

REVIEW
of the monograph by Krzysztof Zamasz entitled:
THE ECONOMIC EFFECTIVENESS OF POWER COMPANIES UNDER THE
CONDITIONS OF IMPLEMENTING THE POWER MARKET. 2nd edition.
Warsaw 2017, 196 pages

In 1990s Polish companies underwent structural changes due to the introduction of the market economy. Having signed the UE accession treaty in 1991, the Polish government started, in the period of 1992-2003, the process of transformation of the entire industry, including the power sector. The organisational and market transformation of the power sector resulted in the increased scope and level of risk for the operation of power companies, including the power generation subsector. The functioning of the power sector in the context of economic effectiveness of power companies has been the subject of systematic analyses of theoretical and empirical character. The analyses have been forced by the scope and complexity of the issue in question, as well as by a continual evolution of the energy law. Equally crucial are also the changes in the sector, triggered by liberalisation processes. It should be noted that the Polish power generation industry played, for many years, the role of a natural monopoly. Hence, the sector was subject to restructuring, privatisation and liberalisation. It brought about, over the years, an adjustment of the domestic power generation policy to the EU common energy policy.

The modern power generation system consists of universal subsectors involving electricity generation, transfer, distribution and trading. Each subsector features its specific character, the latter being of importance to the economic valuation of the company. Namely, in the power generation sector, the investment context is of crucial importance, since any wrong decisions can lead, more often than not, to substantial financial losses. The latter may be aggravated by signals sent by any regulatory, market-related or political bodies.

Over the years 2010-2016, in the area of economics and management studies there were published around a dozen of academic papers on transformations in the Polish economy. One of these is the monograph by K. Zamasz entitled *The economic effectiveness of power companies under the conditions of implementing the power market*. The work smoothly fits in the innovation and competition-related processes of a modern power company. The scientific discourse is enriched by its new elements on the economics theory and economy-related practicalities. The paper has, due to its structure, a traditional character, combined with its multidiscipline nature. The monograph is exquisitely-written, in an approachable style, with a meticulous attention to the methodology. The Author correctly conducted his academic discourse and consequently made relevant conclusions. The above-mentioned qualities contributed to a favourable reception of the book by its readers and could have, consequently, added to the release of its second edition. The work is, - in my opinion - a good starting point for a wide-ranging discussion on the power market in Poland, while the market in question covers three target groups, i.e.: increased competitive edge of the economy, increased power security and protection of the natural environment against detrimental consequences of generation and distribution of energy.

Starting from these global, general contemplations, the Author smoothly proceeded into a comprehensive analysis of his research task. Thus, from the page no. 9 on, the Author tackled in his work various theoretical and application

premises. He therefore presented, in a correct way, the subject matter of the paper, its scope, as well as its principal and detailed aims. The monograph has thus acquired a traditional layout, consisting of an introduction, five chapters, summary and list of reference books. Particular chapters are coherent, logically intertwined, while their content is closely interwoven. The Author skilfully used research methods employed in the economics research process, i.e. statistical methods in the form of the discriminant analysis, probit regression and multiple regression. The analysis of real option valuation was presented in the form of a stochastic tree, used for the sake of economic evaluation of the company in the context of the implementation of the power market.

As it was already mentioned, the whole paper has a logical structure which put particular chapters and their contents in the entire groups. Hence, the first chapter is entitled: *Power generation company on the competitive power generation market – investment context* (p. 18-46). The Author skilfully presented the notion of a power generation company (p. 18 and the following pages), both in the context of power generation, transfer, distribution and trading. From the presented contents, there transpires a particularly important power generation sector. Upon the observation of the economic practice, I can share the Author's view that (s. 32), the basic premise in the process of making a decision as to the construction of new power plants or modernisation of the existing ones should be a particularly well-grounded one. The expectations of a power generation company to achieve a determined return from the invested means shall be supported by a financial analysis. The correctness of the reasoning process by K. Zamasz, relating to the economic practice (p. 19 and the following pages), with a particular consideration given to the risk resulting from the fluctuations of energy prices, prices for the authorisation as to CO² emissions, power coal prices, energy demand, etc. However, it is worth mentioning, what the Author confirmed (p. 44), that the coal in the electricity production process is characterised by a substantial stability. A drastic and changeable impact on other carriers is, in most cases, a result of rules governing the raw materials on the worldwide fuel market.

The chapter entitled *The centralised power market in the sector of mechanisms of remuneration for power generating capacities – theoretical background* (s. 46-79) presented the power generation policy from a substantially right angle. On the basis of the general background, the Author precisely determined the importance of implementation tools, necessary to maintain the required level of generating capacities in the power generation systems. This scientific discourse, combined with theoretical discussions, contributed to the proper explanation (p. 54 and the following) of generating capacity adequacy, value of insufficient power, strategic reserve and their consequences for national and regional economic practice. The figures accompanying the paper content are an additional advantage (starting from p. 56), as they reflect analyses contained in the tables (ps. 57, 68).

The third chapter is entitled *Identification of key factors influencing the economic effectiveness of the company under the conditions of the introduction of the centralised power market* (ps. 79-103). The Author succeeded here, just like in the previous chapters, in correctly identifying (both from methodological and practical point of view) determinants that affect the level of revenues made by a power company. He rightly stated that within the scope of revenues one can identify two groups of factors related to the available power demand curve and connected, at the same time, with the power supply curve (p. 97 and the

following pages) It should also be underlined that for both the factors affecting the level of revenues and costs, K. Zamasz rightly proved and analysed crucial domestic conditions, being a basis for adopting the assumptions on the domestic, centralised market of power.

The fourth chapter is entitled *Elaboration of methods for economic effectiveness valuation of a power company under the conditions of implementing the power market* (ps. 103 – 151). The chapter presented substantially correct information, while the proportions between such notions as: time, risk and return, discount rate and the others, are firmly balanced (p. 105 and the following pages). The analysis of the economic performance indicators was carried out in a correct way (p. 111 and the following pages). The content of the chapters is thought-provoking, professional and put in a comprehensible way.

The fifth chapter, entitled *The use of methods of economic effectiveness valuation of a power company under the conditions of implementing the power market* (ps. 151 – 175), has a utilitarian character. I agree with the correctness of the net present value calculation (p. 154 and the following pages). It was rational to opt for the method of the real option valuation, in order to carry out the economic valuation of the power generation company in the context of the implementation of the power market.

The chapters of the thesis, particularly the third, fourth and fifth chapters provide numerous new and thought-provoking values. Thus, they extended the methodology-related scientific discourse concerning the economic efficiency of the power sector and its associated business entities. The reviewer holds the opinion that the above-mentioned part of the thesis attracts the most of the readers' attention, while the enterprise's strategic values described therein, assessed by means of the real option valuation, are even more compelling.

The reference documentation of the thesis was meticulously extended as compared to the first edition. The notes, figures, tables and reference books were correctly elaborated, in accordance with the Polish standards and international requirements as to bibliographic descriptions. That is why I think that the second edition of the monograph by K. Zamasz *The economic effectiveness of power companies under the conditions of implementing the power market* deserves readers' attention as it bridges the gap in the Polish economics literature on processes involving the creation of innovative power generation companies.

Adiunkt Politechniki Śląskiej

Dr. Mariola Dźwigoł-Barosz