

## ЦІНОВА ЧУТЛИВІСТЬ ПОЛЬСЬКИХ ПОКУПЦІВ ТОВАРІВ ТРИВАЛОГО ВИКОРИСТАННЯ

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Наведено сутність цінової чутливості, емпіричні дані якої стосуються трьох типів товарів тривалого користування, автор використала модифікацію методу PSM (ціна – чутливість – вимірюваність). Мета статті полягає у виявленні змін у прийнятному ціновому діапазоні і оптимальний рівень цін залежно від змін у характеристиках товарів тривалого користування. Реалізація такої мети дослідження зводиться до того, щоб знайти відповідь на запитання: за які елементи пропозиції споживачі готові платити більше? Питання про чутливість цін на ринку товарів тривалого користування є надзвичайно важливим, тому що польські споживачі все ще перебувають на ранній стадії досягнення середнього рівня доходів для Європейського Союзу, членом якого Польща стала з 2004 року. Купівля товарів тривалого користування пов'язана з доволі значними витратами для покупців, оскільки для польських споживачів характерні тенденції менш вартісної оренди, обміну побутовою електронікою та/або побутовою технікою.

**Ключові слова:** цінова чутливість, метод PSM, товари тривалого користування, прийняття ціни.

## PRICE SENSITIVITY OF POLISH BUYERS OF DURABLE GOODS

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The paper presents the essence of price sensitivity, empirical data refer to three types of durable goods, the author has applied a modification of PSM method (Price Sensitivity Meter). The aim of the article is to identify changes in acceptable price range and an optimum price level depending on changes in the characteristics of durables goods. Implementation of such a research goal comes down to find the answer to the question: For which elements of the offer, consumers are willing to pay more? The issue of price sensitivity on durable goods market is extremely important because Polish consumers are still at an early stage of achieving the average income level for the European Union, which Poland has been a member since 2004. Purchase of durable products is connected with quite significant expense for buyers, and it is worth nothing that among Polish consumers trend of renting or bartering consumer electronics or/and household equipment has not yet been widely adopted.

**Key words:** price sensitivity, PSM method, durable goods, price acceptance.

**Problem formulation.** Knowledge of the price sensitivity issue is one of the conditions for the effectiveness of marketing activities. It is difficult to expect that price – perceived by the buyer as a cost – will lose its importance. Only a small part of the Polish population has an income that give comfort not to worry about expenses. For the vast majority of Polish consumers price is one of the key issues during purchasing decisions. According to Central Statistical Office of Poland the indicator of average monthly available incomer per capita in households in Lubelskie Voivodeship compared to the national average (Poland =100) in 2013 was 85,1% (figure 1) [1, p.53].

Such a low level of consumers' affluence in the Lubelskie Voivodeship justifies to study price sensitivity of buyers. The author focused on durable goods due to the specificity of this product category. The additional justification for the present study lies in the need to identify *for which elements of the offer*

consumers are willing to pay more? There is no doubt that products category included in the study is different from the FMCG products (*fast moving consumer goods*) – the main differences are related to the value of a single purchase, period of using, frequency of purchase, product role in buyer’s image shaping. Taking this into consideration and also the fact of low level of Polish consumers’ affluence, it is worth taking a closer look at the issue of factors that contribute to the acceptance of higher product prices.

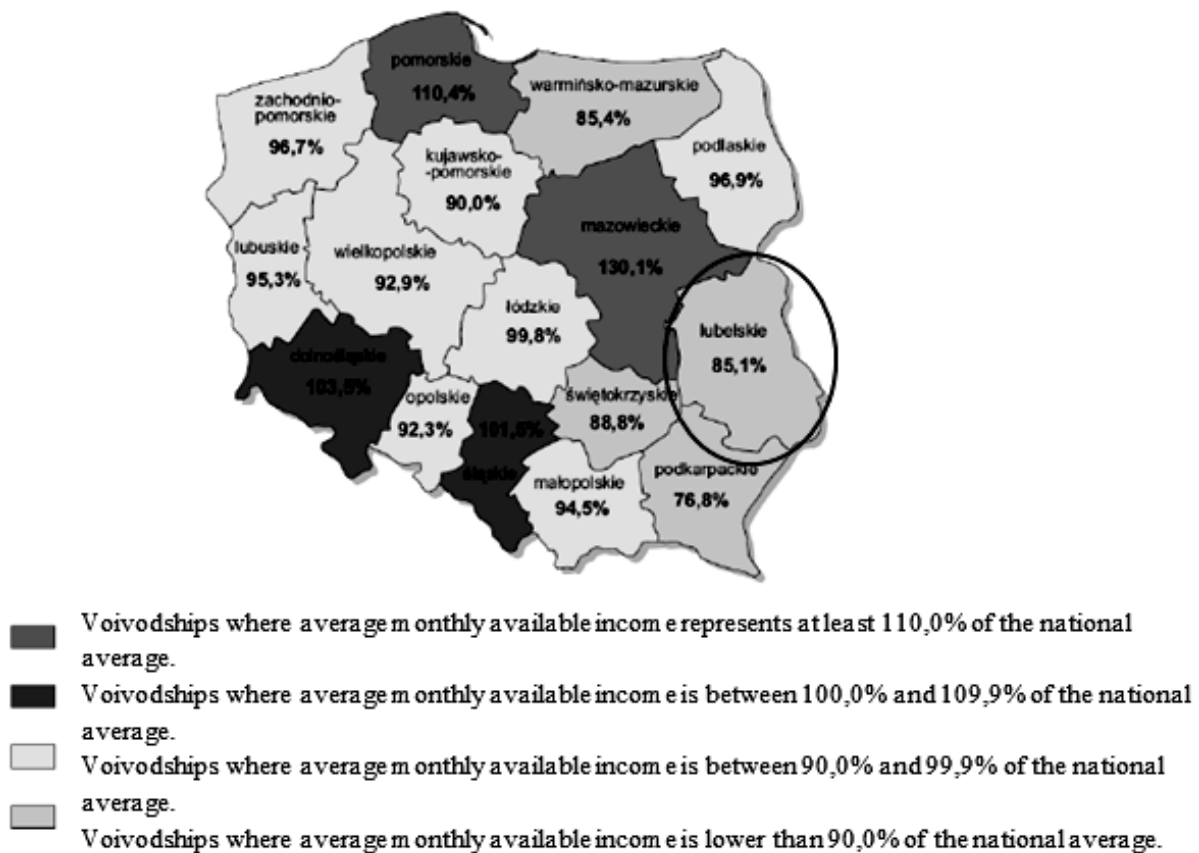


Figure 1. The indicator of average monthly available income per capita in households compared to the national average (Poland =100) in 2013

Source: [1, p. 53–54].

**Analysis of current research outputs and publications.** The researchers emphasize that what people consume shows their place in the society. Products are consumed not only because of its value in use, but also because of the information function – purchase communicates belonging to a selected social group or/and distinguish from the public [2, p. 151]. New trends in the behavior of modern consumers require a departure from the routine methods of operation in the market and reorientation of thinking marketing aimed towards greater empathy and sensitivity to market new needs and aspirations of buyers [3, p. 64]. Brands potentially play many roles in affecting consumer choice behavior. An important factor that underlies many of these roles is consumer uncertainty about product attributes and/or benefits. Consumer uncertainty about products arises from the condition of imperfect and asymmetric information that characterizes many product markets because firms are more informed about their own products than are consumers. In such environments, brands may play key roles in how consumers learn, encode and evaluate brand information (e.g. attributes). Brands may also influence consumer evaluations of the relative values of attributes/ levels, attribute combination rules, perceptions of risk and information costs, consideration set formation and the decision rules used to make marketplace choices [4, s. 1].

Numerous factors influence how customers perceive value and price. While some of these factors are more properly considered economic in nature, many arise from deeper, psychological influences, and perhaps even arise from evolutionary biological forces in their development and expression in human

behavior. In some cases, pricing professionals can use an understanding of decision-making biases in purchasing behavior to clarify the limits of their pricing power and uncover new approaches to pricing. The psychological influences on price sensitivity may be as much as result of how the brain works as it is a result of cold rational factors regarding economic welfare [5, p. 80].

There are many factors that influence a customer's price sensitivity, and managers need to understand these factors long before setting a price to various market segments:

– *Perceived Substitutes Effect* – this effect states that buyers are more price sensitive the higher the product's price relative to its perceived substitutes. New customers to a market may be unaware of substitutes, and thus pay higher prices than more experienced buyers.

– *Unique Value Effect* – buyers are less price sensitive the more they value the unique attributes of the offering from competing products. This is precisely why marketers expend so much energy and creativity trying to differentiate their offering from that of their competitors.

– *Switching Cost Effect* – buyers will be less price sensitive the higher the costs (monetary and nonmonetary) of switching vendors.

– *Price-Quality Effect* – buyers are less sensitive to a product's price to the extent a higher price signals better quality.

– *Expenditure Effect* – buyers are more price sensitive when the expenditure is larger, either in dollar terms or as a percentage of household income.

– *End-Benefit Effect* – buyers are more price sensitive whether the purchase price accounts for a larger proportion of the cost of the end benefit and less price sensitive for a small proportion.

– *Shared-Cost Effect* – the smaller the portion of the purchase price buyers must pay themselves, the less price sensitive they are.

– *Fairness Effect* – buyers are more sensitive to a product's price when it is outside the range that they perceive as 'fair' or 'reasonable' given the purchase context.

– *Reference Price Effect* – buyers are more price sensitive the higher the product's price relative to the prices of the buyers' perceived alternatives.

– *Difficult Comparison Effect* – buyers are less sensitive to the price of a known or more reputable product when they have difficulty comparing it to potential alternatives.

– *Price-Quality Effect* – buyers are less sensitive to a product's price to the extent that a higher price signals better quality.

– *Expenditure Effect* – buyers are more price sensitive when the expenditure is larger, either in currency terms or as a percentage of household income.

– *The Framing Effect* – buyers are more price sensitive when they perceive the price as a 'loss' rather than as a forgone 'gain', and they are more price sensitive when the price is paid separately rather than as part of bundle [6, p. 181–185; 7, p. 84–104; 5, s. 80–95].

Price Sensitivity Meter (PSM) method was introduced in the 1970s by Peter van Westendorp<sup>1</sup> and it is probably the most often used research approach when doing pricing research on an individual product or concept. This method is based on psychological and sociological principles and aims to examine perception [8, p. 550]. The PSM method takes into account concerns about low prices possibly indicating low quality as well as too high pricing. It is suitable for new product development, and it aims to establish limits of price elasticity, or price thresholds. The VW model is based on the assumption that reasonable prices exist for consumers in every category and for each perceived level of quality within a category. Consumer price decisions are made by balancing value against price; and there is an upper and lower bound to the price a consumer will pay for a product or service. Data elicited in the VW process consists in the answers to four indirect questions to calibrate price from different perspectives: *Cheap, Expensive, Too Cheap, Too Expensive* [9, p. 170-171]. The premise of the PSM is to ask respondents four price-related questions and then evaluate the cumulative distributions for each question. Specifically, respondents are asked:

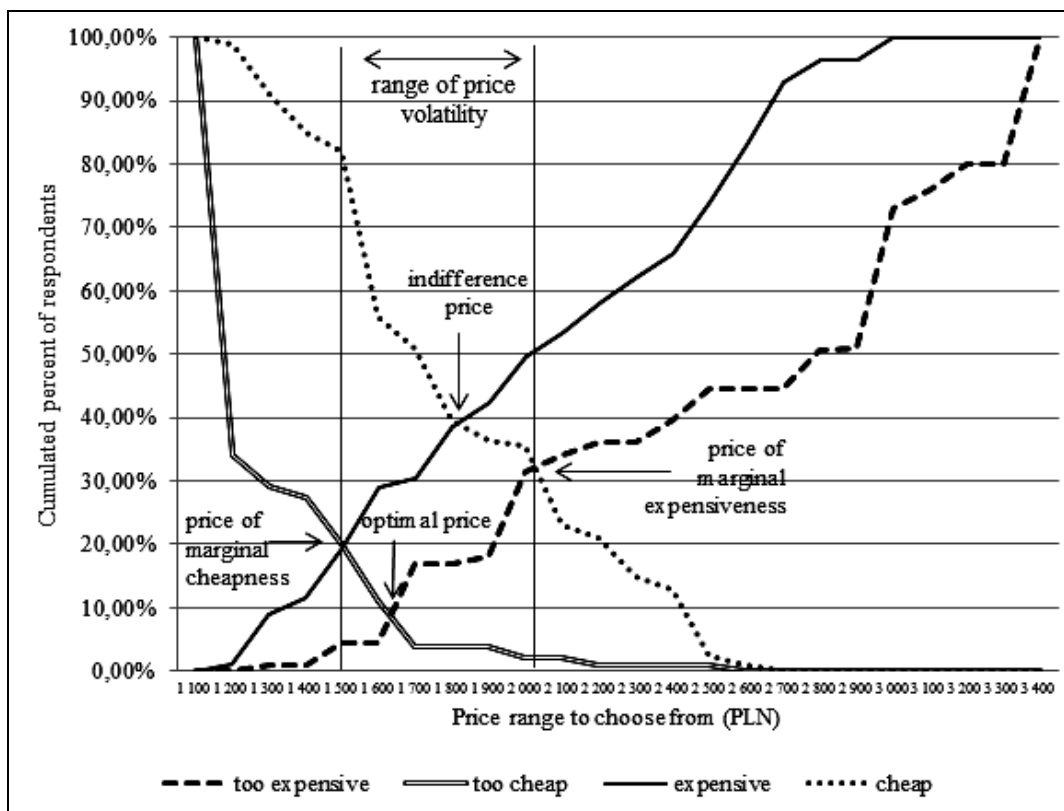
1. At what price would you consider the product to be so expensive that you would not consider buying it? (*Too expensive*).

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<sup>1</sup> Because of the author's name PSM method is also called the VW model or VW approach.

2. At what price would you consider the product to be priced so low that you would feel the quality couldn't be very good? (*Too cheap*).
3. At what price would you consider the product starting to get expensive, so that it is not out of the question, but you would have to give some thought to buying it? (*Expensive*).
4. At what price would you consider the product to be a bargain – a great buy for the money? (*Cheap*).

With this method, the optimal price point for a product is the point at which the same number of respondents indicate that the price is too expensive as those who indicate that the price is too cheap [10, p. 5]. According to K.B. Monroe it is useful to ask respondents to indicate those prices that are acceptable as well as those prices that are unacceptable. The reason for these questions is fact that, generally, most buyers are willing to go a little bit higher or a little bit lower before they completely refrain from a willingness to purchase [11, p. 232]. A fifth question is sometimes asked: what price do you expect to pay? [8, p. 551] or: what price would be the most acceptable price to pay? [11, p. 232]. For each of the four price questions the cumulative frequencies are plotted against the current price on the same graph (but the *Too Cheap* and *Expensive* curves are displayed in the reversed direction) – see graph 1.



Graph 1. An example of classical PSM analysis

Source: own research.

The intersection of the reversed *Too Cheap* curve with *Cheap* curve according to VW approach is called the point of “marginal cheapness”. The intersection point of the reversed *Expensive* curve with *Too Expensive* curve is called “marginal expensiveness”. The range between these two points shows the area of the price acceptable for most consumers. The intersection of the *Cheap* and the reversed *Expensive* curves also correspond to the “indifference price” point, where there are an equal number of respondents for both these questions. The intersection of the reversed *Too Cheap* and *Too Expensive* curves defines the point of “optimal pricing”. This intersection point is recommended price and the other questions hopefully illuminate the likely acceptable range of price [12, s. 29]. Customers have a reference price when there are many substitutes, and as long as the offering is within that range—sometimes referred to as a zone of

indifference it will be considered acceptable, the point being your marketing can influence which products customers will compare yours with, possibly pushing up the price they are willing to pay [6, p. 181].

A key limitation of this approach to pricing research is that respondents' ability to answer these questions is dependent upon their having a good reference price. Reference price is standard against which the purchase price of a product is judged [13, p. 84]. Reference price is formed from experience of previous prices either through purchase (i.e., paying the price) or observation [14, p. 640]. The manner in which past prices affect the perception of current prices is known as the *reference price effect* [5, p. 91]. A price in combination with a reference price, whether accurate or not, allows a consumer to determine whether it is better to buy here and now or to wait and buy elsewhere [15, p. 194]. Researchers have found that for almost any product that is not a direct line extension, respondents will not have a good reference price. In a large sense, PSM becomes a test of price awareness rather than a measure of price sensitivity which limits the approach's ability to properly estimate premium prices. A frequently used adaptation to address the reference price issue is to ask the four PSM questions limited to a large range of prices. This does provide better results for categories where the reference price is difficult to pin down but it does lower the sensitivity of the approach and is not applicable for all products and categories. PSMs are applicable for individual product or concept evaluation when an understanding of the competitive context is limited and the pricing issues revolve more around relevant price thresholds than price sensitivity [10, p. 5]. Researchers emphasize that respondents often overstate their price sensitivity, results can be unstable as even small changes in the sample can result in large changes in the price curves, and the range of acceptable prices can be quite large [9, p. 171]. What is more, according to some researchers, many PSM respondents give figures that are internally inconsistent [16, p. 181]. Problem survey research lies in the fact that many consumers provide the answers that are less reliable guidance as to their actual behavior in the market [17, p. 206]. In connection with the identified bias that characterizes direct price questions, it is recommended that conclusions should be tested with other studies such as monadic method or trade-off analysis [12, p. 29]. It is also crucial to understand how different price components are perceived by customers, e.g. how much customers focus on prices and which levels they perceive as 'low', 'high' and 'fair' [18, p. 102].

According to P. Waniowski, PSM method is rarely used in Polish enterprises – it is related, on the one hand with the lack of tradition in this field and on the other hand with the fact that the new product may be perceived differently by manufacturers (and retailers) and different by buyers [19, p. 209]. The first possibility is that bidders often can not see the top features that make the product is perceived as new by buyers, although in reality, it is often only a slight modification of existing products. The second option provides a situation in which the manufacturer trying to impose “new products” purchasers who do not perceive these products as something genuinely new. It is emphasized that this is a subjective assessment of the new features made by buyers is directly related to their willingness to accept a certain level of prices – the acceptance of the money is for companies to hint at what price range it is possible to set the prices of the product [19, p. 210].

**Article objectives.** The aim of this article is to identify changes in acceptable price range and an optimum price level depending on changes in the characteristics of the durables goods. Implementation of such a research goal comes down to find the answer to the question: For which elements of the offer, consumers are willing to pay more?

**Presentation of main materials.** The survey (paper questionnaire) was conducted on a sample of 200 respondents from Lubelskie Voivodeship, who in their households are responsible for decisions about purchasing durable goods; the duration of the study: January – June 2014. Respondents have represented both consumers with fresh buying experience (realization of purchase at least one of the three products in the past 12 months), as well as consumers who have purchased product earlier than one year from the time of the research. Participants were 103 (51,5 percent) men and 97 (48,5 percent) women. Age of the participants ranged from 20-24 to 60 plus, net income per capita in household ranged from less than 300 PLN<sup>2</sup> to 2001-3000 PLN, there was no respondent with higher income (table 1).

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<sup>2</sup> 1 EUR = 4,2043 PLN; <http://nbp.pl>; access 02.11.2014.

Table 1

Percentage distribution of net income per capita in respondents' household

Net income per capita in household (PLN)	Percent of respondents
Less than 300	0,5
301–500	14,5
501–1000	27,5
1001–1500	30,5
1501–2000	24,0
2001–3000	3,0
More than 3000	0,0

Source: own research.

The author has applied a modified version of the PSM method (*Price Sensitivity Measure*) – the modification of method was to develop four variants of the same product – after the evaluation of one variant respondent passed to the next description, which was different in relation to the previous one only one criterion:

Option I – output product description.

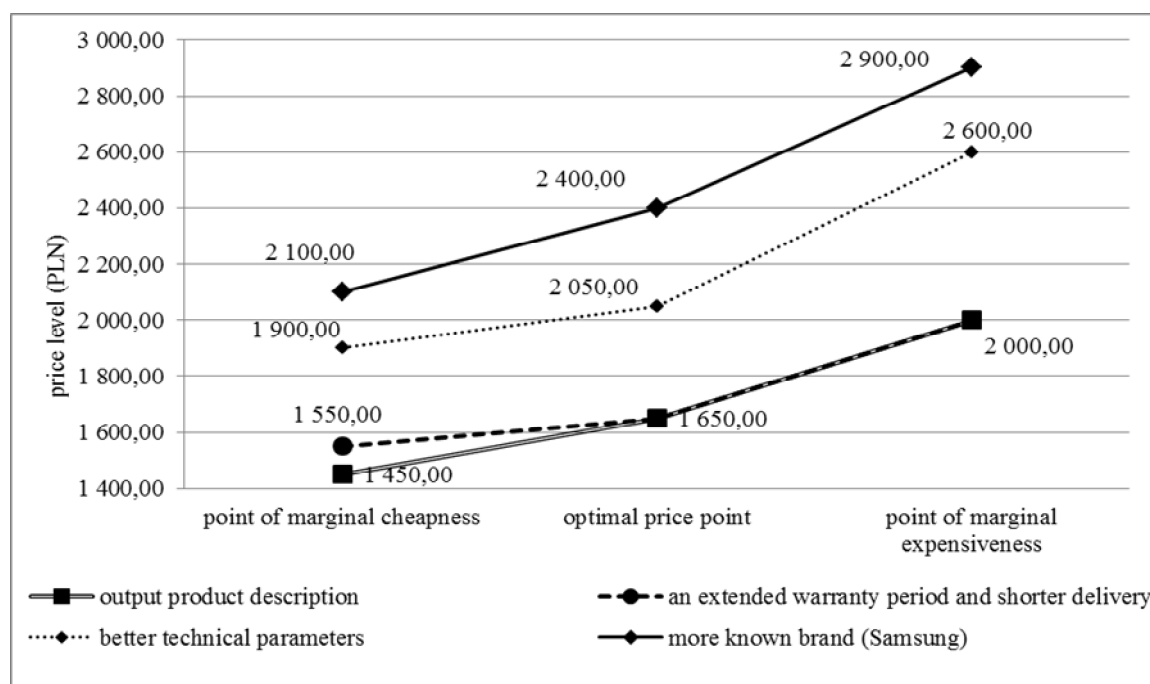
Option II – an extended warranty period, and shorter delivery.

Option III – the option of installment buying (sofa and refrigerator), better technical parameters (television).

Option IV – better material (couch) or more known brand (television and refrigerator).

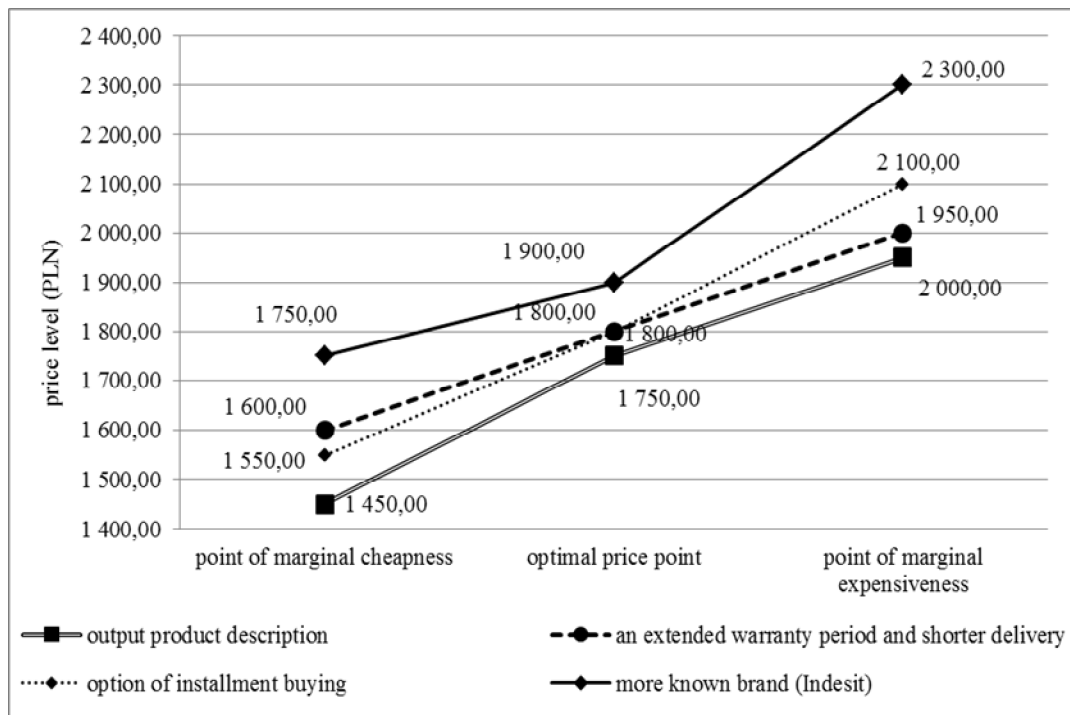
Respondent was aware of four descriptions of the three products from categories of durable goods (total 12 descriptions) – furniture (sofa), kitchen appliances (refrigerator), consumer electronics (television).

Graphs 2 and 3 present the results of the modified PSM method for two of the three analyzed products, while table 2 contains a summary of all variants offers.



Graph 2. TV – summary specification

Source: own research.



Graph 3. Refrigerator – summary specification

Source: own research.

Table 2

**The results of the PSM analysis – summary specification (Polish currency, PLN<sup>3</sup>)**

	Option I	Option II	Option III	Option IV
	output product description	an extended warranty period and shorter delivery	option of installment buying	better material – natural leather
sofa				
<i>point of marginal cheapness</i>	1 500,00	1 750,00	1 800,00	2 000,00
<i>optimal price point</i>	1 900,00	1 950,00	2 000,00	2 100,00
<i>point of marginal expensiveness</i>	2 100,00	2 400,00	2 450,00	2 650,00
refrigerator				
	output product description	an extended warranty period and shorter delivery	option of installment buying	more known brand (Indesit)
<i>point of marginal cheapness</i>	1 450,00	1 600,00	1 550,00	1 750,00
<i>optimal price point</i>	1 750,00	1 800,00	1 800,00	1 900,00
<i>point of marginal expensiveness</i>	1 950,00	2 000,00	2 100,00	2 300,00
television				
	output product description	an extended warranty period and shorter delivery	better technical parameters	more known brand (Samsung)
<i>point of marginal cheapness</i>	1 450,00	1 550,00	1 900,00	2 100,00
<i>optimal price point</i>	1 650,00	1 650,00	2 050,00	2 400,00
<i>point of marginal expensiveness</i>	2 000,00	2 000,00	2 600,00	2 900,00

Source: own research.

<sup>3</sup> 1 EUR = 4,2043 PLN; <http://nbp.pl>; access 02.11.2014.

**Conclusions and prospects for further research.** The main conclusion from the study is an indication of the great importance of the brand as this element of the offer, which – according to buyers – is the greatest justification for the acceptance of the higher product price. In turn, the least important is the ability to installment buying. It is related to the fact of deferred payment – to the consumer, who practice installment buying price is not so significant because at the moment of purchasing it is not necessary to regulate the total amount due, therefore, the amount of money is not so important. In contrast, the preferred variant of the warranty period for the product purchased has a greater extent justifies the higher price. In the case of consumer electronics greatest differences were visible in the optimal price point, as well as in boundary prices – prices which create the acceptable price range (point of marginal cheapness and point of marginal expensiveness). TV example shows the importance of the issue of perceived quality – version of the product with better technical options was higher valued by respondents, but absolutely brand contributed to the acceptance of the highest price.

Without a doubt, the issue of the perceived quality of durable goods requires further exploration. The perception of quality from the price perspective (*price-quality effect*) is all the more intriguing to researchers that the available publications provide inaccurate (often contradictory) conclusions. It is also worth paying attention to the differences between products in the ranges of acceptable prices and an optimal price levels – it demonstrates the differences in the perception of the individual products of the durable goods category. Due to the rapid technology development consumer electronics is the most selling product (in the household) of the three products included in the study. In this connection, it is worth focusing on the issue of the relationship between frequency of purchase (exchange for a newer model) and price sensitivity.

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