
Required conditionalities in applying public choice theory in the field of public utility services

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Abstract

Adapting public policies on public utilities to collective expectations of the population has always been a challenge for both central and local public authorities in Romania. The present article aims to highlight issues of applicability limits of the theory of public choice. The general objective of this research is to prove that the practicability of public choice requires conditionality of financial affordability. In this regard we use a theoretical analysis on the possibility and conditions of use of the theory of public choice in practice and an empirical analysis based on statistical data which illustrates an up to date comparison of the payment capacity of the sanitation services, adapted to European standards, of the population of the four counties of the Western Region of Romania, Timis, Arad, Caras-Severin and Hunedoara. We considered relevant to our study official statistics on the age structure of the population, employment, unemployment, social assisted individuals, students and pensioners and the average income of all these categories. The analysis results indicate that there are major discrepancies of the payment capacity and financial endurance between the population of the four counties and that the substantiation of charging public services using the principles of public choice would be unsustainable financially for a large part of the population. After clarifying these issues, the main conclusion of the study is that public choice theory application using the majority's autonomy is possible only through an association of financial affordability barriers. The relevance of the study is to address and propose solutions to the difficult context crossed by Romanian public authorities to find integrated solutions, so as to develop community services at European level, but at the same time to remain in the sphere of needs and payment possibilities of citizens.

Keywords: Public choice theory, development associations, Western region, public policy, policymakers.

JEL Classification: H72, H76.

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Introduction

Public choice options are a barometer of the population's options, so its understanding and application by the policy makers can develop the results and effects of public policies implemented. The current context of Romania, of increasing the quality and covering the services of public utilities regarding them require a special attention and a thorough analysis of how policymakers intend to resolve these challenges.

The general objective of this research is to prove that the effective application of the principles of public choice requires conditionality of financial affordability when addressing services or public goods, involving costs for the population. Imposing a pecuniary conditionality, as a dimension in grounding options, offers a real and practical image of the choices resulted.

The novelty and relevance of the chosen theme are conferred as it addresses a current problem faced by public policymakers in Romania. The article deals with a need for adaptability with double valence: European standards and expectations of the population. Thus, the present study may represent a guide for policymakers in the field of public utilities.

Research methodology is based on a statistical analysis comparing statistical data essential for shaping an image on revenues of a wide range of people and their ability to pay.

The present study consists of three parts. The first part comprises the contextualization of the public choice theory and shows the limits of its application, considering the major deficiencies of its practical application, illustrated by the scientific community and providing a solution to them. The empirical analysis is presented in the second part of the paper, treating a topical issue arising due to the joining of Romania at the European Union and the need to develop community services at European standards. In this view, it will be analysed the particular case of considering the establishment of tariff limits to the sanitation service in the counties of the Western Region. In the final part of the paper, we present the study findings and propose settlement of the problems encountered.

1. Literature review

The present research complements a rich literature on public choice theory, with multiple and very different

opinions. A basic element of public choice is represented by the seek to the aggregation of collective options in order to shape collective and social preferences, generally applied to all voters. This paper proposes a different approach, which takes into account the disaggregation of public policy in several directions so as to meet the distinct preferences of the groups of voters and even the shaping of a legal framework to protect those who represent social cases. We start our research efforts by the contextualization of public choice theory.

Boadway and Wildasin (1984) defined the public choice as a way in which ideals and expectations of individuals regarding public goods and services get to be integrated into public policies developed by policymakers, considering a degree of empathy and adaptability of them to some collective will. Moreover, Lobonț and Moldovan (2014) show that the rights and freedoms of citizens to participate in public decisions are clearly stipulated in the documents of international importance: Universal Declaration of Human Rights proclaimed by the United Nations General Assembly in 1948, the European Charter of Human Rights, The Protection Convention of Human Rights and Fundamental Freedoms of 1998. However, we consider important the distinction between public choice theory and an adapted form of it, which can be applied in practice. In this regard, we consider that the interventionist role of the state is important in adapting policy according to financial criteria in order to protect the population with reduced payment possibilities for some public services involving fees or prices. We support this role even if in this way it exceeds the framework of collective majority choice because individual preferences of citizens are not made in the spirit of collective empathy, but are a subjective result of its own analysis.

Our society is characterised by a pluralism of values, ideals and needs. Thus, it is impossible to get unanimous collective decisions. However, public goods and services involve an important distinction regarding the existence or inexistence of associated monetary components. We can identify goods and services that citizens can enjoy freely and public goods and services that they can benefit on charge. Needs, wishes and preferences of people evolve with time. Romania's quality of EU member state, globalisation and the trend of increasing the quality of life offered Romanians other

meanings and other expectations in respect of public goods and services. However, the financial contribution contributes to the issue of preferences, considering that the level and quality of services and goods is directly proportional with fees and charges associated. In these circumstances we believe that a real application of public choice process should be made as often as possible, partly for each important decision, to be adopted at central and local public administration level. Still, such a process would hamper the effective implementation of public policies, but would always have the representativeness of collective choice. To give real scope to this proposal, it may condition its application only to special cases. An example of such a situation would be cases involving the basic services that impose charging for the population.

Identifying a collective decision is an almost impossible task. Arrow (1951) and Black (1948) have started two opposite analysis, one concerning the possibility of aggregating individual decisions in a collective decision and the other of disaggregating the outcome of a vote. Both authors have discovered the phenomenon of "majority cycle", also known as the Condorcet paradox, meaning Candidate 1 is stronger than Candidate 2, Candidate 2 is stronger than Candidate 3 and Candidate 3 is stronger than Candidate 1. The Condorcet paradox occurs when each candidate is defeated by at least one of his opponents competing, thus being unable to determine the winner of a unique series of individual comparisons. Arrow (1951) studied whether it is possible to outline a general order, a 'social' one of preferences, which should be the result of aggregating individual preferences order of citizens. The conclusion, not surprising at all, was that it is impossible to result in a universally accepted order of each individual without imposing restrictions and conditionalities.

Conditionalities proposed by Arrow (1951) were strictly related to the correctness of proper administration of choice, the choice of rationality and trying aggregation. An essential condition which should be included when elections are based on a proposed payment component is the voters' ability to pay and their affordability limit. Phenomena subject to a vote, to the ordering of collective preferences involving financial stake of the voters, deserves more attention. Black (1948) found that if preferences are arranged along a single dimension, every order of preference having a single point of maximum utility or ataraxy, would not lead to the appearance of the phenomenon of Majority cycle. This

discovery of Black (1948) is called the median voter theorem. Basically, it argues that any system of public election will result in the median voter position. It had to be pointed out that the prerequisites adopted by Black (1948) are difficult to obtain in practice. The condition of ordering preferences in line with one dimension is restrictive for most public election. Any decision or preference is based on several explanatory variables and reducing any analysis based on a single variable would lead to inconclusive results.

Buchanan (1954a, 1954b), following the work of Arrow (1951) and Black (1948), launches an opposite approach to the two authors. If the latter looked for ways to sanitise the phenomenon of Majority cycle, Buchanan (1954a, 1954b), encourages it. The principle behind this encouragement is very simple: cyclical collective choices allow periodically that the minority to become part of the majority, which offers a very good representation of all voters periodically, cyclically. In full agreement with Buchanan (1954 a, 1954 b) in terms of representativeness, it is nevertheless to be pointed out that such an incentive can produce an overall instability and can create the prerequisites to the failure of any public program because of frequent changes of opinion and direction.

Having identified some shortcomings in the voting system, the Swedish economist Wicksell (1896) proposed the alternative of unanimously vote. Such a vote option comes in direct contradiction with one of the principles supported by Arrow (1951) in the impossibility theorem; the lack of dictator can influence the outcome of the vote by their own option. The model proposed by Wicksell (1896) requires that any voter can change the outcome of the ballot by a vote "against". This possibility was later identified by Wicksell (1896) himself, who then proposed a vote option requiring 5/6 of voters to be valid. However, in the economic and social reality in which we live, it is unlikely to emerge 5/6 majority opinion of all voters. Groups or trends of opinion and implicitly order of preference are a consequence of economic, social, cultural, ethnic and political components. People who have the similar economic, social, cultural developments tend to form a group of a similar opinion.

One of the basic premises of the application of public choice is that people make choices in terms of rationality. Another accepted condition is that policymakers act in light of the collective interest, not to

promote their own interests. However, the question could arise if voters, electors, have the necessary probity, the experience and knowledge to manifest some choices. Also, we wonder how we ensure that policymakers will always watch over the common good and not become biased in exercising functions and dignity. We propose a solution to two questions into one answer of compromise: *public policies to be the result of a joint decision of civil society and policymakers in different ways, depending on the nature of the problems analysed*. In light of what has been mentioned before, the foregoing analysis of the projects' or programs' feasibility and sustainability proposed by political factors must be supported by an opinion of the beneficiaries and their hierarchy. In some situations, a view of the civil society can help decision makers to adapt public programs so as to satisfy a greater share of beneficiaries.

Ross (2009) examines public administration in terms of inputs and outputs for compliance with the principles of economy, efficiency and effectiveness arguing that management representatives in local government should carry out administrative tasks so as to ensure better use of local resources (human, material, financial), towards achieving the objectives. Analysing the premises proposed by Ross, we added that higher attention deserve the outcomes, the actual results of the implementation of projects. It requires a thorough analysis of the response of beneficiaries, represented by the public and businesses, to certain outputs. These reactions can be estimated by applying the theory of public choice. No matter how great the inputs, or how complex the outputs can be, a set of good outcomes is obtained by consulting beneficiaries.

An important point in the analysis of public choice must be the way in which individuals make their wishes known. An ideal system of application of public choice must continually monitor the collective desires. Becker (1983) shows that individuals become part of groups based on training, age, occupation, income, geographic area, and then is created a competition between these groups "of pressure" and the extent to which they influence political decisions thus creating a sort of balance. As shown by Arrow (1951), it is impossible for a collective decision to be obtained by aggregating multiple individual decisions. In addition, membership in a group can create subjective, biased individual decisions. Thus, developing Arrow's (1951) logic, each

group can become a "dictator" influencing the outcome of the vote. The formation and operation of a group involve identifying in time of a leader. The leader, who theoretically is placed in a common area of ideals with all members of the group could skid from this area and represent unfair, unjust group interests. Keep in mind the above; we consider it appropriate that the division of voters into groups should not occur. Each newly formed group, which launches one vote, one allocation of preferences, represents a setback for the relevance of functioning of the public choice theory and for election objectivity.

Sen (1999) proposes an interesting approach to development, through the freedoms offered to people. Of the freedoms proposed by Sen (1999), we can mention the freedom of opportunity and economic protection against poverty. Political factors should consider this theory in applying public choice theory. Public elections should be made especially in situations when expressing a vote regarding a phenomenon involving taxes or charges. In a system of charging the population, public decision makers bending public opinion should be at the maximum. Otherwise, it can lead to downtime phenomenon by the lack of tax collection. We appreciate that the taxation of services or public goods, especially those mandatory, should be made according to the affordability of the population, namely, the degree of affordability of individuals, and households with the lowest income.

An interesting approach to the way people make the choices is conferred by Boyle (2013). He asserts that people need not only information or data when they make choices, they also need a good interpretation of them. In full agreement with Boyle (2013), we believe it is the duty of the responsible authorities to help citizens give the right meaning to information and understand the public strategies. Moreover, the Office of Fair Trading (2010) argues that only motivated people or people with various interests will be involved in the process of public choice. Given that our work studies the prestige of public choice considering a financial dimension involved, we consider that the number of those interested is very high.

2. Method and data

By virtue of a framework for comparison between the counties of the Western region, we use the statistical

analysis to determine the payment capacities of the people from the considered counties: Timis, Arad, Hunedoara and Caras-Severin. In this respect, we consider the analysis of several socio-professional and age categories together with their contribution capacities.

Political factors cannot know the wishes of all citizens or a desire universally valid but must know the capabilities of individuals to support certain taxes or charges of public services. This is necessary, especially in the case of mandatory services. A practical example in this way is the sanitation service of the localities. Law No.101/2006 of the sanitation service of the localities shows that it is mandatory that every citizen to be subscribed to the sanitation service, and if he refuses, then to sign a contractual agreement with the operator of the service, delegated by the authority, the latter to establish a special health fee to apply to service beneficiaries who have not signed a contract with the operator delegated. Of all services of public utilities, the sanitation service has a unique place conferred by the compelling character of the government.

In order to manage the health service were set up Intercommunity Development Association (IDA), which is an associative form of all administrative and territorial units in each county: all local councils and the County Council. The need of Romanian community services to adapt to European standards in the field by respecting the specific Directives was achieved via support for European funding to provide as a condition for setting up such urgent need of financing the Development Associations, hereinafter IDA's. IDA's by their nature involve integrated management of services that they manage, ensuring a uniform level of quality of service delivery at the county level and require unitarian charging at the county level, making a single distinction between urban and rural areas.

The mandatory nature of the sanitation service is a perfect reason for IDA, as authority for the implementation and management of the service, to verify and analyse public option linked to the two dimensions of service provision: quality and quantity. It is pointed out that both dimensions proposed are directly proportionated to the service charge. We consider the quality of service as the number of

fractions collection, e.g. wet, dry, glass, polyethylene, aluminium, etc. and the quantity as the collection frequency: once every two weeks, once a week, twice a week, etc. We will verify if the public choice method is the most suitable method to determine the nearest option of performing and charging the service linked to the ideals of the population, analysing the particular case of the four counties in Western Region: Timis, Arad, Hunedoara and Caras-Severin. We will correlate next the order of preferences of the voters and their payment possibilities, and we assume that they vote in terms of rationality, knowing their ability to pay and considering a limit of affordability agreed to 2% of the revenue of every voter allocated for the sanitation service. This limit is the recommendation of the Managing Authority of the Ministry of European Funds and ANRSC for the charges applied for the sanitation service. If we assess the public choice's level of quality and quantity without payment conditioning of the service, surely most respondents would opt for high levels of quality and quantity of service provision, which ensures public health and environmental protection. Where payment capabilities are correlated with the vote, the results are different.

The present article contains an analysis conducted at the level of the year 2016, the year in which most of IDA's from the area of analysis began to produce management effects and to outline regulations for the operation of the sanitation service. Data regarding population structure are the results of the latest Census by the National Institute of Statistics, and revenues are also correlated at the level of 2016. Data about the total population of the counties and structure-activity correlated with the level of income earned by each category are relevant for our study.

Observing the data from **Table no. 1**, we notice great differences in wage income, up to 40% of the four counties counted. Also, the number of employees in the active population is very different from one county to another, with differences of up to 17%. Consequently, we try to determine, using public choice theory, an agreed level of service quality-quantity, according to the rates allowed by the population of each county.

Table no. 1. Situation on Countie

Country	Population	Population age 0-14	Population age > 60	Active population	Employees	Unemployed	Average salary	Average pension	Social assisted
Arad	454,073	65,445	96,372	208,500	111,434	7,241	1,726	716	3,520
Caraș-Severin	318,616	44,963	68,611	119,300	50,375	6,739	1,516	775	2,259
Hunedoara	457,932	62,014	97,338	187,300	106,870	11,155	1,597	949	3,379
Timiș	679,848	95,344	131,089	331,400	195,913	6,280	2,136	785	1,656

Source: centralization made by the author based on the National Institute of Statistics data

Table no. 2 indicates the percentage of each presented category of individuals reported to the total number of

residents from each county.

Table no. 2. Percentage of categories of individuals

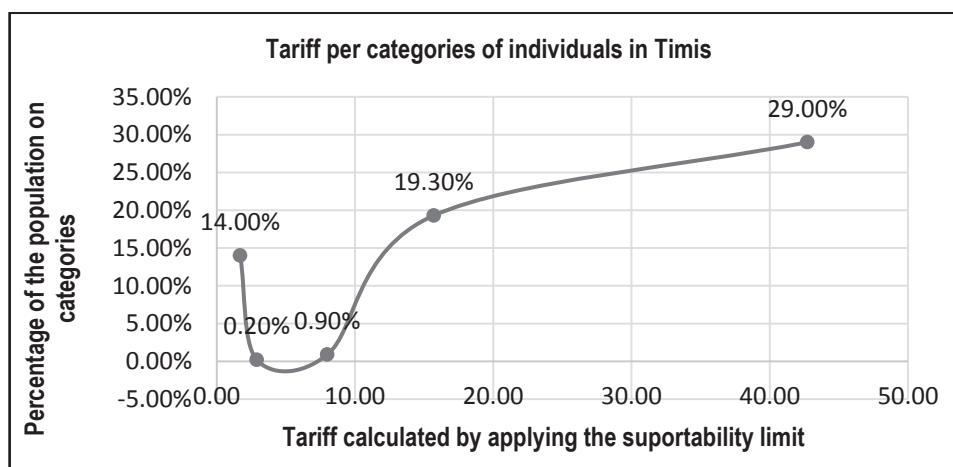
County	Percentage of total population				
	Population age 0-14	Population age >60	Employees	Unemployed	Social assisted
Arad	14.50%	21.20%	24.50%	1.50%	0.80%
Caraș-Severin	14.10%	21.50%	15.80%	2.10%	0.70%
Hunedoara	13.50%	21.30%	23.00%	2.40%	0.70%
Timiș	14.00%	19.30%	29.00%	0.90%	0.20%

Source: centralization made by the author based on the National Institute of Statistics data

Next we will determine the value of affordability up to the limit of 2% for the sanitation service for each category contained in **Table no. 2**, taking into account the average wage and average pension income from each

county, as well as students' income, the unemployed and social assisted persons' incomes, that are identical nationwide. By this, we mean student income allowance, unemployment benefits and social assistance.

Graphic no. 1. Evolution of supportability limits per categories in the Timiș County

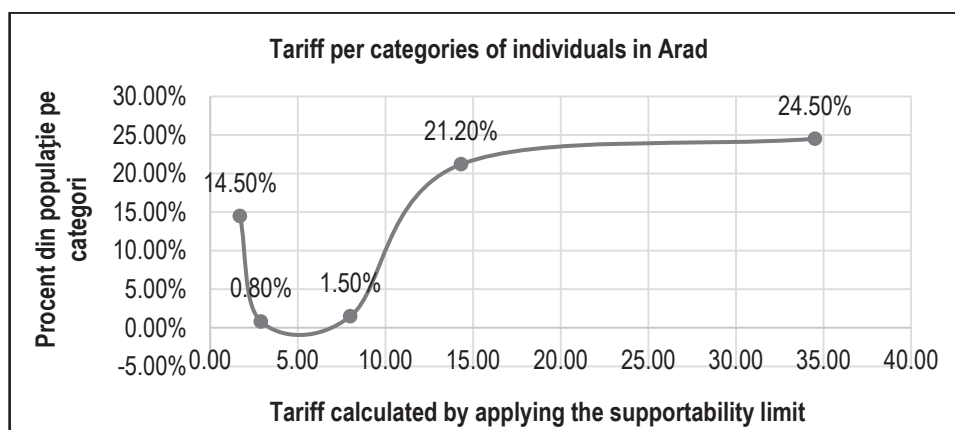


Source: personal projection

Graphic no. 1 indicates that there is no population majority of over 50% to have the same limit of affordability. However, it can be shaped a majority of the population that can support a tariff level of 15 lei/person/month, given that 29% of the population can pay 42.72 lei/person/month and 19.3% may pay 15.7 lei/person/month. Moreover, a weighted average affordability limit for the categories of people on income indicates a charge of 24.96 lei/person/month. This rate would exceed the limits of affordability of more than 35% of the county population, which would violate the recommendations of Sen (1999) of respecting the

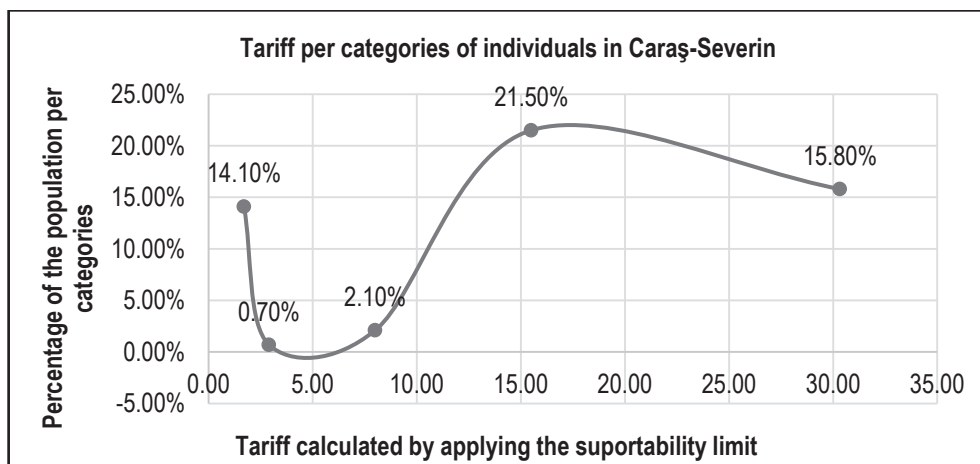
freedoms and avoiding poverty. In this way, by the power of example, a socially assisted person with a monthly income of 145 lei and must pay 24.96 lei for the sanitation service, allocates around 17% of its revenues for this service. Also, analysing **Graphic no. 1**, we can observe that the median voter theory of Black (1948, 1958) has no practical applicability, in this case, there is no middle point towards which to strive other options. This is due to large differences in income between the categories included in the analysis and the disproportionate nature of the number of persons in each category analysed.

Graphic no. 2. Evolution of supportability limits per categories in the Arad County



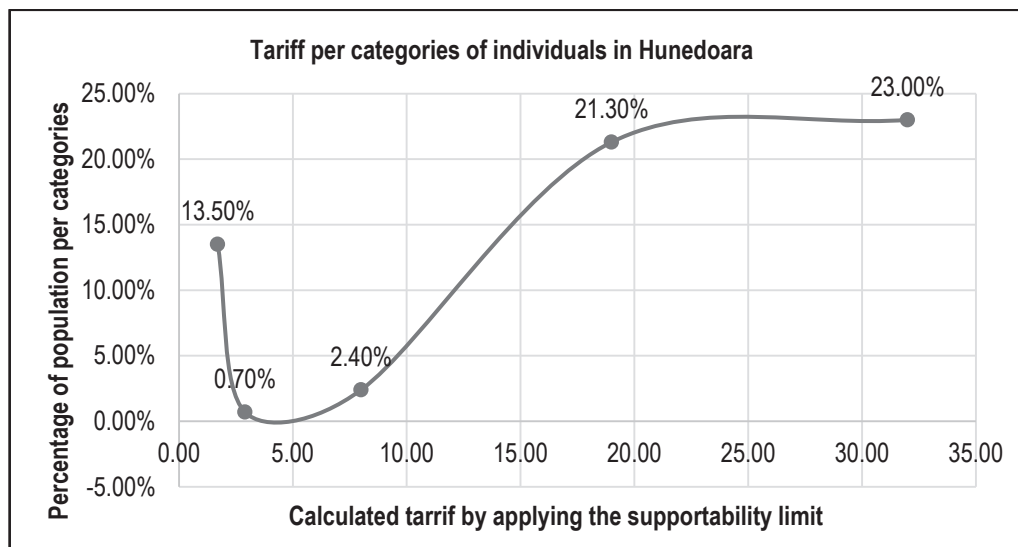
Source: personal projection

Graphic no. 3. Evolution of supportability limits per categories in the Caraș-Severin County



Source: personal projection

Graphic no. 4. Evolution of supportability limits per categories in the Hunedoara County

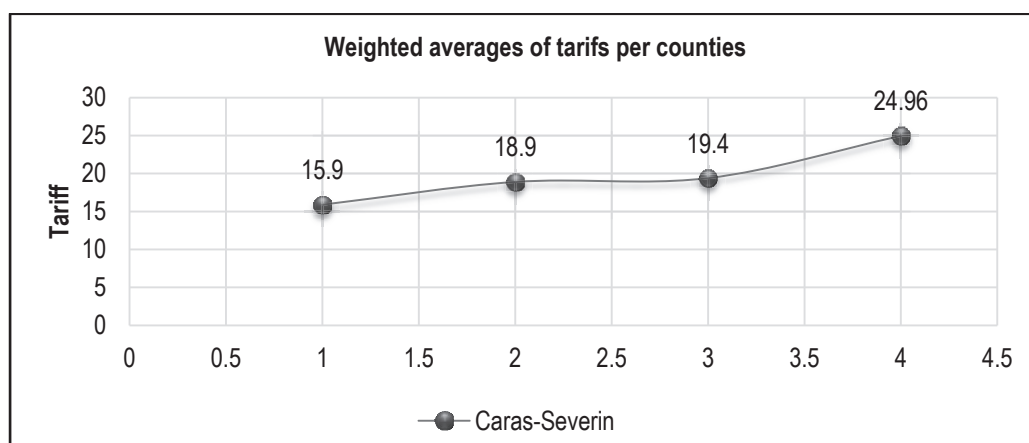


Source: personal projection

Further analysing affordability limits of categories included in our analysis and for the other counties in Western Region, Arad, Caraş-Severin and

Hunedoara, we see the same inability to aggregate individual options in a single group option.

Graphic nr. 5. Weighted averages of the four counties in the region



Source: personal projection

3. Results and discussions

The analysis of affordability limits and of weighted averages on the counties in the region shows large differences in affordability, of up to 57% between

Caraş-Severin (15.9 lei/person/month) and Timis (24.96 lei/person/month). Thus, a region-wide charge would be harder to establish, so as not to affect the broad categories of the population. A solution of setting a fair price for the case in question must be

primarily an analysis of regional disparities, not by region. Differences in income, population structure and limits of endurance between the four counties analysed did not include an integrated analysis of them. Instead of charging at individual counties level allows adaptation to the socio-economic county specific. Focusing on a fair charging in each county, we suggest for the situation we have analysed, a mandatory service, creation of facilities so that the categories of people with the lowest incomes as pupils, students, unemployed, socially assisted, to benefit from a quality service according to the European Directives in the field and remain within their affordability limits. We firmly believe that in this critical situation, IDA can create a pricing system that satisfies all the categories mentioned, which would be consistent with the vision of Wicksell (1896) of unanimous votes. Thus, it can be created an opportunity for each service user to choose his limit in terms of quality and quantity of the service provided, with the amendment that each one should receive the minimum necessary quality required by law and directives. IDA should impose a charging limit that service operators to practice in accordance with the above limits in our example and even to create the possibility of subsidising the service by local authorities for social assisted people and those without an income.

Conclusions

Compliance outlining a majority is an attribute of the democratic society in which we live. However, some situations such as the present one, accept exceptions to the rule. The sanitation service is not a luxury, but is essential for any person, regardless of the income. Its binding nature requires the protection of those with lower incomes. ADI establishment and operation at the level of each county from the western region and from Romania supports the idea of charging at the county level and not regional or national one, the differences in household incomes between counties being very high.

It is obvious that public choice theory cannot aggregate individual preferences. In some situations, such as the present one, nor can it identify a majority of preferences without adding multiple groups. Nevertheless, it remains an important landmark for political factors that, in situations like the one analysed, of the sanitation service, should identify pricing methods differentiated so as to be bearable for each socio-professional category and age.

Using as benchmark collective desires, financial protection of users and specific adaptation to the socio-economic structure and specificity of each county, decision makers can create public service to be performing and at the same time sustainable and appreciated by the population.

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