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**PUBLIC WILLINGNESS AND ABILITY TO PAY
IN THE MUNICIPAL WASTE MANAGEMENT
IN THE WROCLAW TOWN REGION**

1. INTRODUCTION

The paper falls into four main sections: introduction, executive summary, the description of the research and final conclusions plus an appendix with the questionnaire form. Section three is the description of the empirical research. Section 3.1 describes the study of the type willingness-to-pay and its goal. Section 3.2 introduces the methods applied to the study, and the representative method in particular, as well as the inquiries and description of the subject of the study. Section 3.3 describes the subject of the study. Section 3.4 provides general conclusions from the survey without analyzing the structure of the examined sample. A cross-sectional analysis is given in section 3.5 along with the five criteria used: type of household, place of residence (district), size of household (number of persons), income and kind of housing (house/flat). Final remarks (section 4) and the questionnaire form conclude the paper.

The results in section 3.4 are shown in the following way:

- main conclusion,
- statistical-graphic representation,
- explanation of the conclusion.

The main conclusion is a general description specified in the question. Statistical-graphic representation shows the distribution of answers gathered in the study. Explanation of the conclusion provides additional information received by the inquirers while collecting the questionnaire surveys.

2. EXECUTIVE SUMMARY

An investigation on the willingness and ability to pay has been conducted applying the representative method. The method concerned is of special significance for researching large populations. Hence it is suitable for the city of

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Wrocław whose population amounts to 640 thousand inhabitants. The representative method is widely used in all the investigations aimed at an accurate (with an error to be adequately low) examination of a given phenomenon.

Based on the representative method, the size and internal structure of the sample has been determined. It consists of 650 households. The structure of the sample has been subordinated to the following criteria:

1. permanent residence of respondents (households), taking into account districts and urban units,

2. kind of house/apartment occupied; the following classes have been distinguished:

a. in scattered housing: single-family ownership house, two or three family ownership house, others,

b. in multi-family housing: multi-family ownership houses, multi-family communal houses, multi-family co-operative houses, others,

3. occupational status of households (employees, pensioners),

4. number of persons in a household,

5. *per capita* income level (in a given household).

The sample has been chosen this way so as to make it representative (within permissible error) from the point of view of criteria applied for the structure of the investigated population. The questions prepared were to elucidate two essential issues: what is the propensity of inhabitants of Wrocław to pay more for refuse removal, what is the real willingness to pay increased fees for refuse removal. Additional questions served to elucidate the following matters: what is the actual commitment to ecological issues, including the propensity of respondents to involve additional inputs (money resources, time, own labour), how the hitherto existing municipal waste management system is being assessed, what are the motives of respondents' environmentally friendly behaviour patterns or, conversely, why they fail to undertake actions which may benefit the natural environment.

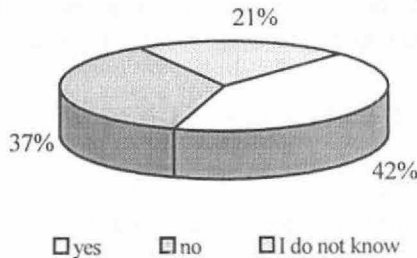


Fig. 1. Propensity of Wrocław inhabitants to incur higher fees for the refuse removal (percent)

Source: own analysis based on the questionnaire survey.

Analysis of propensity to incur higher fees for refuse removal among Wrocław inhabitants enables us to draw several essential conclusions:

- Two thirds of households incline (stronger or weaker) towards paying higher fees for refuse removal. This population consists of households that explicitly declared themselves for incurring increased fees (42%) or are not bent on doing this (21%) because of the scale of expected changes in fees and not the fact of their occurrence as such.

The majority of households tend to incur higher fees even if this was to result in the necessity to change the structure of household expenditures. This relates to employees' households in particular.

- An overwhelming majority of households declaring their willingness to pay higher fees accepts moderate changes (up to 50%). They rarely accept changes up to 100% and only exceptionally above it.

- There appear considerable differences between the households of employees and pensioners in the revealed propensity to incur higher fees for refuse disposal.

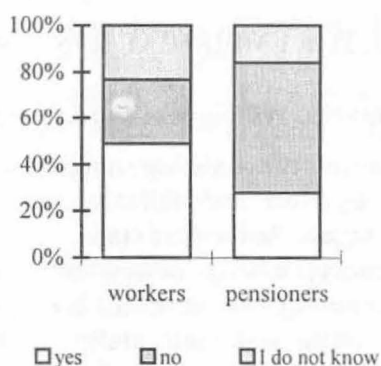


Fig. 2. Propensity to incur higher fees for refuse removal among the households of employees and pensioners (percent)

Source: own analysis based on the questionnaire survey.

For the employees' households, an explicit propensity to pay higher fees reaches nearly a half of the population, whereas a similar part of pensioners' households is firmly against increased fees.

- A conclusion which may additionally validate the above indicated research findings is a commonly accepted view that the fees being paid currently are not high and are of a rather inconsiderable role in the structure of households' expenditure (with the share below 1% threshold).

- Taking into consideration the structure of households' expenditures, and the share of fees for refuse removal, as well as a reported lack of necessity to give up other expenditures, a well justified conclusion can be drawn that most households can afford the payment of increased fees for refuse removal. An additional confirmation of this conclusion can be considered the negative answer to the following question: will the higher fees concerned become an incentive for households to reduce the quantity of waste disposed of.

- Conclusion about a satisfactory level of the propensity of Wrocław households to incur higher fees for refuse removal can be regarded as justified also with respect to a quite commonly expressed commitment to ecological problems and the preliminary declared willingness to sort waste at source.

Final conclusion: The research conducted has proven the existence of quite common and strong propensity of Wrocław inhabitants to incur higher fees for refuse removal. The households possess adequate financial reserves as to be able to pay the fees referred to without making their standard of living fall significantly.

3. THE EMPIRICAL RESEARCH

3.1. Introductory remarks. Willingness-to-pay study. The aim of the study

The transformation of the existing municipal waste management in Wrocław which is imperfect and fails to function properly, has been conducted in several stages. At the first stage, i.e. the analysis of the present situation, it is necessary, among others, to recognize the inhabitants' willingness to pay more for the removal, storage and utilization of the communal-residential waste and their ability to pay more. To this aim Wrocław inhabitants were examined by means of the representative method and inquiries conducted by the inquirers.

The willingness-and-ability-to-pay method (often referred to as the method of declared preferences) is frequently used to evaluate environmental benefits and is applied when, for instance, non-market data is required. It is widely used in combination with other techniques for economic evaluation of environmental components and in most cases when the environment is endangered or when there is a need to evaluate some future activities meant for environment improvement. In some cases this method is the only one applicable.

The willingness-and-ability-to pay method is conducted by means of various techniques, the most popular one being the questionnaire survey

with additional inquiries applied in the Wrocław study. The respondents were selected by the statistical representative method. Therefore, it is possible to generalize the findings and apply them to the whole of the Wrocław population, excluding the statistically possible error.

The main objective of the study conducted by means of the method of declared preferences was to gain an insight into the willingness and ability to pay higher fees for the removal, storage and utilization/neutralization of communal-residential waste from Wrocław households.

3.2. Methodology

The analysis of willingness and ability to pay was conducted by the representative method which is useful in studies of large populations, and the Wrocław population amounts to 650,000. The method is applicable especially in surveys aimed at a precise examination of the phenomenon observed (with an adequately small error assumed). This concerns studies of varying character and focusing on the distribution of opinions on a given subject in the chosen population.

The representative method has several advantages. First, it is possible to accurately describe the population in terms of the characteristics in focus (with the assumed level of accuracy). Second, the costs of an examination by means of this method are much lower than the overall statistical examination, especially in large populations. Quite frequently the costs are much lower and the results more accurate than with other statistical or heuristic methods of analysis. Third, the final analysis of the findings is easier which is important when one is working against time; besides, analyzing huge statistical data is time-consuming, despite modern computing technology.

An accurate application of the representative method provides quality findings under several conditions:

1. A probability sampling scheme is used, i.e. for any subject (a household) in the population the probability of being included in the sample should be known and positive. At the same time, for any subject in the population, the probability of being included in the sample can be estimated.

2. An accurate sample is sufficient (as far as the goal of the survey is concerned) which means that the difference between the real value of the parameter and the value gained in the study must be small enough.

3. The selected sample must be representative, which means that the values of the parameters calculated from it must be accurate enough and statistically unbiased, i.e. the expected value is equal to the estimated value of the parameter.

The method of the selection of the sample for the willingness-and-ability-to-pay study meets the requirements of the representative method. The selected sample involved 645 subjects.

3.3. Description of the subject of the study

The structural description of the sample was given by five parameters, which seem to have been very important for the goal and representativeness of the survey. They are the following:

1. the type of household – falling either into the category of employees or pensioners,

2. the respondent's place of residence (household) in a district (Psie Pole, Krzyki, Śródmieście, Stare Miasto, Fabryczna) or an urban unit,

3. the number of persons per household with 1-,2-,3-,4-,5-,6-,7- persons and over per household,

4. per capita income level; very high – three times or more higher than the country mean salary; once- or twice as high as the country mean salary; average, similar to the country mean salary, low – below the country mean salary, and very low – far below the country mean salary, close to so-called subsistence.

5. type of housing, scattered: own detached houses, own two-three-family houses and others (tied flats); non-scattered: multi-family houses, council multi-family houses, co-operative multi-family houses and others (tied flats).

The sample was selected in such a way as to reflect, within the permissible error, the structure of the whole examined population in terms of the afore mentioned criteria.

The questions were asked to find out:

– the willingness of Wrocław inhabitants to pay higher fees for waste removal, storage and utilization and

– the real ability to pay increased fees.

Additional questions were to help reveal the actual expenses in a household spent on refuse removal, expectancies and preferences, as well as willingness to co-operate in the removal, and interest in ecological issues. The information was gained through inquiries while collecting the questionnaires.

3.4. General Analysis

Question 6. What are the household expenditure for refuse removal and what percentage of the overall income do they make?

Main conclusion: Fees for refuse removal are not a significant expenditure in the household.

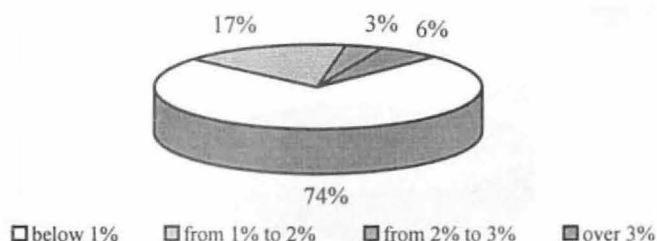


Fig. 3. Fees for refuse removal per household (percent of monthly income)
Source: own analysis based on the questionnaire survey.

For a majority of households (3/4) the fees are less than 1% of a monthly income; quite frequently this amount is significantly lower than 1% of the income being no burden at all. The fees for refuse removal remarkably vary in Wrocław depending on the location of the household. The discrepancy ranges from PLN 0,65 to PLN 13,5 (monthly). Therefore, the willingness to pay also varies in particular districts of the city.

Question 7. Are the fees high?

Main conclusion: Fees for refuse removal collected in Wrocław are not regarded as high by the inhabitants.

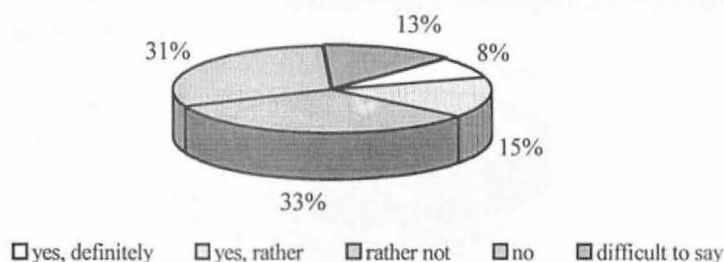


Fig. 4. Attitude to the fees per household for refuse removal (percent of respondents)
Source: own analysis based on the questionnaire survey.

Only 23% of the respondents regards the present fees as high. Nearly two thirds – as not high. This finding confirms the results from question 6 and comparative studies in other Polish cities. The fees collected in Wrocław are the lowest among Polish cities.

Question 8. What is the quality of the service performed by the waste collecting companies removing the refuse from the place of residence?

Main conclusion: The quality of refuse removal service from the place of residence is average.

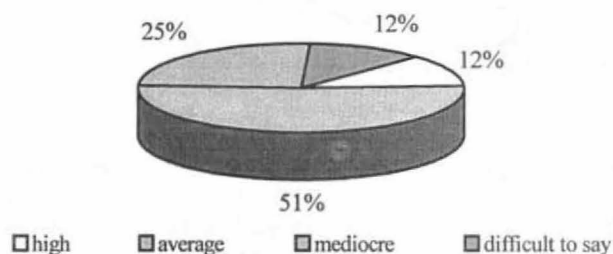


Fig. 5. The evaluation of the refuse removal service from the place of residence (percent of respondents)

Source: own analysis based on the questionnaire survey.

Half of the respondents evaluate the refuse removal service from the place of residence as average, and one fourth as mediocre. Only every eighth respondent is sufficiently satisfied with the service.

Question 9. Do you know the company removing the refuse from the place of your residence?

Main conclusion: The inhabitants are not very interested in the company removing refuse from the place of their residence.

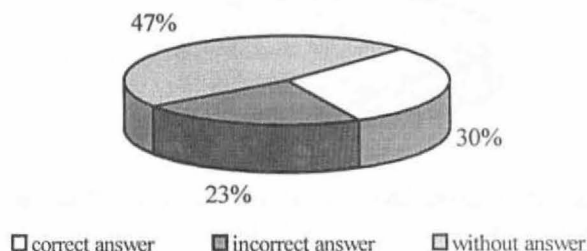


Fig. 6. The name of the company removing the refuse from the place of residence (percent of respondents)

Source: own analysis based on the questionnaire survey.

As many as half of the respondents could not tell the name of the company removing the refuse from the place of their residence. Almost one fourth gave the wrong answer.

Question 10. Are you willing to segregate the waste in your household or in the vicinity?

Main conclusion: The interest in segregating communal waste in the place of residence by the inhabitants is great.

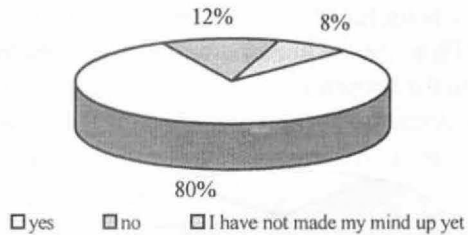


Fig. 7. Interest (acceptance) in the possibility of segregating the waste in the place of one's residence (percent of respondents)
Source: own analysis based on the questionnaire survey.

Four-fifths of the households show a serious interest in the possibility of segregating the waste in the place of their residence. The underlying motive is ecology. Some of the respondents emphasized the need for creating conditions to do so, like proper containers and a fixed time of waste removal. The economic motivation that segregation may lead to a decrease in fees for refuse removal is quite negligible.

Those who did not accept waste segregation found the idea useless and explained that it might be a problem in small flats and raise additional problems connected with waste segregation.

Question 11. Are you willing to pay higher fees for refuse removal, collecting and storage? What increase in fees could you accept?

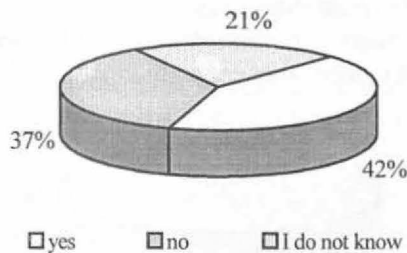


Fig. 8. Willingness to pay more for refuse removal, collecting and storage (percent of respondents)
Source: own analysis based on the questionnaire survey.

Main conclusion: The willingness to pay more for refuse removal, collecting and storage is high.

Two-thirds of the households are more (42%) or less (21%) willing to pay more for the increasing costs of refuse collecting, removal and storage. The most acceptable rise in the fees should not exceed 100%.

Question 12. Will higher fees for refuse removal and storage be a reason to reduce the waste in your household?

Main conclusion: There can be seen no real possibilities to reduce the amount of the waste produced in the household.

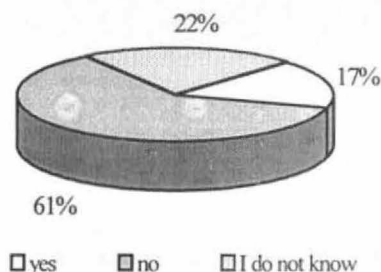


Fig. 9. It is possible to reduce the waste in the household (percent of respondents)
Source: own analysis based on the questionnaire survey.

Six-tenths of the respondents cannot see any real possibilities to reduce the waste in their households, even if the fees are going to rise. From the inquiries it seems that the majority of respondents do not think that they produce too much waste.

Question 13. Are you willing to accept higher fees, even if they introduce changes in your household expenditures?

Main conclusion: The majority of households would be willing to accept higher fees for refuse removal and reduce other expenditures.

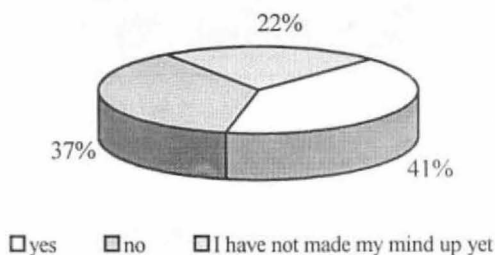


Fig. 10. Willingness to pay more for refuse removal and reduce other expenditure (percent)
Source: own analysis based on the questionnaire survey.

Similarly as in question 8, question 13 examined the willingness to pay higher fees for refuse removal of the inhabitants of Wrocław. This willingness was further verified by toughening the conditions. Still, two-thirds of the respondents were willing to pay higher fees even if there was a need to reduce other expenditures.

Question 14. Which expenditure would you be willing to give up in order to pay more for refuse removal?

Main conclusion: In the majority of the households no such need is seen, because there is a surplus to cover the increased fees.

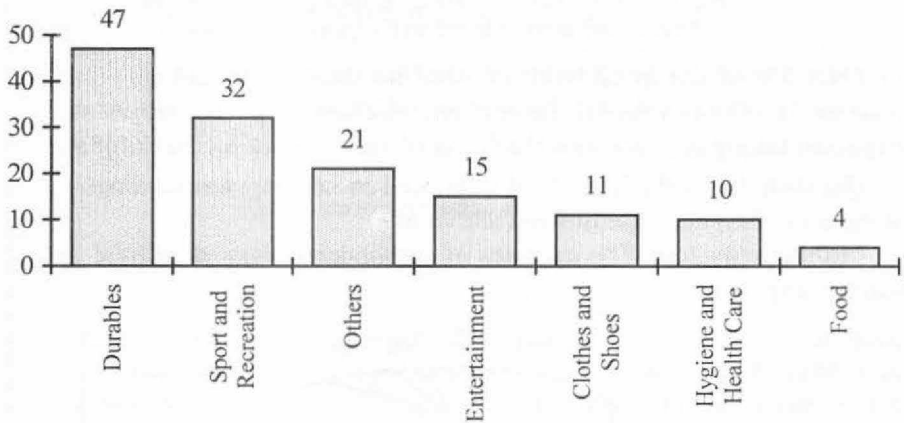


Fig. 11. Willingness to exclude some expenditure to pay higher fees for refuse removal (percent of respondents).
The total of responses is not 100%.

Source: own analysis based on the questionnaire survey.

Very few respondents found it necessary to exclude other expenditure in order to pay higher fees for refuse removal. When questioned, many subjects stated that they were able to pay more. Had they to reduce their expenditures, a situation they found unreal, it would be on durables, then sport and recreation (others not mentioned in the questionnaire form), and entertainment. Lowering food expenses was the last resort.

Question 15. Is the respondent broadly interested in ecology?

Main conclusion: The majority of respondents showed interest in keeping surroundings tidy.

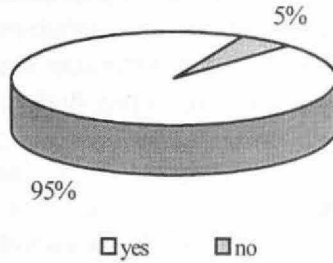


Fig. 12. Declared interest in ecology (percent of respondents)
Source: own analysis based on the questionnaire survey.

Only 5% of the households showed no interest in ecology. Such a high interest in environmental protection, declared by the respondents, was expected taking into account the focus of mass media on the subject.

Question 16. Is the household interested in keeping surroundings tidy, even at the cost of higher expenses and activities?

Main conclusion: The majority of respondents showed interest in keeping surroundings tidy.

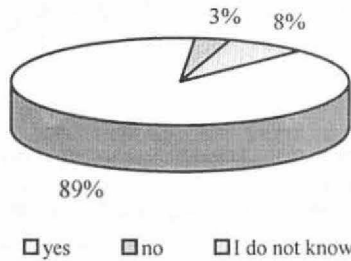


Fig. 13. Declared interest in keeping surroundings tidy (percent of respondents)
Source: own analysis based on the questionnaire survey.

Only 3% of the households showed no interest in keeping their surrounding tidy if it required extra money or work. The additional information from the inquiries is quite intriguing. The majority would be willing to spend some more money, but fewer respondents would be eager to perform physical work.

Question 17. Is the household ready to accept building an incinerator?

Main conclusion: The majority of respondents is ready to accept building an incinerator, however, not in their own surrounding.

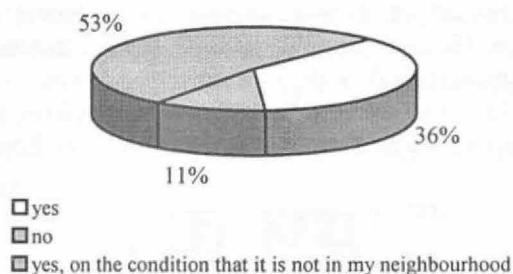


Fig. 14. Declared interest in keeping tidy the vicinity of the place of residence (percent of respondents)

Source: own analysis based on the questionnaire survey.

The majority of Wrocław inhabitants (almost 9/10) is ready to accept building an incinerator, however, under some conditions. Half of the households are against having it in their vicinity.

3.5. Cross-sectional Analysis

3.5.1. Structure according to the type of household

The criterion – type of the household – allowed distinguishing two basic categories of households – of employees and pensioners. With some exceptions, in these categories the distribution of responses was similar to the whole of the population.

Some differences can be observed in answers to question 6 concerning the burdening of the monthly income with refuse removal fees. In pensioners' households this money is higher in the structure of monthly expenditures.

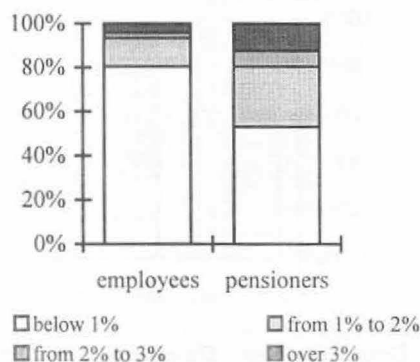


Fig. 15. Burdening of the household budget with fees for refuse removal (percent of monthly income)

Source: own analysis based on the questionnaire survey.

In the employees' households there are cases where the money spent monthly on refuse removal is below 1% of the monthly income. In the pensioners' households a higher burdening occurs in the half of the examined population.

This finding is in line with the next question – the employees' households are not so burdened with fees for waste removal as the pensioners' households.

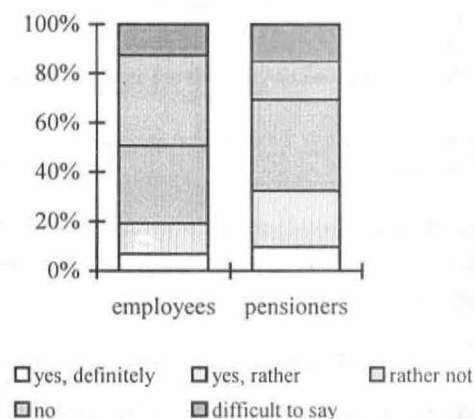


Fig. 16. Attitude to the burdening with fees for refuse removal in a household (percent of respondents)

Source: own analysis based on the questionnaire survey.

In one-third of the pensioners' households the present fees are considered high. In the employees' households, on the contrary, this percentage is much lower.

The employees' households rigorously assess the quality of the service performed by the companies collecting waste from the place of residence. They are more demanding.

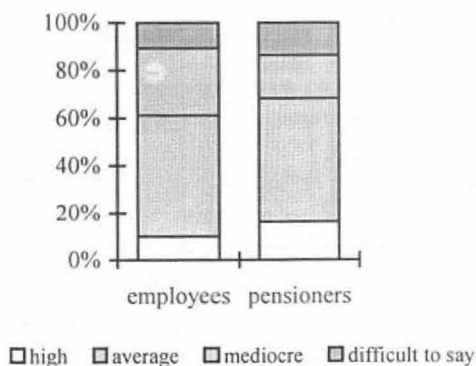


Fig. 17. Evaluation of the refuse removal service from the place of residence (percent of respondents)

Source: own analysis based on the questionnaire survey.

The employees' households are more reluctant to highly evaluate the service; the percentage of respondents giving a low evaluation is higher. The conclusion that the inhabitants are not very interested in the company removing refuse is confirmed. It is elderly people who show more interest.

Employees' and pensioners' households mostly differ in their willingness to pay higher fees for refuse removal.

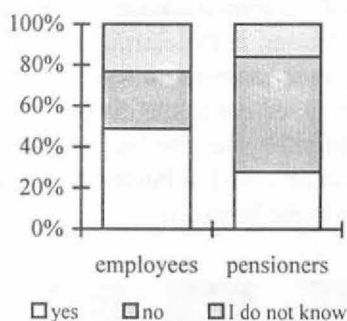


Fig. 18. Willingness to pay higher fees for refuse removal, collecting and storage (percent of respondents)
Source: own analysis based on the questionnaire survey.

Nearly three-fourths of the employees' households are willing to pay higher fees because of the increasing costs of collecting, removal and storage of refuse. The most frequently accepted increase would be no more than 100%. In the pensioners' households the percentage of respondents willing to pay more is far less than 50% of the population.

A much higher percentage of the pensioners' households is not willing to pay higher fees, especially by reducing other expenditures.

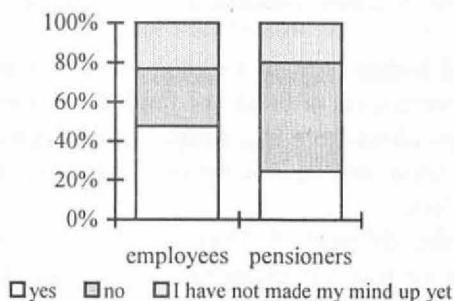


Fig. 19. Willingness to pay higher fees for refuse removal by reducing other expenditure (percent of respondents).

Source: own analysis based on the questionnaire survey.

Over half of the pensioners' households is reluctant to pay extra money for refuse removal, especially by reducing other expenditure. From the inquiries we learnt that in those households no surplus could be found. The most frequent excuse was "We must give up most of things because of money shortage."

3.5.2. Structure according to the place of residence

The criterion – the place of residence – classifies the surveyed population into five basic groups of households located in the districts: Psie Pole, Krzyki, Śródmieście, Stare Miasto and Fabryczna. In the answers to some questions there were differences observed in their distribution in respect to the district. The remaining answers show no differences and are not affected by the place of residence.

There was a differentiation observed in burdening of the household budgets with refuse removal fees in the territorial breakdown.

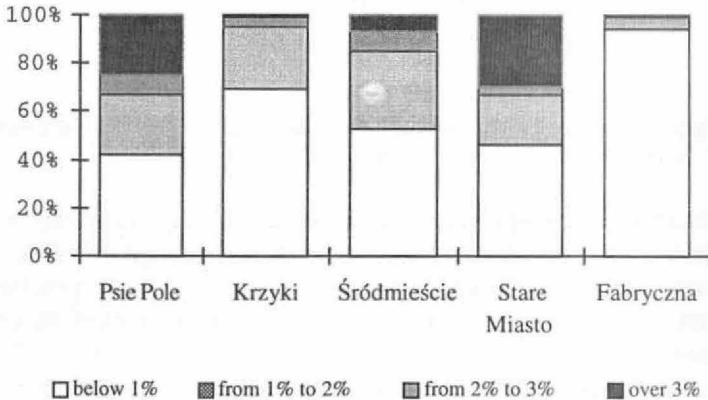


Fig. 20. Burdening the household budgets with fees for refuse removal (percent of monthly income)
Source: own analysis based on the questionnaire survey.

The least burdened budgets are in the households located in the district of Fabryczna, with huge settlements of blocks of flats. The highest burdening is in the district of Stare Miasto, where there is a relatively high percentage of pensioners' households, and in the district of Psie Pole with the prevailing proprietors of detached houses and the highest fees.

There is a considerable differentiation between the districts in the willingness to pay higher fees for refuse removal, collecting and storage. The reluctance to pay higher fees is strongly affected by the present fees. Hence, in Psie Pole, where the fees are the highest, the disapproval is strong. This conclusion confirms

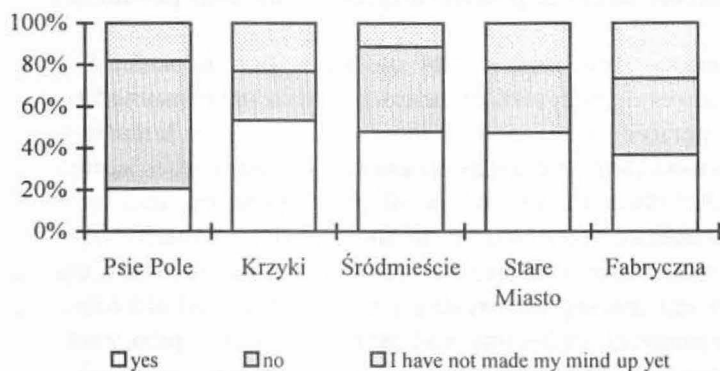


Fig. 21. The willingness to pay higher fees for refuse removal, collecting and storage (percent of respondents)

Source: own analysis based on the questionnaire survey.

Territorial differences in the distribution of the answer consider also the households acceptance to build an incinerator. There are large discrepancies in this matter between the districts which is connected with the condition of the environment.

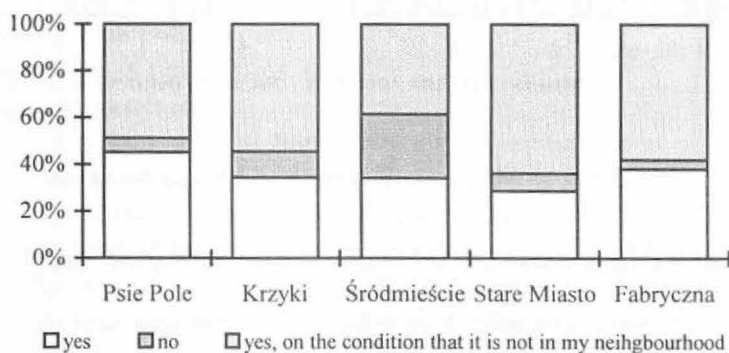


Fig. 22. Acceptance to build an incinerator (percent of respondents).

Source: own analysis based on the questionnaire survey.

The most reluctant is the district of Śródmieście, where the environment is in the worst condition.

3.5.3. Structure according to the number of persons per household

The criterion – the number of persons per household – allows distinguishing several groups of households within the examined population, i.e. from one person to seven and more persons in a household. In the majority of answers there are no significant differences when compared with the answer distribution for the whole of the population and for particular groups of households categorized by the number of persons.

However, some distinct differences revealed in the response distribution to the question concerning the willingness of the household to pay higher fees for refuse removal, collecting and storage, and acceptance of the level of the increase in fees. More reluctant are the households with more persons finding higher fees more burdensome. This conclusion confirms the response distribution to question 13.

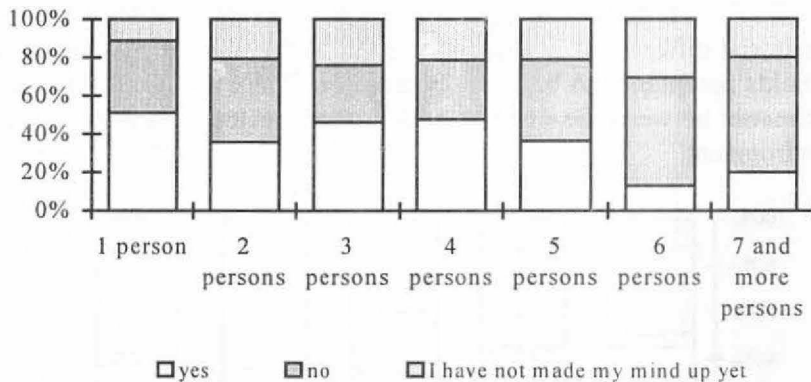


Fig. 23. Willingness to pay higher fees for refuse removal, collecting and storage (percent of respondents)

Source: own analysis based on the questionnaire survey.

3.5.4. Structure according to per capita income in the household

The criterion – income per household – produces five main categories in the population:

1. with a very high income, three or more times higher per capita in the household than the country mean salary;
2. with a high income, once or twice as much per capita as the country mean salary;

3. with an average income per capita, similar to the country mean salary;
4. with a low income per capita, below the country mean salary;
5. with a very low income per capita, far below country mean salary, close to subsistence.

A typical feature is an almost identical response distribution in particular income categories in those households and the results received for the whole population of the employees' households. Even the households with a very low income (a very small percentage) fall within an average distribution. As for the pensioners' households, where there are more households with a lower income, the response distribution is similar within all the income categories and the whole household population examined. However, those with the lowest income are most reluctant to pay higher fees, which was expected.

3.5.5. Structure according to the type of dwelling

The criterion – type of the housing (house/flat) – allows to classify the households as scattered:

1. owning single-family houses;
2. owning two- or three-family houses, located most frequently in Krzyki and Psie Pole;
3. dwelling in tied houses, etc.;

and as non-scattered:

4. owning flats in multi-family houses;
5. living in council multi-family houses;
6. living in multi-family co-operative houses;
7. other kind of flats in multi-family houses (e.g. tied flat).

For the majority of questions the response distribution in particular categories resembles the average distribution for the whole population under study. Some differences occur, but only in very few questions.

The most important question is what percentage of the household income is spent on refuse removal.

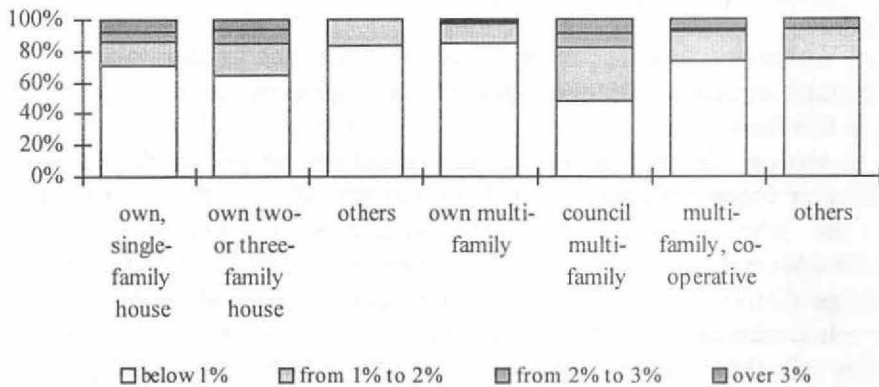


Fig. 24. Burdening of the household budgets with fees for refuse removal (percent of monthly income).
Source: own analysis based on the questionnaire survey.

The highest burdening with the fees on refuse removal was observed in the households located in multi-family council houses and scattered buildings.

4. FINAL CONCLUSIONS

1. The survey conducted by means of the method of declared preferences (wtp) confirms the conclusion that the inhabitants of Wrocław show a relatively high willingness to pay higher fees for communal refuse removal. A smaller willingness to pay among the pensioners' households and in the households located in the districts where these fees are the highest (Psie Pole) was expected. However, there was no enthusiasm for a rapid manifold increase in these fees.

2. The answer to the question whether the city inhabitants are really able to pay such fees is positive. It was only the households with the lowest income that declined this possibility owing to lack of money.

3. The present fees were not found burdensome and high, which was also confirmed by similar economic analyses in other cities in Poland. In Wrocław the fees for refuse removal range from PLN 0.65 to PLN 13.5.

4. The inhabitants evaluate the present service in refuse removal as average and expect its improvement with the new system of waste management. Still, the interest in the companies performing these services is low. The inhabitants are more concerned with the quality of the service performed than with the company itself.

5. There is a general interest in segregating the waste at home but the system should be properly organized and should work effectively. This refers mostly to technical terms (proper containers) and organization (fixed time of removal).

6. The households do not think they produce excessive waste and do not see any real possibilities to reduce it.

7. A vast majority of the inhabitants of Wrocław show a broad interest in ecological problems and is willing to participate actively in solving them (financially – by paying higher fees, or getting involved in particular activities). This attitude can be an advantage in the new system of waste management both to broaden ecological education and to change attitudes to be more environment-friendly.

8. The quite marked willingness to pay more for the protection against waste and real possibilities to pay, as well as environment-friendly attitude can be and should be effectively used to transform (improve) the communal waste management system in Wrocław.

9. An introduction of the new waste management system in the city should be preceded by information and educational campaigns. These activities should be continued after the new system has been introduced.

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APPENDIX

QUESTIONNAIRE FORM

The analysis of willingness to pay higher fees for removal and storage of refuse and other communal-residential waste of the inhabitants of Wrocław

1) Type of household (mark as appropriate)

- a) employees
- b) pensioners

2) Number of persons per household

3) Type of housing (flat/house) (mark as appropriate)

in scattered housing:

- a) own, single-family
- b) own two- or three-family house
- c) other

in non-scattered housing:

- d) own multi-family
- e) council multi-family
- f) multi-family, co-operative
- g) other

4) Location (district and settlement) – place of residence

5) Do you consider the income per your household (mark as appropriate)

- a) very high, much exceeding the country mean salary
- b) high, exceeding the country mean salary
- d) average, similar to the country mean salary
- d) low, below the country mean salary
- e) very low, far below the country mean salary

6) How much do you pay for refuse removal (monthly, quarterly, annually)? zloty

What percentage of your income does it make? (mark as appropriate)

- a) below 1%
- b) from 1% to 2%
- c) from 2% to 3%
- d) over 3%

7) Do you find the fees high? (mark as appropriate)

- a) yes, definitely
- b) yes, rather
- c) rather not
- d) no
- e) difficult to say

8) Do you think that the quality of the service performed by the waste collecting company removing refuse from the place of your residence is (mark as appropriate)

- a) high
- b) average

- c) mediocre
- d) difficult to say

9) Do you know which company removes the refuse from the place of your residence? Please give the name.

10) Would you be willing to segregate the waste at home or in the vicinity (separate scrap paper, glass, metal, food waste) (mark as appropriate)

- a) yes
- b) no
- c) I have not made my mind up yet

If "yes", please explain why:

- a) ecological reasons
- b) if this is going to reduce the fees for refuse removal (economical reason)
- c) if there are suitable conditions (containers, fixed time of removal, etc.)
- d) other (please explain).....

If "no", please explain why:

- a) extra work and problem
- b) lack of technical conditions (not enough area in the household, lack of proper containers outside the flat/ house, etc.)
- c) other (please explain).....

11) Would you be willing to pay higher fees because of the increasing costs of refuse collecting, removal and storage? (mark the appropriate):

- a) yes
- b) no
- c) I have not made my mind up yet

How much more would you pay ? (mark as appropriate)

- a) up to 50%
- b) from 50% to 100%
- c) from 100% to 200%
- d) from 200% to 300%
- e) more than three times more (over 300%)

12) Will increased fees for refuse removal and storage stimulate you to reduce waste in your household? (mark as appropriate)

- a) yes
- b) no
- c) I do not know

13) If the increased fees for refuse removal and storage (composting, utilizing, incinerating, etc.) mean higher expenditure leading to the changes in your present structure of household expenditures, will you be willing to pay higher fees? (mark as appropriate):

- a) yes
- b) no
- c) I have not made my mind up yet

14) Taking into consideration the above situation, which expenditure and in what order would you be willing to cut down:

- a) food
- b) clothes and shoes
- c) hygiene and health care
- d) entertainment
- e) sport and recreation
- f) durables
- g) other (specify)

Please mark in order:

- 1:
- 2:
- 3:
- 4:
- 5:
- 6:
- 7:

15) Are you interested in ecological issues and environmental improvement (mark as appropriate):

- a) yes
- b) no

16) Are you for keeping your vicinity tidy, even at the cost of higher fees or extra work on your part? (mark as appropriate)

- a) yes
- b) no
- c) I do not know

17) Assuming that building an incinerator would reduce refuse removal fees, are you willing to have it built for the city of Wrocław (mark as appropriate):

- a) yes
- b) no
- c) yes, on condition that it is not in my neighbourhood

Thank you for filling in the questionnaire

Additional remarks and suggestions: