

## Ex post regulation as method of the public policy in the regulated sectors

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**Abstract.** *The paper is a theoretical and empirical study addressing the issues of ex post regulation as a method of public policy to control selected sectors of the economy where market failures exist. The aim of the article is to explain the essence of ex post regulation, its types, advantages and disadvantages. This article will focus on the critical analysis of professional literature and the case study of the experiences of states that have applied this type of policy to the infrastructure sectors. Theoretical and empirical analysis indicates that it is not everywhere possible to apply this kind of state intervention. Such public policy requires the creation of some boundary conditions, such as restructuring or liberalization processes to ensure that competition mechanisms are so deeply rooted that its application will be effective and companies will not abuse their market position in relation to the consumer.*

**Keywords:** *ex post regulation, sectoral regulation, public policy, regulated sectors.*

**Raktažodžiai:** *ex post reguliavimas, sektorinis reguliavimas, viešojo politika, reguliuojami sektoriai.*

## **Introduction**

State intervention in the economy can take many forms. Sometimes this interventionism is stronger and sometimes weaker. Besides it can take place on sectoral, regional and national levels or be combination of them (Schroder and Voelzkow, 2016). It all depends on which areas of the economy are affected by interventionism. In general, there is no sector where the state does not exert its influence. Even in sectors that are completely deregulated and liberalized, public policy is still being pursued. It is done indirectly through the instruments of macroeconomic policy that is directed to the entire economy, that is taxes, subsidies or, more broadly fiscal policy, exchange rate, monetary and budgetary policies. However, within the framework of economic policy, structural policy is also pursued, the task of which is to shape the structure of the economy or it may be addressed to individual divisions and sectors of the economy. The latter case is a sectoral policy. Since 80s under this policy, a specific type of public policy has been required for sectors, where, due to strategic importance to the state or market failure, market mechanisms are not fully functional. It is referred to regulatory policy, or to sectoral regulation, which is governed not by government but by specialized regulatory bodies. However, its goal can be varied. In the United States it was a way to control and provide governance in the monopolized or very concentrated sectors, and the legal legitimacy of monopolies, while in the European Union the regulation served to create market mechanisms in such sectors (Nagaj, 2016, p. 9).

Regulation can take different forms and ranges. It may have the character of administrative regulation like concessions, and social or pure economic regulation (Boyer, Saillard 2002). Professional literature refers to regulation in various ways (Szkudlarek, 2013, pp. 269-270). Representatives of the public interest theory indicated that regulation in some sectors was necessary and desirable. They referred here to the precursor of the welfare theory of A. Pigou (2013) who believed that the market sometimes did not work properly and was ineffective. Theories of public interest indicates that the regulation is supplied in response to market failures and to protect society. There can be many reasons for state regulation (Ogus, 2004, chapter 3). The most important include: monopoly practices, price fluctuations, external effects, excessive market concentration, public goods, unequal distribution of income, imperfect information. Regulation is required to benefit society as a whole and it is assumed that the regulatory body will represent the interest of the whole society but not private interest of some interest groups or regulators.

On the other hand, there are also many opponents of state interventionism through economic or social regulation. Public choice theory indicates that collective choices made by regulators are often ineffective because they are undertaken by individuals who by their nature are prone to be guided by private interest. In addition, the decisions taken by regulators are the result of interaction with the political system, for which social welfare does not need to be the most important goal. There can be many reasons for introducing economic regulation (Nagaj, 2012; Gunning,

2003). It may be the desire to win the election (Downs, 1997), the benefits to the bureaucracy (Niskanen, 1994), political rent seeking (Tollison, 2012). The representatives of economic theory of regulation (Peltzman, 1976; Posner, 1974; Stigler, 1971) point out, however, that regulation most often serves the interests of certain interest groups, most often the industry or interest group that is best organized and able to exert the greatest pressure on the government. As a consequence, regulation often attempts to create competition and prevent abuse of the market position by enterprises in order to gradually eliminate market failures. This is done through ex ante regulation, which by its nature allows to initiate certain behavior of entities in the sector. The end result of such actions will be the lack of supervision by the regulatory authority. However, to fully surrender the market to competition law is not always possible. Hence, such a proposal of public policy, the merger of state interventionism with the decision-making power of market participants, is an ex post regulation. This is an alternative proposition to a classic public policy in which sectors affected by direct interventionism are supervised by ex ante regulation.

The aim of the article is to explain the essence of ex post regulation, its types, advantages and disadvantages. The paper will be a theoretical and empirical study addressing the issues of ex post regulation as method of public policy to control regulated sectors, ie. those parts of the economy where some market failures exist. To achieve this goal the article will focus on the critical analysis of professional literature and the case study of the experiences of states that have applied ex post regulation to the infrastructure sectors.

### **The essence of the ex post regulation**

Regulation in economic theory is understood in different ways. G. Stigler defined it quite narrowly and limited only to industry. He thought that “regulation may be actively sought by an industry, or it may be thrust upon it. (...) Regulation is acquired by the industry and is designed and operated primarily for its benefit” (Stigler, 1971, p. 3). Kahn also limited the scope of definition of regulation to manufacturers, according to who they are all actions of regulator with the public utilities, “direct governmental prescription of major aspects of their structure and economic performance” (Kahn, 1998, p. 3). Meanwhile, R. Boyer and Y. Saillard (2002, p. 38) pointed out that regulation theory involves three levels: modes of production and their connections, the social and economic patterns that enable accumulation to occur in the long term between two structural crisis and the specific configurations of social relations for any given area or geographical location. Very broadly it is understood by W. Shepherd and C. Wilcox (1979, p. 267). That according to them „regulation is what regulators do”. Widely and precisely definition was presented by R. Baldwin, L. Scott and C. Hood (1998, pp. 3-4) who indicated that regulation is being used in three senses:

- as a specific set of commands applied by a regulatory body devoted to this purpose,

- as all state actions that are designed to influence business or social behaviour,
- as all forms of social or economic influence affecting behaviour, whether these be state-based or from other sources (e.g. markets) and are deemed regulatory.

Regulation can therefore have many faces and cover many areas of economic and social activity. As pointed out by Kahn (1998, p. 20) „the essence of regulation is the explicit replacement of competition with governmental orders as the principal institutional device for assuring good performance”. Meanwhile, in the European Union in relation to a number of regulated sectors it is a currently accepted assumption that the goal of the regulation is to create competition in sectors where previously it was difficult to say that market mechanisms exist. Hence, regulation is considered as a substitute for competition or as the ultimate goal of regulation is free competition. This means that you can talk about the different nature of regulation and the relationship between it and the competition. Literature identifies five types of such relations (Jordana and Levi-Faur, 2004, p. 6): de-regulation, re-regulation, regulation-of-competition, regulation-for-competition, meta-regulation. Table 1 shows the nature of the existing relationships between competition and regulation.

*Table 1. Types of relations between competition and regulation*

Type of relation	Types of competition	Types of regulation	Regulatory authority	Examples
Deregulation	Deregulated	Self-regulating markets	No regulation (retreat of the state)	Moving from concession, certification to liability laws in order to protect consumers
Re-regulation	Deregulated / regulated	Self-regulating markets	National competition authorities / sector-specific authorities	regulatory reforms and liberalization resulting in new settings of regulation or deregulation.
Regulation-of-competition	Regulated	Regulation-of-competition	National competition authorities	Prevention of concentration through the regulation of mergers, cross-ownership, etc.
Regulation-for-competition	Regulated	Regulation-for-competition	Sector-specific authorities and national competition authorities	Interconnection regimes in telecommunications, unbundling the network

Type of relation	Types of competition	Types of regulation	Regulatory authority	Examples
Meta-regulation	Meta-regulated	Enforced self-regulation of competition rules	Sector-specific authorities and national competition authorities	Institutionalization of internal mechanisms of self-regulation that correspond with the legal requirements of competition law in general and the regulatory regime in particular.

Source: (Jordana and Levi-Faur, 2004, p. 7).

Deregulated market means a sector of the economy where the state has withdrawn from interfering into the economic and social lives of businesses and consumers and does not shape the behavior of economic operators. State can only use the anti-trust authorities to take action by monitoring, when a notification is reported that market mechanisms are not functioning properly. There are no special regulations, and the sector operates on the basis of a general competition law. Re-regulation means that there are regulatory reforms or liberalization, whose the purpose is either to introduce new settings of regulation rather or deregulation. This is most often the transitional stage whose final goal is to start a permanent regulation in the sector where market mechanisms have been distributed for some reason or consumer rights are not respected. The third type is regulation-of-competition, which often equates to ex post regulation. The characteristic is the supervision by the national competition authority, which has only general regulatory tools but not sector-specific. The sector is regulated, meaning that there is ongoing monitoring and market participants have discretion within the existing regulations in the sector. Monitoring usually refers to such activities as prevention of concentration through the regulation of mergers or cross-ownership. The fourth and fifth type of relationship between competition and regulation are identified with ex ante regulation. In both cases the sector is supervised by sector-specific authorities and national competition authorities. The regulator's actions are designed to shape the behavior of economic operators in such a way that does not occur any distortion of competition or abuse of market power. The difference between them lies in the fact regulation-for-competition is intended to create competition and impose certain behaviors of enterprises through appropriate instruments relating only to this sector. In meta-regulation "in addition to the direct regulation of the actions of individuals and corporations, the process of regulation itself becomes regulated" (Jordana and Levi-Faur, 2004, p. 6). The government is very often involved in regulatory processes. It is either the body approving the regulator's decision, or it directly makes administrative decisions by the minister.

As mentioned, regulation-of-competition equals to ex post regulation. The other types of regulation or regulated competition, where the state has a stronger influence on the behavior of economic operators, are identified with ex ante regulation. Ex post regulation means “the control of entities and their market behaviour during the regulatory period and intervening in situations when regulated entities abuse the market position or rules that have been imposed in a regulated market” (Nagaj, 2016, p. 96). The nature of regulatory authorities’ activities is similar to what is observed in the deregulated market. In addition, entities are not subject to constant supervision, but are only incidentally controlled. When there are no breaches of competition or consumer interests, there is no regulatory intervention on the regulated market. There is also no regulation of the whole regulatory system, ie. it refers only to selected elements of the regulatory system. It should be noted, however, that market surveillance is not carried out by the antitrust office, as is the case in the deregulated market, but by sector-specific authority. “The regulator uses a structural approach, does not shape the behaviour of enterprises, but protects the competitive structure of the market” (Nagaj, 2016, pp. 96-97). Therefore, there is always the risk that the regulatory oversight of the market may be often conducted and, in situations of frequent infringement of competition mechanisms by companies, regulatory supervision may be permanent. The main advantage of this type of regulation is that the regulator does not impose on businesses to take certain business behaviors, but businesses have the discretion to go independent. Possible business decision corrections are made when the regulator, as a result of a regulatory review, finds that the market mechanisms have been violated or regulatory rules or consumer interests. Ex post regulation most often refers to two elements: pricing and planned capital expenditures. In the first case, there is either a total lack of price control or there is ex post price control, ie. when prices are already set and implemented by the company. In the second case, the regulator during the regulatory review decides whether the level of investment is justified or not. This is important because the investment is one of the most important cost items which affect the level of prices and fees paid by consumers. So both elements of the regulatory process, prices and investments are related to the process of setting tariffs. If there is a total lack of price regulation, then the intervention will be undertaken only when companies use tariffs that distort competition. Then the court decision is a decision to discontinue this practice and adjust tariffs. However, if the ex post regulatory review is conducted, then the regulator determines pricing rules and the principle of including “reasonable” costs, including investment expenditure. And the regulator reviews ex post and often selectively whether the tariffs are consistent with the regulatory regime. However, the rate of price increase is not controlled, but it only controls whether the tariffs have not violated competition rules or regulatory rules.

Literature indicates three basic disadvantages of ex post regulation at the pricing process. There are: financing by businesses for their business using over-inflated tariffs, lack of stabilization of prices and charges, shifting regulatory risk to

consumers. In the first case, the company has the opportunity to apply pessimistic forecasts and introduce excessively high prices that will be lowered during the regulatory process or as a result of consumer complaints. This occurs, however, already with a time delay, without compensating for consumer losses. It also means price instability and frequent changes. The ability to quickly react to market situations and to take it into account in pricing can be both an advantage and a disadvantage of ex post regulation. On the one hand, it does not expose the company to additional market risk and, on the other hand, can cause tariffs to change frequently and a lack of price stability. As regards the third disadvantage of ex post regulation at the price process, i.e. flipping regulatory risk for consumers, businesses having the ability to overstate tariffs and to correct them after a court decision discards regulatory risk, and consumers are forced to monitor tariffs. When there is ex post regulation, the obligation to respond and make a complaint to the court is transferred to consumers. It is therefore recommended that “ex post regulation should be applied when the goods on regulated market are characterized by high price elasticity of demand or when the market is competitive” (Nagaj, 2016, p. 100).

Literature identifies five types of ex post regulation. These are (Black, Harman, and Moselle, 2009, p. 20):

- ex post price review with ex ante costing approach specification,
- threshold regulation,
- obligation to negotiate,
- information disclosure,
- competition policy.

Ex post price review with ex ante costing approach specification was used by electricity network companies in Scandinavian countries. It is the less liberated type of ex post regulation. Regulator sets here regulatory regime and companies can determine prices or investment spending alone. Companies must, however, set prices according to the regime set out by the regulator, because at the end of the regulatory period the regulator can decide to control the level of prices. However, it must be borne in mind that the regulator determines only the rules on which costs can be included in price, while the scale of price increase and its differentiation is completely shaped by the companies. In this case, the regulator may decide to include companies under regulatory review either at the regulator’s own initiative or as a complaint from a market participant. If the regulator finds an infringement of the rules, then the regulator orders the company to adjust the tariffs. However, the regulatory rigor most often applied only to the costs and prices, and freedom is given to the level of investment plans. The regulator only determines in general that the quality of service should by not deteriorated.

A similar scope of business freedom is left at „threshold regulation”. This type of regulation was applied to energy distribution companies in New Zealand. Threshold is a set of rules imposed by the regulator. It says that enterprises cannot set prices above it or quality standards under the threshold. Companies have full

discretion, regulators do not make regular regulatory reviews, but there is a risk that the regulator at any time may undertake regulatory controls. In addition, there is a risk that if the companies do not comply with the threshold, the regulator can at any time restore *ex ante* regulation. Threshold is updated every few years and this type of regulation leads to avoid the cost of maintaining permanent supervision. It is assumed here that companies will be afraid to apply for higher prices or low quality standards. The threat of introducing *ex ante* regulation discourages businesses and provides some protection for consumers.

A much larger range of deregulation is at “obligation to negotiate” or as ‘*ex post* regulation with information disclosure”. In both cases, companies are free to decide and are not bound by sector regulator. Only the Antitrust Office monitors the market. However, the companies have an obligation to undertake negotiations with consumer organizations each time before taking decisions affecting consumers, or deliver to consumers full information about decision making principles. Companies operate on the basis of competition law, but the antitrust regulator regularly monitors the market and reviews the competition rules. The obligation to negotiate or provide information disclosure ensures more attention is given to the collective interests of consumers. Companies operate as a competitive market, and all market participants have access to complete information about pricing process, investment plans, costs involved in tariffs.

There is also possible *ex post* regulation, when there is only competition policy, there are no economic regulation or regular regulatory reviews or any information obligation. Then companies are subject only to routine inspections by the antitrust authority and the control of enterprises is during the licensing process. In this case there is the fifth type of *ex post* regulation, when there is the highest business freedom. But it should be said that with regulated sectors it is very seldom met. The example is telecommunications fibre access network in USA.

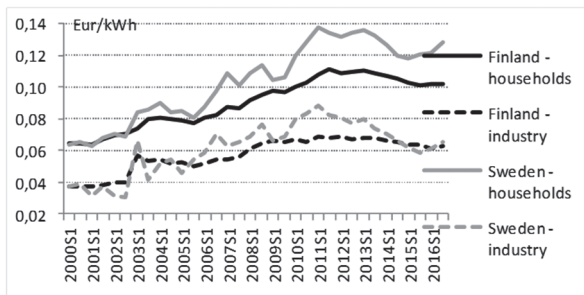
### **Ex post regulation in the regulated sectors – the case studies**

*Ex post* regulation was seldom used in practice. It was usually used *ex ante* regulation or competition policy. Other types of regulation was used in Finland and Sweden in the electricity sector, where was a *ex post* price review with *ex ante* costing approach specification, in New Zealand there was threshold regulation and in Germany an obligation to negotiate. The research method used in the article will be case study all that markets to see advantages and disadvantages of *ex post* regulation. Most studied markets was usually liberalized in 90s. But research period in the article is 2000-2016, because in that period *ex post* regulation was applied.

The longest practice with *ex post* regulation have Finland and Sweden, which applied combination of *ex post* and *ex ante* regulation to electricity network companies, that is *ex post* regulation with *ex ante* approach to pricing process. A more regulated model was used in Sweden, where *ex post* regulation lasted until 2011. Firstly, in the



1990s, electricity trading was liberalized and sales prices were released from regulator control, and then with the network charges there were imposed a rigorous combination of ex post regulation and ex ante regulation. This ex post regulation was based on the fact that the regulator determined the ex ante pricing methodology, based on which the company determined alone the tariff for end-users. Ex post regulator made annual regulatory reviews of tariffs. Regulatory reviews could be conducted either at the initiative of the regulator or at the request of consumers, who appealed pricing or investment decisions. In situations where companies disagreed with the regulator's decision, they complained about the administrative decisions of the regulator to the court. The reviews were aimed to check whether the ex ante pricing methodology was not followed. The practice of using ex post regulation indicated that in 2003-2007 there were in approximately 50-75 cases, when regulatory administrative decisions were complained to the court (Black, Harman, and Moselle, 2009, p. 35). It is worth underlining, that in each case the electricity companies were ordered to refund substantial amounts to consumers. Later companies created tariffs higher compared to the methodology. That is why since 2012 regulator decided to replace ex post regulation by ex ante regulation to price controls and investment plans. Since 2012 in Sweden there was observed a decline in electricity prices for end-users (Graph 1).



*Graph 1. Electricity prices (without taxes and levies) for end-users in Finland and Sweden in 2000-2016*

*Source:* own elaboration based on Eurostat data.

Similar type of regulation was used in Finland, where the subject of regulation was only network activity and sales activity was not regulated. Besides network companies until 2004 was deprived of supervision by the regulator. The regulator's role was limited to obliging companies to refund the price when final customers appealed the charges and won a court case. Because of the EU electricity directives in 2005 distribution and transmission companies was covered by ex post regulation with ex ante approach specification to costs and pricing. The same occurred in Sweden where the sectoral regulator (Finnish Energy Market Authority - EMA)

determined the ex ante methodology for setting tariffs and companies made decisions about tariffs alone. EMA did not approve tariffs. When regulator suspected tariffs were not applied by companies with the proposed methodology then the regulator made annual ex post regulatory review. Regulatory reviews, not like in Sweden, were only taken on the consumer's complaint. Then the regulator controlled whether there is disturbance of competition or suspicion of too higher rate of return on tariffs applied by the companies. When the controller stated inconsistency, he issued an administrative decision to change the tariffs. The decisions could be appealed by the companies to the court, but they remained in force until they were changed by the court (EMA, 2003, p. 32). The functioning of this type of regulation in practice showed that the price expectations of electricity companies have increased and the regulator had to dampen enterprises' price expectations. Besides many regulatory decisions were appealed to the court. During the first regulatory period (2005-2008) 76 distribution system operators (DSOs) appealed the regulator's decision after review, the court majority of the decisions upheld and the rate of return increased only by 0.4-0.8 percentage points (EMA, 2007, p. 25). During second regulatory period (2008-2011) all appeals of DSOs were dismissed by the court.

Comparison of price developments in Finland and Sweden in 2012-2016 (Graph 1), ie the period when the former country was under ex post regulation and the second country was under ex ante regulation, indicated that ex ante regulation exerts more pressure on lower prices. In 2016 detail electricity prices (excluding taxes and levies) in Finland were lower for households by 7.9% and for industry by 8.2% compared to 2011. Meanwhile in this period in Sweden end-user process respectively fell by 4.4% and 20.9%. However in long term (2000-2016) electricity prices in Finland were more stable than in Sweden and increased less (in Finland 57.9% for households and 63.4% for industry; in Sweden 105.3% for households and 84.9% for industry). This means that in the long run, the lower range of regulation has benefited positively on pricing (prices were lower).

Threshold ex post regulation was used in New Zealand in period 2001-2008 for electricity distribution activity. Prior to 2001, companies were operating under the competition law. The same like in Scandinavian countries, in 90's retail prices was released from control (were not regulated), distribution and transmission activities were unbundled (ownership separation) from other electricity activities and it was adopted competition law in generation and in sales. Under such a base, the government adopted threshold-based regulation for network companies. Thresholds were forced on prices and quality of services. Companies were able to breach the restrictions, but then they exposed themselves to regulatory control and the restoration of ex ante control of prices and quality of service. Threshold for prices were set as the weighted average of all companies tariffs assuming that the general volumes are fixed year-on-year and following the common CPI-X formula. Threshold for quality of electricity services was a constant indicator value over the last five years and assumed that quality should not fall below that level. What is important is that thresholds were

set for five years, so companies had a larger freedom to determine business policy. The analysis of the functioning of threshold-based regulation indicated that threshold real prices decreased and companies complied with regulatory rigor. Only three of 29 existing businesses held prices above the threshold set up by the regulator and met the administrative decision of the regulator. However, the practice showed that there was no improvement in the quality of services (companies did not undertake long-term investment decisions). This resulted in that although the prices were stable, they did not match the quality of service and thus were above the costs of business. The analysis also indicated a second flaw. Due to the fact that companies could breach thresholds when they argued why they did it, resulted in them doing exactly that.. Fighting against such business proceedings required a lengthy procedure by the regulator. In 2007 were 127 threshold breaches, but only 25 had been resolved and 102 had been left unsettled because of the long processing time. In 2008 because of these shortcomings, it was decided to implement ex ante control regime for prices and quality of electricity supply (Black, Harman, and Moselle, 2009, p. 52). In 2009 some of the distribution system operators have been put under the ownership of consumers. Companies, who met the ‘consumer-owned’ criteria forced by the regulator and the law were exempt from regulation for prices and electricity supply quality, and the rest companies was subjected to ex ante regulation. Analysis of the functioning of this model in 2009-2011 indicated that “exempt line companies did not charge higher prices than non-exempt line companies, and that they experienced a larger decline in their variable costs compared to non-exempt line companies, following the exemption” (Celim Ozbugday and Nillesen, 2013, p. 361). This only confirmed that the regulation and the threat of regulation has no positive effect on the prevention of price increases, and the effective method to achieve that goal is to increase the level of regulatory freedom.

Example of ex post regulation with obligation to negotiate is energy sector in Germany and airports in Australia, where is information disclosure. In Germany and in Australia the main problem with ex post regulation concerned the level of concentration and the market power of enterprises. In Germany the electricity sector was liberalized and based on competition law. It applied to all electricity activities. The only one restriction on companies was obligation to undertake the negotiations with consumer associations during important market decisions, ie. investment plans, pricing process. There was no problem with the level of prices or fluctuations of them. Although since 2002 prices started to rise but it was caused by taxes and environmental levies imposed by the State. However the negative consequence of liberalization was the consolidation processes in the sector which caused that four vertically integrated entities started to dominate in the market. Besides it caused that final consumers, especially households, didn’t change a supplier under Third Party Access (TPA) rule. When in 2005, as a result of pressure the European Commission, the regulation over the sector was imposed, it was made unbundling of network activities from trading. Thanks to it also the number of final consumers who switched suppliers has increased from 0.80 million in 2006 to 3.51 million in 2012 and only around

2.1 percent of the industrial and business customers are supplied under standard terms (Bundesnetzagentur and Bundeskartellamt, 2014, p. 123, 126).

Airports in Australia were subject to general competition too, but companies had an obligation to give a full information about costs, pricing processes, investments to other entitles, mainly consumers. It was implemented in 2002. The main results of ex post regulation was still over the costs (so it is difficult to say prices were too high, because it should be compared with the same market under ex ante regulation) and rather stable. It was easy to invest for companies, productivity was high. However it is difficult to compare with ex ante regulation. But when in relation to the airports a strong thread of regulation appeared to be effective in restraining prices, although some level of excess return occurred (Black, Harman, and Moselle, 2009, p. 64). The problem, however, was the legally granted monopoly for infrastructure users, which limited competition. The practice has shown that the introduction of competition law in Australia's airport market and the obligation of transparency of information has reduced social anxiety, enabled price monitoring and effectively exerted pressure on businesses to not overstate prices.

## Conclusions

1. Ex post regulation is an effective method of controlling those parts of the economy where liberalization processes are highly advanced, but for historical reasons or the threat of market failures, state supervision of the market is required.
2. Strong regulation (state control over the market) does not necessarily affect efficiency, and moreover, state regulation does not have to protect consumers from excessive price increases and can bring other benefits to regulated markets. The regulation usually exists to protect the sunk-investments made by consumers of the regulated company (Biggar, 2009, p. 129). Market concentration does not need to be the basis for regulation because “the network industry under unregulated monopoly would yield more social welfare than in the case of several producers in the industry” (Spiegel et al., 2008, p. 323).
3. It should be not implemented where there is high market concentration or consumers have little influence on the market. In sectors where consumer information was widely available there was no pressure to overstate prices. An example being in that Australian airports, showed that „competition, or the credible threat of competition, is the best constraint on the market power of infrastructure owners. (...) Without competition, simply monitoring prices will not provide any discipline on pricing” (Sims, 2016, p. 1).
4. It is also a wrong idea to set thresholds because companies often keep prices close to that threshold level and have no incentive to improve cost efficiency. Ex post regulation, especially with ex ante specification to

costs of strong thread of regulation badly affects the level of investment, especially in relation to quality of service. A much more positive impact is observed on service quality when either ex ante regulation or ex post regulation without any restrictions on investment (when markets works under competition law) is applied.

5. Undoubtedly, in the short term ex post regulation influences frequent price fluctuations and has a larger impact on market condition changes, but it allows companies to react quickly and make good business decisions in a changing market environment.
6. When the sector is subject to ex post regulation it is advisable to speed up the processing of complaints and it is necessary to shift regulatory risk to businesses rather than to consumers. The example of Finland or Sweden showed that only ex post punishment does not put effective pressure on the company. It must be agreed with Jacob Nussim and Avraham Tabbach (2008, p. 45) that “ex post punishment of avoidance may induce more avoidance and more crime”.
7. Undoubtedly, deeper, further studies on markets where ex post regulation is applied are needed to determine the long-term effects. This is the preferred type of public policy in regulated sectors where market mechanisms work well, but the disadvantages of this regulatory method indicated in this article should be taken into account when the state would like to apply ex post regulation in the economy.

## References

1. Baldwin, R., Scott L., and Hood, C. (1998). *Introduction*. In: R. Baldwin, L. Scott and C. Hood (eds.). *A Reader on Regulations*. Oxford: Oxford University Press, 1–55.
2. Biggar, D. (2009). “Is Protecting Sunk Investments by Consumers a Key Rationale for Natural Monopoly Regulation?”. *Review of Network Economics*, 8(2): 128-152.
3. Black, D., Harman, G., and Moselle, B. (2009). *The Case for Ex Post Regulation of Energy Networks. Final*. London: LECG//URL// [www.ofgem.gov.uk/Networks/rpix20/ConsultReports/Documents1/Final%20report%20ex%20post%20regulation.pdf](http://www.ofgem.gov.uk/Networks/rpix20/ConsultReports/Documents1/Final%20report%20ex%20post%20regulation.pdf).
4. Boyer, R., and Saillard, Y. (2002). *A summary of regulation theory*. In: R. Boyer and Y. Saillard (eds.). *Regulation Theory: The state of the art*. London & New York: Routledge, Taylor and Francis Group, 36–44.
5. Bundesnetzagentur, and Bundeskartellamt (2014). *Monitoringreport 2013*. Bonn: Bundesnetzagentur.
6. Cemil Ozbugday, F., and Nillesen, P.H.L. (2013). “Efficiency and prices of regulation-exempt consumer-owned natural monopolies: A first look at Electricity Distributors in New Zealand”. *Annals of Public and Cooperative Economics*, 84(4): 361-381.
7. Downs, A. (1997). *An Economic Theory of Democracy*, New York: Pearson.

8. EMA (2003). *Annual Report of Energy Market Authority 2003*//URL// [https://www.energiavirasto.fi/documents/10179/0/Emv\\_vuosikertomus2003.pdf/1bcc7ee3-7825-4d42-a4a0-8a917d346ca5](https://www.energiavirasto.fi/documents/10179/0/Emv_vuosikertomus2003.pdf/1bcc7ee3-7825-4d42-a4a0-8a917d346ca5).
9. EMA (2007). *Annual Report 2007 to the European Commission: Finland*//URL// <https://www.ceer.eu/documents/104400/-/-/b619acfc-b963-be0c-1c61-eda77fa2a1e4> [in English].
10. Gunning, J.P. (2003). *Understanding Democracy: An Introduction to Public Choice*, Taipei, Taiwan: Nomad Press.
11. Jordana, J., and Levi-Faur, D. (2000). *The Politics of Regulation in the Age of Governance*. In: J. Jordana and D. Levi-Faur (eds.). *The Politics of Regulation: Institutions and Regulatory Reforms for the Age of Governance*. Cheltenham: Edward Elgar Publishing, 1–28.
12. Joskow, P.L., and Noll, P.C. (1981). *Regulation in Theory and Practice: An Overview*. In: G. Fromm (eds.). *Studies in Public Regulation*. Cambridge, Massachusetts: The MIT Press, 1–66.
13. Kahn, A.E. (1998). *The Economics of Regulation: Principles and Institutions* (Vol. I). Cambridge, Massachusetts, London: The MIT Press.
14. Nagaj, R. (2012). “Przesłanki regulacji rynków w świetle teorii wyboru publicznego (Reasons for market regulation in light of public choice theory)”. *Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania*, Nr 27: 155-168.
15. Nagaj, R. (2016). *Regulacja rynku energii elektrycznej w Polsce – ex ante czy ex post (Regulation of the electricity market in Poland – ex ante or ex post)*. Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego.
16. Niskanen, W.A. (1994). *Bureaucracy and Public Economics*. Aldershot, Brookfield: The Locke Institute, E. Elgar.
17. Nussim, J., Tabbach, A.D. (2008). “Controlling Avoidance: Ex Ante Regulation Versus Ex Post Punishment”. *Review of Law and Economics*, 4(1): 45-63.
18. Ogas, A.L. (2004). *Regulation: Legal Form and Economic Theory*. Oxford: Hart Publishing.
19. Peltzman, S. (1976). “Toward a More General Theory of Regulation”. *The Journal of Law and Economics*, 19(2): 211–240.
20. Pigou, A.C. (2013). *The Economics of Welfare. (2013 Edition)*. London: Palgrave Macmillan.
21. Posner, R.A. (1974). “Theories of Economic Regulation”. *The Bell Journal of Economics and Management Science*, 5(2): 335–358.
22. Schroder, M., and Voelzkow, H. (2016). “Varieties of Regulation: How to Combine Sectoral, Regional and National Levels”. *Regional Studies*, 50(1): 7–19.
23. Shepherd, W.G., and Wilcox C. (1979). *Public Policies Toward Business*. R.D. Irwin.
24. Sims, R. (2016). *Ports: What measure of regulation*. Ports Australia Conference, 20.10.2016, Melbourne: ACCC//URL// <http://www.portsaustralia.com.au/assets/Uploads/Sims-Rod-Ports-What-measure-of-regulation-Oct-2016.pdf>.
25. Spiegel, U., Ben-Zion, U., Tavor, T., and Templeman, J. (2008). “The Network Industry, Monopoly Regulation, and Social Optimum”. *International Journal of the Economics of Business*, 15(3): 323–337.

26. Stigler, G.J. (1971). "The Theory of Economic Regulation". *The Bell Journal of Economics and Management Science*, 2(1): 3–21.
27. Szkudlarek, P. (2013). "Państwo w procesie rozwoju rynku usług telekomunikacyjnych w Polsce (The state in proces of development in telecommunication services market in Poland)". *Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach*, nr 139: 268-275.
28. Tollison, R.D. (2012). "The economic theory of rent seeking". *Public Choice*, 152(1/2): 73-82.

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### **Ex post reguliavimas kaip viešosios politikos metodas reguliuojamuose sektoriuose**

Anotacija

Šiame straipsnyje yra aptariami teoriniai ir empiriniai tyrimai, susiję su ex post reguliavimu kaip valstybinio kontrolės vykdymo ekonomikos sektoriuose, pasižyminčiuose tam tikrais rinkos neefektyvumais, metodu. Straipsnio tikslas yra pristatyti ex post reguliavimo esmę, jo tipus bei pagrindinius jo privalumus ir trūkumus. Šiam tikslui pasiekti padėjo kritiška profesionalios literatūros analizė bei valstybių, naudousių šio tipo politiką infrastruktūros sektorių atžvilgiu, patirties atvejų analizės. Teorinė-empirinė analizė parodė, kad ne visur yra įmanoma pritaikyti šį valstybės intervencijos tipą. Taip vykdoma viešoji politika reikalauja kai kurių sąlygų sukūrimo, tokių kaip restruktūrizavimas ar liberalizacijos procesai, kad konkurencijos mechanizmai būtų taip tvirtai įsišakniję, kad tikslingas jos panaudojimas ir bendrovės nepiktnaudžiautų savo užimama pozicija rinkoje jos vartotojų atžvilgiu.

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