i.e. from the producers with higher costs. For dispersed customers we note an adverse effect of the principle of third party access to the transmission network in domestic trade" [Majka 1999]. The Energy Regulatory Office is trying to reconcile the interests of energy companies and consumers, which is reflected, for instance, in the negotiation process of tariffs setting. Needless to say, it has a significant influence on the profitability of energy companies. In these negotiations, however, consumers are not represented. This will get ever more important as the household-level energy consumption increases. The greater the energy consumption in households will be (in Poland, it currently stands at about one third of that in the EU), the more important it will become.

Privatization should also result in production costs reduction, including the cost of employment. Employment in the energy sector in relation to the energy produced is twice higher in Poland than the EU average. Privatization in the energy sector had resulted in significant headcount reductions in the sector, which negatively impacted

the general and local labor markets (see [Guerin 2003; Bromley 1991; Hope, Rud, Singh 1993] for other country discussion).

Favoring increased competition, for example in the area of distribution system operator companies, affects the growth of price elasticity of demand reflected in the pricing strategy. The reform of the energy system gives customers a choice of cheaper electricity supplies from now competing distribution companies. With the opening of the EU market there arose a problem of price comparability of domestic and foreign companies. Energy prices in the EU declined and average prices are lower than the prices set out in long-term contracts in Poland. This can significantly reduce the export potential of domestic energy producers and increase the profitability of imports. Such a situation can lead to the bankruptcy of domestic companies and thus unemployment would increase.

The problem of institutional protection of energy consumers' interests (e.g. similar to the Committees Customers in the UK) was becoming even more critical in the face of privatization of energy companies. In fact, it was easy to shift the costs of a privatized energy company to the consumer. At the same time, the Energy Regulatory Office was not able to obtain reliable cost calculations from energy companies. Privatized energy companies were interested in the diversification of activities and sought new investment opportunities. There is a need for control and supervision by the Office due to possible cross-subsidization between regulated and not regulated businesses in order to protect the interests of customers against monopoly activities.

In the long term interest of consumers, economically viable prices had to be accepted allowing companies to ensure a sufficient return on invested capital. In the long run, the State Treasury will not be able to subsidize certain customers such as households (relatively low bills) through higher energy prices paid by large industrial accounts. Reducing these rates will mean a reduction in production costs of manufacturers in other industries.

During the privatization process, an important consideration is the sustainable development of different sectors of the economy. P.N. Rosenstein-Rodan [1961] drew attention to the role of the State in the industrialization of different sectors of the economy. He showed that even if the expansion of a sector is not profitable, the concurrent expansion of several sectors often turns out to be very profitable. In order to achieve the equilibrium and growth of the economy, coordination is necessary.

In an economic system different industries are, in fact, strategic complements,¹⁵ and thus the economic system has multiple equilibria. By the "big push" the economic system can easily move from one equilibrium to another Pareto more efficient equilibrium. The source of the "big push" may be, firstly, random events, and secondly, a coordinated intervention of the State. Therefore, leaving some

¹⁵ These terms were originally coined by J.I. Bulow, J.D. Geanakoplos and P.D. Klemperer [1985].

industries in State ownership can guarantee the sustainable growth of the whole economy (see also [Murphy, Shleifer, Vishny 1989; Krewitt 2002]).

Privatization under imperfect information results in an imperfect functioning of certain markets, and in extreme cases in lack of certain markets (incomplete markets). In such conditions it is not possible to achieve sustainable growth, proper valuation of the privatized enterprises and finally the required level of wealth.

Under imperfect information, agents cannot costlessly recognize property right and are forced to allocate part of their resources to the reduction of external effects (internalization). Under such conditions, it is possible to improve the allocation of production factors by State-owned companies. This may cause a shift to a better (Pareto-optimal) equilibrium. State intervention may consist of creating missing markets and correcting market failures already apparent, for example, by forcing companies to reveal information. Such understanding of State intervention means a significant reduction in transaction costs, saving resources and finally improving the allocation.

Imperfect information and, consequently, an increase in the transaction costs of a functioning economic system have resulted in a new institutional outlook on the company and the market. It assumes that agents are faced with a choice of completing a transaction on a market or within a company (understood as a hierarchical structure). The criterion for the choice is the lower transaction cost. For large costs of the economic system, agents (companies) will expand and grow. The limitation is the internal transaction costs (for example, autonomization of bureaucratic structures).

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