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IGNORANCE OF PRICES BY CONSUMERS IN THE ELECTRICITY MARKET

Abstract. The purpose of this paper is to describe consumer decision-making in terms of understanding and being aware of price levels in the Polish electricity market. According to the author's survey, price is the factor with the largest impact on consumer purchasing decisions. The crucial problem is that respondents do not know these prices. However, consumers know well how much electricity bills are. Consumers in the electricity market are in a coercive and often ambiguous situation. They do not have adequate economic and specialist knowledge, and primarily rely on price information provided by power companies.

Keywords: consumer, retail price, electricity market

INTRODUCTION

With the development of the internal market, wholesale electricity markets in Europe have undergone major changes in recent years. In perfectly competitive markets, changes in wholesale markets should pass through rapidly and fully to retail markets. In addition, a large proportion of retail prices is the result of regulation in the form of taxes and levies or regulated network tariffs. Consumers are the real drivers of energy market. Many consumers still have difficulties to understand and compare different energy offers available on the market, let alone the fact that independent comparison tools are not always available. The European Commission asks member states to create tools and services to help users understand and analyze bills at household and corporate levels and, where appropriate, to provide advice and assistance to end users, should action be necessary to remedy the

discovered irregularities or identify prices offered under delivery contracts better suited to their needs. It recommends that invoices and all other information provided by suppliers to their final customers be sent through the channel chosen by the latter, i.e., by e-mail or regular mail, without any discrimination. It points to the fact that vulnerable consumers are particularly susceptible to encountering difficulties in determining the most advantageous tariffs from a very wide offering. According to the Association of Energy Trading in Poland, it is possible only in relation to the simplest offers which do not contain other prices of energy carriers or additional goods or services. Generally, the simplest product is the tariff or price list of a given trader. However, if the national regulator does not require the traders to submit tariffs for approval, the traders may change their tariffs wherever they believe there are reasons to do so. In this case, the offer identified by the comparison engine as

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the most advantageous at a given date may turn out to be disadvantageous once the trader changes his tariff or price list (Towarzystwo..., 2018). It should also be remembered that consumers want greater transparency in regard to electricity prices and costs (European Economic and Social Committee, 2017).

The author carried out a research with a group of 1109 respondents. The study was conducted in February 2017 and covered 518 women and 591 men. Of the respondents in the study, 3.88% were aged up to 25 years and 12.62% were in the 26–35 age bracket. Of the remaining population, 17.94% were aged 36–45, 20.74% were aged 46–55; people aged 56–66 (22.63%) and 67+ (22.18%) were the largest groups of respondents. Among respondents, 9.9% had a vocational education, 43.7% had a secondary education and 46.3% had a tertiary education. Over 55.8% of respondents were employed; some of them both worked and studied. In the group surveyed, 86.7% were personally responsible for paying electricity bills; 9.3% said it was the responsibility of his/her husband, wife or partner; 3.2% indicated that parents/children were responsible and 0.8% stated it was the responsibility of other people. The contract was entered into personally by 73% of respondents. The remaining part said their wife, husband or partner (16.2%), parents/children (7.8%) or other people (3%) were parties to the contract. The measurement instrument used in the study was a questionnaire made up of multiple choice questions only. When structuring the questions, particular care was taken to use the right terminology. In accordance with the Likert scale procedure, a list of formulas was drawn up to reflect the impact of legal regulations. Particular focus was placed on the effect of information obligations on consumer behavior in the electricity market. Note also that the survey was based on scales used in research on buyer attitudes and preferences. The set of nominal scales was extended with a five-point scale with answers ranging from 1 = totally disagree to 5 = totally agree. Before proceeding to the actual measurement, a pilot survey was carried out. The sample tested was representative. A random sampling procedure was used.

PRICES AND TARIFFS IN THE ELECTRICITY MARKET

Regardless of the contract concluded, the obligation of the buyers (including consumers) is to receive energy and make the related payment. The conclusion from the analysis of the Polish Energy Act is that prices in the

electricity market can be set in two ways. Pursuant to Article 45 of the Energy Act, power companies set electricity tariffs depending on the scope of their activity, in a manner to cover any reasonable costs and to protect consumer interests against unreasonable prices and rates. All distributors of electricity set their prices under this procedure. The principle of pricing in tariffs applies to power companies who are required to submit tariffs for approval to the President of the Energy Regulatory Office (ERO). Pursuant to Article 49 of the Energy Act, the President of ERO may exempt a power company from this obligation if he/she finds that the company operates under competitive conditions. In Poland, some trading companies are exempt from the tariff obligation. In addition, according to the wording of tariffs approved by the President of ERO, it can be considered that the currently valid electricity prices are applicable only to those customers who have not exercised their right to choose a trader. The tariffs approved by the President of ERO relate only to the sales of energy traders acting as providers in their relationships with consumers (households) connected to the local distributor network. However, energy traders are not subject to the tariff obligation in their relationships with other customers, including consumers (even those who have chosen the same local power company).

It follows from the above that household electricity consumers can be divided into two categories:

- 1) customers (located all around Poland, including in the operation area of a local distributor) who chose a trader ('preferred' vendor), i.e., any power company based in Poland licensed to trade in electricity; and
- 2) customers who receive electricity on the premises of a distribution company for which the trading company concerned is an ex officio supplier because they have not exercised their right to choose a trader.

In relation to the first group of customers, the power company may apply prices and rates which are not approved by the President of ERO and are set out, for instance, in price lists adopted only by electricity traders. In this case, the price of electricity is the market price, not the tariff price. However, in relation to the second group of customers, the power company is required to apply the tariffs approved by the President of ERO, as provided for in the Energy Act.

The Energy Law Act requires the ex officio trader to use a tariff approved by the President of the Energy

Regulatory Office (this applies to household customers who do not have the right to choose a provider and are connected to the power company's network specified in the license). This solution protects customers against unreasonable increases in electricity prices. Therefore, the *ex officio* trader cannot 'deteriorate' the conditions for the sale of electricity to these customers. The limitation to be remembered in this case is that the *ex officio* trader should ensure the delivery of a comprehensive service to its customers, as referred to above, on an equal treatment basis. Importantly, the tariff must be applied in this case. The power company can give the customers a choice and offer them the sale of energy at a price other than the tariff, acting as a trader of choice.

Pursuant to Article 56, Section 1.6 of the Energy Act, a power company may apply prices below the approved level, subject to Article 45 of the Energy Act which states that electricity tariffs should be calculated in a way to cover reasonable costs. This means that the President of ERO may conclude that when organizing promotions, the prices in the approved tariff are too high and should be reduced because the company can profitably sell electricity at promotional prices. Therefore, power companies should consider what is more beneficial to them.

However, the customer's choice cannot give rise to any doubts that he/she consciously chooses an offer other than the one with tariff prices. Unfortunately, consumers are often unaware of the rules of paying for electricity. The author found that 33.7% of respondents did not know whether they paid for electricity based on a price list or a tariff. At the same time, note that having analyzed the frequencies in the distribution of metric questions, the author determined that the awareness of the basis for payment was definitely lowest in cities with a population over 500,000 (43.9%) and among those not at work, whether on parental leave or on long-term sick leave (50%). The payment method is unknown to 37.3% of women and 30.6% of men, regardless of age and education; 38.5% of those who do not know the basis for payment live on their own. Interestingly, most people who lack that knowledge (38.8%) earn less than PLN 2,000 per month; people earning over PLN 4,500 a month constitute only 30.4% of respondents.

Undoubtedly, the entrepreneur is required to inform the consumer of the total price for the product sold or total remuneration for the service provided, including taxes (e.g. VAT). If an indefinite-term contract was concluded, i.e. in the case of firm long-term commitments,

the entrepreneur is required to inform the consumers of the total amount they will have to pay the entrepreneur in the settlement periods agreed upon between the parties. This should include all costs the consumer will incur. According to the author, the above means that if consumer services are settled under the tariff approved by the President of ERO, any price increase shall be communicated as provided for in Article 5, Section 6 of the Energy Act which requires the trader to inform about the price increase specified in the approved tariffs. Obviously, the above does apply neither to a reduction of electricity prices nor to a situation where the tariff or price list is not subject to approval by the President of ERO.

In the electricity market, prices are changed periodically. It is assumed, however, that they should change no more than once a year. This means that when the consumer enters into a fixed-term contract, the price is valid throughout the predetermined period (Czarnecka, 2015). Pursuant to Article 10, Section 1 of the Consumer Rights Act, at least when the consumer wishes to be bound by the contract, the entrepreneur shall obtain the consumer's express consent for any extra payment in addition to the agreed remuneration for the entrepreneur's main contractual obligations. The consumer consent cannot be inferred from default options which need to be rejected in order to avoid additional payments. If the entrepreneur breaches that obligation, the consumer shall have the right to a refund of the additional payment (Kaczmarek-Templin et al., 2014). The rationale behind this provision is to provide the consumers with the necessary protection by increasing the transparency of payments made under the contracts they entered into. According to the justification for the draft Consumer Rights Act, Article 10, Section 1 of the Consumer Rights Act is one of the provisions (in addition to Article 11 of the Consumer Rights Act and Article 3831 of the Civil Code introduced pursuant to Article 44, item 2 of the Consumer Rights Act) (Opinia..., b.d.) governing the entrepreneur's way of doing business that would involve the generation of unreasonable costs to the consumer (Druk..., 2014). This provision is the transposition of Article 22 of Directive 2011/83/EU according to which, before the consumer is bound by the contract or offer, the trader shall seek the express consent of the consumer to any extra payment in addition to the remuneration agreed upon for the trader's main contractual obligation. Article 17, Section 2 of Directive 2011/83/EU specifies

that Article 22 of Directive 2011/83/EU shall apply to sales and service contracts and to contracts for the supply of water, gas, electricity, district heating or digital content. The act thus allows the consumer to make informed and voluntary decisions regarding options that involve extra payments.

Prices set out in electricity tariffs are rigid (strictly defined) prices. This also applies to sales tariffs and means that they bind the parties irrespective of the price agreed upon in the contract (Muras and Swora, 2016). Thus, energy prices, being rigid, cannot be negotiated freely between the parties to the sale of energy, although only to the extent approved by the regulator (Uchwała..., 2007; Wyrok..., 2015). Obviously, this applies to prices charged by distribution companies and *ex officio* traders.

It should also be emphasized that pursuant to the Energy Law, consumer contracts may be entered into for a definite or an indefinite term. This results from Article 4j, Section 3 which states that the end user may terminate an indefinite-term contract on the delivery of energy by the power company – without incurring any costs – upon written notice to the power company. The customer who terminates his/her contract is required to pay for the energy and services provided for transmission or distribution. Article 4j, Section 3a of the Energy Law stipulates that the end user may terminate a definite-term contract on the delivery of gas or energy by the power company – without incurring any costs and damages other than those provided for in the contract – upon written notice to the energy company. When the consumer terminates a fixed-term contract or a contract concluded for the duration of the price offer during the term thereof, he/she shall pay an early termination penalty if provided for therein (Noll, 2004; Gnela, 2009; Jastrzębski, 2006; Krudysz, 2015; Kidyba, 2014). Based on her research, the author concluded that these principles provided for in the Energy Law are unknown to consumers irrespective of age, gender, place of residence, education, occupation, income or power company which is party to the contract. Of the consumers surveyed, 62.7% stated that they did not know the exact amount of the early termination penalty provided for in a definite-term electricity contract whereas 11.8% admitted they did not know it at all; 11.3% did not have an opinion, 7.6% knew the amount and only 6.6% were well aware of it. Only respondents in the under-25 age group are more familiar with the issue of penalties.

CONSUMER BEHAVIOR IN RESPECT TO PRICES

In Poland, 88% of consumers are aware they can change their electricity provider and thus change the contract to pick another product (e.g. multi-play). In view of the nature of the product and the frequency of purchase, three product groups can be identified: daily and frequent purchase (e.g., bread), periodic purchase (e.g. clothing, footwear) and episodic purchase (e.g., computer, furniture). It seems that electricity can be classified as an episodic product. 82% of consumers do not seek new offers for the sale of electricity (Badanie..., 2015). Price is an integral part of corporate marketing. The pricing process is therefore believed to be the main driver of sales. Prices play a very important role in how the consumer perceives product characteristics; they are an indicator of quality, especially when consumers know little about the product and firmly believe the brands differ in quality. The perception of prices as being high or low is always relative, i.e. it refers to product characteristics and to characteristics of consumers: income, age, education and knowledge of and sensitivity to prices (Lissowska, 2010). This study focuses on analyzing the decisions related to the allocation of resources (money, time, effort) to obtain consumption resources, including electricity (Perner, 2010). It follows from this research that the primary factor with a large impact on electricity purchasing decisions is the price (44.2%), but the clarity and readability of the contract are also important (31.4%), just as the integrity of the power company in the handling and transfer of information (30.2%). The least important factors are associations with advertising (5.2%), statements and feedback from other people (11.5%), loyalty cards (13.8%), ability to compare the offers of electricity providers (17%) and the range of offers (17.9%). The most important problem is that 47% of respondents do not know the price of electricity.

KNOWLEDGE OF ELECTRICITY PRICES

However, consumers know very well how much their electricity bills are. This means that in most cases they do not check whether the bills are calculated correctly because they do not know the price. Based on this research, it can be concluded that the reason for the above is the unclear and illegible way of presenting energy price information to consumers. Over 50% of respondents claim that electricity prices are presented by the traders in a vague and incomprehensible manner.

Frequency distribution

How much do you agree with the following statement: "I know the price of electricity"?				
	Number	%	% valid	Cumulative percentage
I totally disagree	248	22.4	22.4	22.4
I rather disagree	283	25.5	25.5	47.9
I have no opinion	280	25.2	25.2	73.1
I rather agree	177	16.0	16.0	89.1
I totally agree	121	10.9	10.9	100.0
Total	1 109	100.0	100.0	

Source: author's research.

CLARITY AND TRANSPARENCY OF PRICES PRESENTED TO CUSTOMERS

This means that consumers do not know the prices of electricity but know the amount of bills. At the same time, they declare that the price is the main determinant of the choice of electricity provider. The main goal of power companies is to make their offering more attractive. As part of a sales promotion, the company offers a standard product at a discounted price or a non-standard product at a normal price. Price promotions encourage the customers to buy a product or service by adding a benefit. For example, a coupon, bonus or rebate may be

Frequency distribution

How much do you agree with the following statement: "Electricity prices are presented in a clear and understandable manner by the traders"?				
	Number	%	% valid	Cumulative percentage
I totally disagree	322	29.0	29.0	29.0
I rather disagree	285	25.7	25.7	54.7
I have no opinion	257	23.2	23.2	77.9
I rather agree	133	12.0	12.0	89.9
I totally agree	112	10.1	10.1	100.0
Total	1 109	100.0	100.0	

Source: author's research.

used as an incentive. When preparing a price promotion, the trader must remember to use it only briefly because a long-term price reduction is not seen as an opportunity and, moreover, the customers often value the things they pay for. Obviously, when it comes to electricity, the situation is a bit more complicated because customers do not know the prices.

SUMMARY

In the electricity market, consumers are in a coercive and often ambiguous situation. Due to the conditions of the electricity market, they lack adequate or specialized economic knowledge (Kieźel, 2015). They also lack adequate experience and are therefore often poorly positioned to take advantage of the full freedom of choice offered by this market. Note also that a significant proportion of consumers generally do not have enough free time and resources to meet their needs. In addition, many sometimes do not know how to pursue possible claims when their interests are prejudiced because they lack technical, economic and legal knowledge or market experience of an electricity supplier (Kieźel, 2007, p. 14). On the other hand, consumers are fully sovereign and independent in their market choices. Thanks to the liberalization of the electricity market in the European Union, consumers are free to develop the structure of consumption and to receive and respond to marketing signals. Research in the United States shows that consumers have a fairly well developed cognitive ability that leads to the recognition of various marketing instruments that can manipulate their decisions (Evans et al., 2009). Therefore, it becomes necessary to fully understand consumer needs, motivations and behaviors, not only in the market but also in their own households (Kieźel, 2007). If electricity providers take their customers seriously, treat them as sovereign entities and act in a targeted manner, they may effectively drive an incentive process through persuasive actions. However, it should be remembered that marketing impacts on consumer behavior cannot be manipulative. In order to effectively affect the consumer's sovereign decisions, those activities must be based on reliable in-depth knowledge acquired through consumer education (Dąbrowska et al., 2005). Thanks to reliable consumer-market education, it will be possible to create a new, friendly model of electricity consumption, referred to as long-term consumption (Solomon et al., 2010).

The selfish consumption model – promoted so far among consumers by supply-side operators – results in reduced usefulness and security of electricity for consumers. Meanwhile, the first step in raising consumer awareness should be the education of power companies because well educated people will properly drive both behavior and consumer awareness in the market. One of the biggest problems with the Polish electricity market is the high level of energy illiteracy defined as a lack of knowledge of services, institutions and basic concepts needed to make rational price decisions in the energy market. According to the European Commission DG Sanco, consumers can be considered as energy illiterate when they lack:

- 1) knowledge and skills regarding the assessment of the energy services market;
- 2) the ability to identify the possibilities to access assistance in energy matters; and
- 3) the ability to take effective actions to protect their interests (DG Sanco, b.d.).

Based on this research, it can be concluded that the population has extremely modest knowledge and skills related to the assessment of the electricity market, its institutions and offerings. It can be assumed that the only source of information on the electricity market are the communications from traders to consumers. This type of behavior seems undesirable, and therefore it is even more necessary to introduce legal regulations that would enhance consumer protection. In summary, for a well-informed choice, consumers should be able to rely on their supplier for the full transparency regarding the price, conditions and environmental impacts of their choices. Under the European Commission propositions:

- Energy offers and conditions need to be clearly communicated and transparent. In particular, key conditions related, for instance, to discounts should be identified and highlighted. National Regulatory Authorities should monitor the implementation and intervene if needed.
- Suppliers should inform the customer about the best offer before they sign up and, upon signature, at least once per year. Suppliers should also inform consumers about special circumstances related to the periodicity of bill, which may result in bill shocks if the switch takes place at the specific time of the year. This should be monitored by the National Regulatory Authority.

- A new Article in the Electricity Directive on electricity offers should require that suppliers provide to consumers in one place the following list of key information in the scope of prices: clear description of promotions and discounts, information on additional services (e.g. maintenance, insurance, etc.), the price and the provider of these services (if different from the energy supplier), total price (including all cost components, i.e. supply, distribution, taxes and levies) as well as the single unit price per kWh (including all charges and taxes) in order to allow them to compare at a glance and easily spot the cheapest deal for them, conditions for price or tariff changes during the contract (Energy markets..., 2017).

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ZACHOWANIA KONSUMENTÓW A CENY NA RYNKU ENERGII ELEKTRYCZNEJ

Abstrakt. Celem niniejszego artykułu jest zdefiniowanie świadomości cenowej konsumentów na rynku energii elektrycznej w Polsce. Z przeprowadzonych przez autorkę badań wynika, że głównym czynnikiem mającym duży wpływ na podejmowanie decyzji zakupowych przez konsumentów na rynku energii elektrycznej jest cena. Najważniejszym problemem jest fakt, że respondenci nie znają tych cen. Konsumenty dobrze jednak wiedzą, ile wynoszą rachunki za prąd. Konsumenty na rynku energii elektrycznej są w wymuszonej i często niejednoznacznej sytuacji. Nie mają oni odpowiedniej wiedzy ekonomicznej i specjalistycznej i bazują przede wszystkim na informacjach o cenach przekazanych im przez przedsiębiorców energetycznych.

Słowa kluczowe: konsument, ceny, rynek energii elektrycznej