Article

Social Assessment of the Value of Forests and Protected Areas on the Example of the Silesian Voivodeship

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Abstract: This article investigates the social attitudes towards forests and protected areas among the inhabitants of the Silesian Voivodeship in southern Poland. The survey was used as a research tool. The respondents were asked about following issues: Willingness to pay (WTP) to preserve forest functions in the case of logging reduction, willingness to pay (WTP) to preserve protected areas, and the possibility of running business activities in protected areas. The study involved 1204 respondents. The collected answers were used for statistical analysis. Descriptive statistics and correlation analysis were used at this stage. The obtained results allowed to assess a relatively low willingness to pay among the surveyed respondents (WTP > 0 in the case of 24.8% of respondents to preserve forest functions in managed forests and 21.1% to preserve protected areas). The diverse factors, such as age, as well as professional and economic status, could be considered as related to this phenomenon.

Keywords: ecosystem services; sustainable development; forest ecosystems; social value

1. Introduction

The contradictions between the existing development objectives and high dynamics of industrial production and the environment quality and its protection objectives resulted in the retreat from the current treatment of activities in the environment. A glance at the economy, rejecting the growth as the objective itself, and considering the limitation of natural resources, was changed. One of such resources includes forests that play a very important role in human life owing to the ecosystem services that it provides, and therefore, they should be subject to special protection. Owing to the preciousness of forest resources, and at the same time, high risk to these resources, there is a need for adequate protection of forests. It is necessary to more broadly look at the value of forests not limited only to their production function (primarily obtained from wood), but taking into account the comprehensive services provided by them for society. The total costs of the loss and degradation of these ecosystem services are difficult to measure, but the available evidence indicates that they are significant and increase [1–5].

This study assessed the inhabitants’ attitude, based on Silesian Voivodeship in Poland, to the forest ecosystem services, and especially, to obtain information on the willingness to pay for protection and preservation of the forests and protected areas in the unchanged condition.

Based on the literature analysis [6–8], it can be assumed that willingness to pay (WTP) can be influenced by a variety of social factors. The paper, based on the surveys carried out, presents analyses on the impact of demographic factors on WTP. Correlations between main and supportive research questions were also analyzed.

2. Social-Economic Values Associated with Forest Ecosystems

The systematic increase of the economic theory interest in environmental issues dates back to the turn of the sixties and seventies of the twentieth century, the reason for which
was the growing global ecological crisis. An important indicator of changes was the development of methods for economic valuation of the environment, with its beginning in the United States over 70 years ago. In the forties, Bowen [9] and Ciriacy-Wantrup [10] were the first to propose the use of surveys as an important instrument of evaluation of public goods. For the development of valuing the environmental goods, the concept of Harold Hotelling [11], who suggested that the places that are environmentally unique and often visited by tourists may have a substantial value, and it can be estimated on the basis of the costs to be incurred to get there, was significant.

For the undertaken topic, “ecosystem services” are also a very significant term. The evolution of the attitude towards ecosystem services dates back to the 70s of the twentieth century, when there was the recognition of relationships between the functioning of ecosystems and benefits to society, and the formulation of a set of functions of the ecosystems used by a human. The appearance of the “ecosystem services” term is most frequently associated with the publication of the following book: P.R. Ehrlich, A.H. Ehrlich, “Extinction: the causes and consequences of the disappearance of species” in 1981 [12]. The observed rapid deterioration in the ability of all ecosystems, including forests, to generate the services not only requires a better understanding of how to preserve important ecosystem functions, but also requires this knowledge to be in the broad institutional and public management context, where even approximate assessment of the value of these services for societies is necessary.

Currently, we have many other studies having the attempts to value the ecosystem services in forests, both at the international, national, regional, and local levels (research examples are presented, among others, in the following publications [13–24]). These developments present the problem of valuation of the forest economic value differently—from the valuation of the economic value of raw materials obtained from forests, through the valuation of values of individual ecosystem services provided by the forest areas, to more detailed analyses related to, e.g., a particular species or an insurance value associated with the forests. In the subject literature, it is possible to find the analyses related to the forest value and its function for society and willingness to pay to protect goods and services provided by the forests. Many studies on this subject were conducted in the United States [25–34], which were, as already mentioned, a precursor of the development of analyses, including the valuation of the forest ecosystem values for society. For example, Tarrant et al. [27] surveyed 1423 randomly selected people living in 13 states in the southern US. They found that according to the respondents, the least important function of forests is wood production; however, the respondents indicated air purification as the most important function. These surveys also showed the differences between the functional assessment in public forests (according to the respondents, the public forests should rather provide clean air instead of wood products) and in private forests (higher acceptance by the respondents for the provision of wood products by these forests). On the basis of the same survey, the authors found the existence of the relationships between the assessment of the forest value and the age and gender. Women and younger people (16–24 years old) have stronger biocentric values concerning forests and stronger environmental attitudes than men and older people. However, as the authors state, there are only minor differences in the approaches and environmental values between the residents of towns and villages. According to the authors of the research review on the value of forests, such a view is consistent with the results of other studies in the United States. It is also possible to observe an increase in the general society’s preferences for environmental protection [28]. The further studies carried out by Smith et al. [30] focused on the importance of social capital and psychological factors affecting public preferences on the management of forest areas.

Many studies on the social values of the forest are carried out by Chinese scientists [20,35–38]. Gao et al. [36] carried out the studies on the perception of the ecosystem values with “culturally protected forests” (CPF) by the local population in China. The obtained results indicate the importance of the ecosystem services provided by the forests for the residents, which was the motivation of the local community to further protection.
of the forests. According to the obtained results, 38.9% of the respondents were willing to pay to preserve the ecosystem services, and more than 70% of the respondents wanted to participate in the management of these areas. The other studies carried out in China (Gansu province) by Zhang and Zhou [37] on the assessment of willingness to pay for the forest cultural values showed that 35.29% of the surveyed population is willing to pay. The factors affecting the WTP level included personal income (the strongest impact), knowledge and education level (the weakest impact).

In Europe, numerous studies exist on the assessment of the value of forests to society [39–51]. Lindemann-Matthies et al. [46] studied the attitudes towards biodiversity of forests and ecosystem services among the residents of Switzerland, and they compared them with the residents of China. It was also found that city dwellers and forest visitors paid more attention to the regulatory services, while students involved in the environmental services and farmers paid more attention to supply services. Getzner, Meyerhoff, and Schläpfer [50] assessed the respondents’ preferences on the way of managing the Austrian federal forests (OBF), representing approx. 15% of forests in the country. These authors carried out the surveys among the Austrian households on the preferences and willingness to pay for three various management scenarios (one scenario assumed more commercial use of forests, while two other programs assumed a significant increase in biodiversity). The majority of respondents claimed that the biodiversity protection improvement is an important task of state forests, and the distribution of the respondents’ preferences depends on many factors (personal experience and observations, political views and opinions on the forest policy issues, e.g., preferences on the privatization of public land).

An important trend in the European considerations includes those related to the model of forest management, as well as the scale and method of taking the social preferences into account in these considerations. Gomez and Olschewski [43] conducted surveys on the residents’ preferences on the management ways in the forests located along the Atlantic coast on the Iberian Peninsula (Spain and Portugal). The declared willingness to pay for the 10% increase in the area of protected forests and preference for recreational functions amounted to EUR 478 per household. Another example of this type of discussion involves considerations concerning the Finnish forests largely owned by private owners (see References [48,51]). In both cited articles, the willingness to pay for various aspects of tourism based on nature in the private areas was analyzed. The obtained results confirm the thesis that tourists are willing to pay for the chosen improvements in the environment quality.

Numerous studies concerning the assessment of non-economic values of forests were also taken in Poland [52–66]. Czajkowski et al. [56,62] studied the preferences of the Polish society for the management strategy of forests in Poland. They found that the respondents are willing to pay for reducing the amount of rubbish in the forests, passive protection of the most ecologically valuable forests, and provision of greater tourist and recreational infrastructure. The conducted studies also demonstrated that the respondents’ WTP is higher, when their residence is closer to the forest areas. It also occurred that the frequency of visits in the forest and the reported number of visited locations had an impact on the respondents’ preferences. In another survey, Skłodowski and Gołos [61] analyzed hypothetical willingness to finance the forest recreational function based on the survey results in the national survey carried out in 2013. On the basis of the obtained results, WTP > 0 at the level of 29% of the respondents in total was estimated.

3. Research Area and Methodology

The research subject included the personal attitudes of the respondents on the issues related to forest protection and the preservation of protected areas.

The adopted research procedure included three stages.

Stage I. Selection of the research tool, preparation of the questionnaire, and selection of the research area. The Silesian Voivodeship was considered as the research area. The Silesian Voivodeship is located in southern Poland and covers an area of 12.3 thousand
square meters. km$^2$ (i.e., 3.9% of Poland’s territory), inhabited by 4.5 million people. The main elements of the settlement system of the Silesian Voivodeship are the Upper Silesian Metropolis and the Bielsko, Częstochowa and Rybnik Agglomerations. This region has the highest population density in Poland—there are 369 people per 1 km$^2$ (data for 2017), which is three times the average for Poland and more than three times the average for the EU. The voivodship has a historically shaped, polycentric network of urban centers. The population density of built-up and urbanized areas in 2017 was 2918 people per km$^2$ [67]. One of the consequences of the progressive urbanization and industrialization of the Silesian province is the transformations of natural ecosystems, noticeable in the landscape. In the Silesian Voivodeship, the share of built-up and urbanized land in the total area in 2017 was 12.6%, which is associated with strong pressure on the areas of wildlife occurrence. The area of forests in the region is 395 thousand hectares, including 306 thousand hectares of forests managed by the State Forests National Forest Holding [68]. The average forest cover in the voivodship is now 32% [68], with an increasing tendency in recent years, caused by the program of afforestation of former agricultural land and wasteland. In addition to changes in the size of the forest area, a manifestation of transformations is also its progressive fragmentation and transformations of vegetation [69]. Despite this, many valuable objects in the region are part of the natural heritage of Poland and Europe. There are 8 landscape parks, 65 nature reserves, 13 protected landscape areas, and 20 nature and landscape complexes in the voivodeship [70].

The research tool was a questionnaire survey. Basic research questions are:

1. What is the willingness to pay for the maintenance of forest functions in the event of limitation of production activities (mainly logging and sale of wood)?
2. What is the acceptability of doing business in protected areas?
3. What is the willingness to pay for keeping protected areas unchanged?
4. Research questions and corresponding survey questions are presented in Table 1. In research we used the WTP-approach to obtain the non-market value of forests and protected areas existence in the Silesian region (Poland). This method is often used by researchers to assess non-marketable goods [25–27,36,37,51,56,61,64,71,72].

Stage II. Conducting a survey among the adult (18 years and older) inhabitants of the Silesian Voivodeship in 2018. During the research, representative sample was used, and 1500 questionnaires were obtained, of which 1204 were positively verified. The verification consisted of rejecting questionnaires with only the statistical part filled in or without the place of residence entered. Finally, the collected data included a collection of 1204 interviews, although not all the respondents answered all the asked questions. A frequent phenomenon involved omitting the questions about the declared payment amounts (Table 2).

Stage III. Analysis of the data. On the basis of the data collected using a questionnaire, a database was created, and descriptive statistics along were used for their interpretation. The study uses the correlation dependence of variables. The $X^2$ test was used to estimate the statistical relationship between selected variables with a confidence level of 0.95. Next, the correlation coefficient was calculated for pairs of variables with confirmed statistical dependence. The $\phi$ correlation coefficient has been used in this case [73]. The calculation of coefficient includes correction [74]. The described procedure has been implemented as a Python script. The correlation analysis has been used to identify possibly related factors. The significant correlations are the basis for formulating conclusions regarding the research subject.
Table 1. Research questions and corresponding survey questions.

| Research Questions | Corresponding Main Questions in the Survey | Supplementary Survey Questions |
|--------------------|------------------------------------------|--------------------------------|
| 1. What is the willingness to pay for the maintenance of forest functions in the event of limitation of production activities (mainly logging and sale of wood)? | State forests are open to all of us, so they are a public good. However, the use of intangible forest resources entails, in many cases, the need to abandon the maximum production of wood, which is the main source of income, while increasing the cash expenditure on their maintenance. This is causing a decrease in revenues, which in this case are the main source of financing for forest management. Let us imagine that, to preserve the current situation in forests, financial assistance is needed from society, from all citizens. Would you be willing to pay for the preservation of forest resources’ current quantity and quality? | If you are ready to pay, please provide the amount of the annual, declared payment? Where should your declared money go? |
| 2. What is the acceptability of doing business in protected areas? | In your opinion, is it permissible to carry out an economic activity consisting of logging in National Parks and protected areas, e.g., Natura 2000 sites? | |
| 3. What is the willingness to pay for keeping protected areas unchanged? | Would you decide to make monthly contributions to preserve the natural values of protected areas? | If you are ready to pay, please provide the amount of the annual, declared payment? What sources, in your opinion, should be used to finance nature conservation in National Parks and protected areas, e.g., Natura 2000 sites? |

Table 2. Sociological characteristics of the respondents in Silesian voivodeship.

| Data Characterizing the Respondent | % of Respondents (n = 1204) |
|-----------------------------------|-----------------------------|
| **Gender**                        |                             |
| Women                             | 58.3%                       |
| Men                               | 41.7%                       |
| **Age**                           |                             |
| 18–25 years                       | 41.0%                       |
| 26–39 years                       | 23.2%                       |
| 40–65 years                       | 30.6%                       |
| 66 years and more                 | 5.2%                        |
| **Professional status**           |                             |
| employed                          | 46.9%                       |
| self-employed                     | 7.9%                        |
| student                           | 31.8%                       |
| pensioner                         | 8.6%                        |
| unemployed                        | 3%                          |
| other                             | 1.8%                        |
| **Education**                     |                             |
| primary education                 | 14.3%                       |
| secondary education               | 45.9%                       |
| high                              | 39.8%                       |
| **Average net monthly income**    |                             |
| under 1000 PLN (under 235 €)      | 8.5%                        |
| 1000–1999 PLN (235–469 €)         | 22.9%                       |
| 2000–2999 PLN (470–704 €)         | 19.2%                       |
| 3000–3999 PLN (705–939 €)         | 8.9%                        |
| 4000–4999 PLN (940–1174 €)        | 2.7%                        |
| 5000 and more—(1175 € and more)   | 2.5%                        |
| no income                         | 12.2%                       |
| refuse to answer                  | 23.1%                       |
4. Results and Discussion

The forest areas unquestionably constitute a great value owing to their biocenotic functions. However, the knowledge of the important environmental role of forests is not widespread. In the social perception, the forests are associated with various categories. In various cases, one particular function of the forest—which, in the opinion of the surveyed person, should be its primary function, may be emphasized. An insight into how to finance the maintenance of forest functions in the event of limitation of production activities in the forest and maintenance of protected areas may be similarly diversified. Table 3 shows the aggregated results were obtained through the survey.

According to the obtained results, the willingness to pay for nature protection is expressed by almost a quarter of the respondents (24.8% in the case of forests and 22.1% in the case of protected areas). Inhabitants of a highly urbanized Silesian region slightly more willing to pay to protect forests than to preserve protected areas. According to the respondents, the state should be directly responsible for areas of natural value, and in this case, over 45% of responses are refusal to pay any fees for maintaining legally protected natural areas. It should be noted, however, that in both cases (both to protect forests and environmentally valuable areas), the majority of respondents were not willing to pay fees, and those who declared the payment most often chose the lowest amount, up to 6.80 € per year. According to the respondents, payments for forest protection should go to an especially established socially controlled foundation, to the commune’s budget for a special purpose fund intended for nature protection, or to an organization related to nature protection, e.g., WWF (these are the three most frequently chosen answers). The protection of naturally valuable areas should be financed from public sources, from fees for using these areas, e.g., entrance tickets to the National Park or from penalties imposed on enterprises polluting the environment.

Table 4 presents the results of correlation analysis for demographic factors and the main research questions. Only statistically significant correlations have been placed in the table.

The factors correlated with the willingness to pay for maintaining forest are heterogeneous. The strongest factors negatively correlated are pensioner status (−0.31) and the age 40–65 (−0.20). A surprising fact is a positive correlation with the lowest income level (0.22). In this case, people with the lowest income show a willingness to pay. We suggest that the cause of this phenomenon is a willingness to protect recreational areas near respondents’ place of living. This is also indicated by the research conducted by Czajkowski et al. [63], which indicates that respondents’ WTP is higher when they live closer to forested areas.

As regards the admissibility for economic activities in protected areas, gender (men are more reluctant to pay), professional status, and income level turned out to be significant factors. No correlation with age was found in this case.

In the case of willingness to pay to preserve protected areas, age 40–65 and primary education level turned out to be negatively correlated. In this case, the greatest willingness can be noted within people with income in the range of 705–939 €. There is also a slight positive correlation with the age of 26–39 (0.09).

Apart from the analysis of demographic factors, correlations between main and supportive research questions were also analyzed. The results are presented in Table 5.

One of the most important factors in the presented table is the declared willingness of the surveyed people to bear the financial burden to preserve the natural values of the forest areas. This factor indicates a strong correlation (0.72) with the willingness to pay to preserve the protected areas. Such a strong correlation may indicate the existence of the surveyed respondents with a strong pro-environmental orientation. The existence of such respondents is also supported by a relatively strong negative correlation (−0.55) with the possibility of financing the forest areas by conducting business activity in these areas. In this case, the perception of such an activity as a threat to the forest ecosystems is clear.
Table 3. The aggregated results obtained through the survey.

| Willingness to Pay (WTP) for Forest Protection |        |
|----------------------------------------------|--------|
| Yes                                          | 24.8%  |
| No                                           | 35.3%  |
| I have no opinion                            | 33.6%  |
| No answer                                    | 6.3%   |

| Willingness to pay (WTP) for the preservation of the natural values of protected areas |        |
|-----------------------------------------------------------------------------------------------------------------|--------|
| Yes                                                                                                             | 22.1%  |
| No                                                                                                             | 45.2%  |
| I have no opinion                                                                                               | 25.7%  |
| No answer                                                                                                       | 7.0%   |

| Declared amount of the annual fee—forests |          |
|--------------------------------------------|----------|
| up to 6.80 € *                             | 23.4%    |
| 6.90–23.20 € *                             | 8.0%     |
| over 23.30 € *                             | 1.2%     |
| No answer                                  | 67.4%    |

| Declared amount of the annual fee—protected areas |          |
|--------------------------------------------------|----------|
| up to 6.80 € *                                  | 20.7%    |
| 6.90–23.20 € *                                  | 6.5%     |
| over 23.30 € *                                  | 1.0%     |
| No answer                                       | 71.8%    |

| Possibility of conducting economic activity consisting in harvesting wood in national parks and in protected areas |        |
|-----------------------------------------------------------------------------------------------------------------|--------|
| Yes                                                                                                             | 7.7%   |
| No                                                                                                             | 62.4%  |
| I have no opinion                                                                                               | 23.4%  |
| No answer                                                                                                       | 6.5%   |

| Sources of financing for nature protection in national parks and protected areas |        |
|--------------------------------------------------------------------------------|--------|
| from public sources                                                            | 38%    |
| from fees for using these areas, e.g., entrance tickets to the National Park    | 35.7%  |
| from fines imposed on companies polluting the environment                       | 37.6%  |
| from private sources or from the foundation’s contributions                     | 11%    |
| such areas should support themselves by running a business                      | 3.7%   |
| Other                                                                           | 0.5%   |
| I have no opinion                                                              | 10.5%  |

| The institution to which the collected funds should go—forests                  |        |
|--------------------------------------------------------------------------------|--------|
| To a socially controlled foundation, specially established for this purpose    | 15.3%  |
| To an organization related to nature protection, e.g., WWF                       | 8.7%   |
| To the state budget as a separate part of the income tax                         | 2.1%   |
| To the commune’s budget to the earmarked fund for nature protection             | 10.2%  |
| To the State Forests National Forest Holding                                    | 7.8%   |
| Other                                                                           | 0.5%   |
| I have no opinion                                                              | 12.4%  |

% of answers (n = 1204), * Euro exchange rate: The average NBP (Polish National Bank) exchange rate in 2018 = PLN 4.26.
### Table 4. Table of correlations for demographic factors and main research questions.

| Factor                      | Would You Be Willing to Pay for the Preservation of Forest Resources’ Current Quantity and Quality? | In Your Opinion, Is It Permissible to Carry out an Economic Activity Consisting in Logging in National Parks and Protected Areas, e.g., Natura 2000 Sites? | Would you Decide to Make Monthly Contributions to Preserve the Natural Values of Protected Areas? |
|-----------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Gender (Men)                | x                                                                                              | −0.16 *                                                                                       | x                                                                                         |
| self-employed               | x                                                                                              | 0.11 *                                                                                       | x                                                                                         |
| pensioner status            | −0.31 *                                                                                       | x                                                                                              | x                                                                                         |
| primary education           | x                                                                                              | x                                                                                              | −0.27 *                                                                                   |
| age 18–25                   | 0.08                                                                                           | x                                                                                              | x                                                                                         |
| age 26–39                   | x                                                                                              | x                                                                                              | 0.09                                                                                     |
| age 40–65                   | −0.20 *                                                                                       | x                                                                                              | −0.17 *                                                                                   |
| income below 235 €**        | 0.22 *                                                                                         | x                                                                                              | x                                                                                         |
| income 70–939 €**           | x                                                                                              | x                                                                                              | 0.19 *                                                                                   |
| income 940–1174 €**         | x                                                                                              | 0.20 *                                                                                       | x                                                                                         |

* (*p < 0.05), ** Euro exchange rate: The average NBP exchange rate in 2018 = PLN 4.26, x—no correlation.

### Table 5. Table of correlations for the main and supportive research questions.

| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|----|----|----|----|----|----|----|----|----|
| 1. | 1  |    |    |    |    |    |    |    |
| 2. | x  | 1  |    |    |    |    |    |    |
| 3. | x  | x  | 1  |    |    |    |    |    |
| 4. | 0.08 * | x  | −0.2 * | 1  |    |    |    |    |
| 5. | x  | −0.3 * | −0.15 * | 0.2 * | 1  |    |    |    |
| 6. | 0.24 * | x  | x   | 0.29 * | 0.34 * | 1  |    |    |    |
| 7. | −0.55 * | 0.12 * | −0.52 * | x   | −0.4 * | x  | 1  |    |    |
| 8. | x  | x  | x   | x   | x   | x  | 0.44 * | x  | 1  |
| 9. | 0.72 * | x  | x   | x   | x   | x   | 0.17 * | x  | X  |

* (*p < 0.05). Legend:
1. Payments for the preservation of the forest quality
2. Logging in the protected areas
3. Protection financing from public sources
4. Protection financing from ticket fees
5. Protection financing from imposed penalties
6. Protection financing from private sources
7. Protection financing from business activity
8. Protection financing from other sources
9. Payments for the preservation of the protected areas

An interesting phenomenon can also be noticed in terms of the ways of financing the protection of the forest ecosystems. The choice of funding with the business activity carried out in the forest areas negatively correlates both with the declared willingness to pay for the use of these areas (−0.55) and with the preference of funding from public sources (−0.52). Noteworthy is also a positive correlation with the permission for the business activity carried out in the Natura 2000 areas, although the correlation strength is relatively weak (0.12). The financing of the forest areas from private sources showed a number of positive correlations with other factors. These factors include: Financing of the protection from ticket fees (0.29), financing of the protection from penalties imposed on polluters (0.34), financing the protection from other sources (0.44), and the payment of fees to preserve the protected area values (0.17). In the case of choosing other financing sources, unfortunately, the respondents did not decide to define what specific sources they have in mind. The observed correlations indicate the existence of the respondents oriented to financing the protection of the forest ecosystems from non-budgetary sources of various nature.

It is also important to indicate a positive correlation, although, with relatively low strength, between the preference of financing the protection from the economic activity...
carried out in the forest areas and the acceptability of carrying out the business activity in
the Natura 2000 network areas. At the same time, a negative correlation with the strength of
\(-0.4\) with the preference of financing the protection from penalties imposed on companies
damage the environment should be noted. In comparison with a negative attitude
towards the willingness to cofinance the protection (correlation of \(-0.52\)), a figure of the
the group of respondents with a focused on intensive exploitation attitude, who consider the
forest ecosystems only in the categories of resources for the operation, occurs.

5. Conclusions

The study showed differences in willingness to pay for forests and protected areas.
Based on the conducted research, it can be concluded that the respondents showed a
relatively low willingness to pay to protect forests and legally protected areas at the level
of 24.8% and 22.1%, respectively. The most frequently declared amounts of the annual
fee were up to 6.80 (PLN 29). These studies are consistent with other studies on this
subject undertaken in Poland. For example, one of the studies assessed the readiness to
pay to preserve the recreational and tourist function of a forest at the level of 29% [62],
in subsequent studies, WTP was assessed at a level of 27.5% [66]. In another study, the
average willingness to pay to protect natural ecological processes has been estimated to be
15 and 20 PLN a year per household for partial and significant improvement of the current
situation, respectively.

In the course of the correlation analysis between individual factors, it was noticed that
there was a correlation between WTP and factors, such as professional status, age, and
income—in the case of forests, and education age and income—in the case of protected
areas (see Tables 4 and 5). These results are consistent with the results obtained in other
studies [37,65].

Moreover, there is a slightly lower willingness to pay to preserve protected areas than
for the maintenance of forest areas. This can be explained by the fact that the research
was carried out in a highly urbanized area. In such an area, forests are a place of daily
recreation. The respondents also believe that the preservation of protected areas should be
financed from public sources (38%) or from usage fees and fines imposed on enterprises
(35.7% and 37.6%, respectively). There was also found a low level of acceptance for running
a business in these areas (62.4% of respondents do not accept such solutions).

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