

Organizations of public benefit: performance evaluation using MCDA approach

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Abstract. In many countries, organizations of public benefit play an important role in the economy and are established only for charitable purposes. Serving the public interest is often connected with certain benefits, such as additional source of revenue, tax advantages or state grants, but also certain obligations, such as guaranteeing trustworthiness and transparency of operations. Taking the role of charities and voluntary organizations into consideration there is a great need to assess properly such entities whereas tools indicated for corporate finance are not appropriate since these units are established for purposes other than profit-making. Moreover, their range of activities is very different. Hence, new assessment methods are needed in order to evaluate them properly. For this reason the main aim of this paper is to propose and apply multi-criteria decision aiding (MCDA) approach to the problem of assessment of organizations of public benefit. The proposed procedure using EVAMIX method for mixed evaluations (deterministic and stochastic) has been employed in the process of appraising and ranking nine Public Benefit Organizations (PBOs) from one of Polish voivodships operating in the field of 'Ecology, animals and heritage protection', and eight charities from two neighboring English metropolitan boroughs, operating in the field of 'Animals'. Rankings of these entities have been obtained so that, e.g., a potential donator would have a better base to make his or her decision regarding financial support.

Keywords: public benefit organizations, charities, performance evaluation, PBOs reporting, MCDA, EVAMIX method for mixed evaluations

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1. Introduction

Charities and voluntary organizations exist all over the world and their number is constantly increasing. In the economy, they represent the third sector and are also labeled as non-profit sector, non-profit organizations (NPOs) and non-governmental organizations (NGOs). In many countries, third sector organizations play an important role by carrying out certain tasks that are believed to be of general benefit to society. Their operating scope may be very diverse and their activity may affect ecology, sport, education, health issues, culture and many other fields. The economic impact of the third sector is validated by many studies, which make an attempt to present the relative impact of this sector on certain statistical economic measures, such as employment or GDP [37]. In 2013 the nonprofit sector contributed an estimated 905.9 billion dollars to the U.S. economy, what constitutes 5.4% of the country's GDP [22]. Unfortunately, statistical data concerning the third sector in different countries is often incomparable. On one hand, it stems from non-unified national definitions of the third sector which include a great variety of economic entities. The understanding of the third sector scope varies across Europe, going from the narrow concept based on the legal tradition of the Charities Act in the United Kingdom, to very broad ideas of social economy and third sector popular in other parts of the continent [28]. On the other hand, the lack of data comparability can also be rooted in the lack of full and appropriate understanding of the third sector's contribution to the economy.

Considering that the third sector plays such an important role in the economy, some initiatives have been taken to obtain reliable statistical data. Let us mention the initiatives started by the Third Sector Research Centre and the National Council of Voluntary Organizations, the Johns Hopkins Center for Civil Society Studies or the Third Sector Impact project [37]. The latter started in 2014 and is financed by European Union. Its main aim is to recognize "the scope and scale of the third sector in Europe, its current and potential impact, and the barriers hindering the third sector to fully contribute to the continent's welfare" [30]. One of the first effects of this project is a consensus conception of the third sector in EU (more in [28]).

In many countries, certain entities classified as third sector organizations also become public benefit organizations (PBO). In most continental European countries, recognizing a given third sector organization to be of 'public benefit' means that the organization has obtained a special 'status' after being registered as a legal entity (usually in the form of an association or a foundation). The approach to public benefit is different in the United Kingdom, where all organizations with solely public benefit purposes are considered 'charities' [23]. Introducing a public benefit organization (PBO) status as well as strengthening accountability requirements for PBOs and overall promotion of accountability and transparency of NPO are perceived among the key trends in regulations concerning non-profit

organizations. These trends are connected with three major factors, i.e. the increased economic and policy importance of the sector, the aspiration of governments to optimize NPO contributions to the public good, and efforts made by the NPOs in order to reinforce the confidence and increase the support of the public [2].

Taking into consideration the role of public benefit organizations/charities we can see a great need to properly assess such entities. Their importance for the economy, represented for example by the volume of funds they control, requires monitoring their operations [36]. For example the average income generated by charities operating in Great Britain in 2015 was 426.3 thousand pounds whereas the average turnover in SME in 2015 amounted about 325.9 thousand pounds [3; 26]. Thus, it is very important to indicate the organizations which have obtained the highest 'social return on investment' [6]. These organizations need to try to measure their activities as to demonstrate their competency, to achieve legitimacy, and to obtain funding [1]. Unfortunately, tools indicated for corporate finance are not appropriate in this case since these entities are established for purposes other than profit-making. Moreover, their range of activity is quite diversified, which makes the assessment process even more complicated. Therefore, new assessment methods are needed in order to properly evaluate organizations of public benefit, so that both financial and non-financial information would be included in the performance assessment of PBO.

In the forgoing context the aim of this paper is to propose and apply multi-criteria decision aiding (MCDA) approach based on the outranking relation to the problem of assessment of public benefit organizations. Considering the specific economic situation of these entities, a set of special measures will be used in the analysis. Some of those measures have already been presented in literature [36; 35; 34; 7; 6], while others have been constructed for the purpose of this paper. The use of MCDA approach allows for obtaining what may be called a ranking of the effectiveness and reputation of public service organizations. This type of performance assessment may serve potential individual and institutional donators as a base for making their decisions. Furthermore, organizations of public benefit often obtain funds from public subsidies as a result of competition among these organizations. In our opinion, this approach may be used by the authorities as a tool of assessing public benefit organizations which have to compete for public resources. Finally, non-profit organizations could be interested in evaluating their position in comparison to other such institutions. Such an evaluation would be an opportunity to verify the organization's attractiveness as a fundraiser in the growing competitive reality of the third sector. The usefulness of the approach we proposed will be illustrated, using an example of Public Benefit Organizations from one of Polish voivodships, operating in the field of 'Ecology, animals and heritage protection', as well as with an example of charities from two neighboring English metropolitan boroughs, operating in the field of 'Animals'.

The article contains five chapters. Following the Introduction, in section 2 we present a short comparison of selected characteristics of public benefit status in Great Britain and in Poland. The third and the fourth part, in turn, include the description of the proposed procedure and the case study as well as the solutions obtained as a result of applying the MCDA tool. We conclude by summarizing the key concept of our approach, considering its certain shortcomings and discussing briefly the future work.

2. Organizations of public benefit in Great Britain and in Poland

The organizations which were chosen to be assessed using MCDA methods operate in Great Britain and in Poland. They are subject to two major legal systems: the common law system used in Great Britain and the civil law system which is used in Poland. Having chosen organizations which are subject to two different legal systems should facilitate our attempt to propose universal approach which can be applied in organizations of public benefit, regardless of the domestic legal requirements regulating their activity.

In Europe, Great Britain has a long tradition of charity organizations activities. The first law regulation, Charitable Uses Act (known as the Statute of Elizabeth) was implemented in 1601. Today, the definition of a charity can be found in the Charities Act. According to The Charities Act 2011, a charity is an institution which is established only for charitable purposes and each of its purposes must be for the public benefit ('the public benefit requirement') [28]. Currently in Great Britain the number of charities is rather stable. The Charity Commission announced that 165,290 charities operated as at the end of 2015 (in 2004 the total number of charities was 166,336) [3].

In Poland, vast majority of currently functioning NPOs were set up after the collapse of the communist system in 1989. The former period, i.e. the years following World War II, were unfavorable to voluntary organizations due to political and administrative control. Many NPOs were dissolved or liquidated [21]. However, public benefit organizations have only been operating in Poland since 2003, when the Law on Public Benefit Activity and Volunteer Work Act was introduced. According to this act of law, PBOs are mostly non-governmental organizations defined as corporate and non-corporate entities which obtained the public benefit status, not forming part of the public finance sector and not operating for profit purpose. In Poland, the situation is quite dynamic, as the number of PBO entities has risen from 2,200 to 8,700 in the period of 2004 – 2014 [10]. Table 1 presents selected characteristics of charities in Great Britain and PBOs in Poland.

Characteristic	United Kingdom (a common-law country) Charities	Poland (a civil-law country) Public Benefit Organizations
Criteria for obtaining public benefit status	Organizations established only for charitable purposes (a list of 12 particular purposes). Each of its purposes must concern public benefit (there are five main principles which show whether an organization provides benefit to the public).	Regulations provide a list of organizations that cannot apply for PBO status (e.g. political parties). PBOs must engage exclusively in public benefit activities (they may run commercial activity, but only as an addition to public benefit activity). An entity must have been operating without interruption for at least 2 years.
Registration	Charities are registered by the Charity Commission.	PBOs are registered in the National Court Register.
Legal forms	Main types: charitable incorporated organization (CIO), charitable company (limited by guarantee), unincorporated association, trust.	Primarily association and foundation.
Benefits for the organization	Tax benefits on most of the income and gains if it is used for charitable purposes (includes tax on donations, on profits from trading, on rental or investment income, on profits when you sell or 'dispose of' an asset, like property or shares, when you buy property). Many sources of grants, including the National Lottery, are available more easily, or exclusively, to charities.	Tax benefits (corporate income tax exemption on all income used on statutory activity, exemption from real estate tax, civil actions tax, stamp duty and court fees). The 1% law (taxpayer may allocate 1% of their tax payment for the sake of public benefit organizations they chose). Preferential terms while using public property; promotion in public media is free of charge.

Reporting obligations	Charities with an income over £10,000 must submit an annual return. Those below the threshold need only make reports available for inspection. Charities with an income over £25,000 must submit a PDF copy of their accounts, an independent examiner or auditor's report and the trustees' annual report (a detailed report is required if charity's gross income exceeds £500,000; otherwise a brief summary is needed). The commission displays on its website trustees' annual reports that are sent to them.	PBOs are obliged to prepare an annual performance report and annual financial statement. These reports are publicly accessible, as they must be published in the Internet database of the Ministry of Labor and Social Policy. PBOs are required to disclose the information in how the 1% is used.
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Sources: [28], [23], [38], [19]

Table 1: *Certain characteristics of charities in Great Britain and PBOs in Poland*

3. The proposed procedure of appraising organizations of public benefit

Meeting the need to develop the system of evaluation and selection of organizations of public benefit, for instance for private or public co-financing (donations), and taking into account advantages and disadvantages of different MCDA methods (see [11], [12] and [14]) as well as the fact that data used for assessment will be partly qualitative and partly quantitative, and, additionally, at least some performances of alternatives will be evaluated in a probabilistic way, the procedure composed of the following elements has been proposed to aid the decision-makers (DMs):

- Identification of the participants of the decision-making process;
- Selection of the performance evaluation criteria and measures for them;
- Determination of weights for evaluation criteria:
 - arbitrarily;
 - with the help of the Hinkle's method, which is also called the 'resistance to change' grid (see [16] and [27]);

- with the help of the revised Simos' procedure (see [8]);
 - using Hokkanen and Salminen's approach, version 1 or 2 (see [17] and [18]);
 - using Mousseau's method (see [24]);
- (the choice of the method depends on the number and preferences of the decision-makers);
- Collecting data and building a table of assessments (evaluation matrix) of organizations taken into consideration;
 - Application of the EVAMIX method for mixed evaluations (see [5]), which is a hybrid of the EVAMIX method (see [32]) and the EVAMIX method with stochastic dominance rules (see [11] and [13]), to construct a ranking of the PBOs;
 - Taking the final decision.

In the EVAMIX method, proposed by H. Voogd (see [32] and [33]), the qualitative and quantitative data are distinguished and the final appraisal score of a given alternative is the result of a combination of the evaluations calculated separately for the qualitative and quantitative criteria. After including stochastic dominance rules in this procedure, the EVAMIX method for mixed evaluations (deterministic and stochastic ones) consists of the following steps (see [5]):

1. Determination of the qualitative dominance measures for the ordinal criteria:

$$\alpha_{ij} = \left[\sum_{k \in O} \{w_k \varphi_k(a_i, a_j)\}^c \right]^{\frac{1}{c}}, \quad c = 1, 3, 5, \dots, \quad (1)$$

where:

c – an arbitrary scaling parameter, for which any positive odd value may be chosen; the higher the value of the parameter is, the weaker the influence of the deviations between the evaluations for the less important criteria,
 O – a set of qualitative (ordinal) criteria[‡];

$$\varphi_k(a_i, a_j) = \begin{cases} 1 & \text{if } f_k(a_i) - f_k(a_j) > 0, \\ -1 & \text{if } f_k(a_j) - f_k(a_i) > 0, \\ 0 & \text{otherwise,} \end{cases} \quad (2)$$

for deterministic evaluations,

[‡] It is assumed that all the criteria are maximized.

$f_k(a_i)$ – performance of alternative a_i on criterion f_k ;

$$\varphi_k(a_i, a_j) = \begin{cases} 1 & \text{if } F_k^i SD F_k^j \text{ and } \mu_k(a_i) - \mu_k(a_j) > 0, \\ -1 & \text{if } F_k^j SD F_k^i \text{ and } \mu_k(a_j) - \mu_k(a_i) > 0, \\ 0 & \text{otherwise,} \end{cases} \quad (3)$$

for stochastic evaluations,

F_k^i – distribution of the evaluations of alternative a_i with respect to criterion f_k ,

$\mu_k(a_i)$ – average performance (expected value of the evaluation distribution) of alternative a_i on criterion f_k ,

and SD denotes stochastic dominance relation: OFSD/OSSD (see [29]), OAFSD/OASSD (see [12] and [13]).

2. Calculation of the quantitative dominance measures for the cardinal criteria:

$$\gamma_{ij} = \left[\sum_{k \in Q} \{w_k (v_k(a_i) - v_k(a_j))\}^c \right]^{\frac{1}{c}}, \quad c = 1, 3, 5, \dots, \quad (4)$$

for deterministic evaluations,

where:

Q – a set of quantitative (cardinal) criteria[§],

$v_k(a_i)$ – standardized performance of alternative a_i on criterion f_k (expressed on a scale from 0 to 1);

$$\gamma_{ij} = \begin{cases} \left[\sum_{k \in Q} \{w_k (\eta_k(a_i) - \eta_k(a_j))\}^c \right]^{\frac{1}{c}}, & c = 1, 3, 5, \dots, \text{ if } F_k^i SD F_k^j, \\ 0 & \text{otherwise,} \end{cases} \quad (5)$$

for stochastic evaluations,

where:

[§] It is assumed that all the criteria are maximized.

$\eta_k(a_i)$ – average standardized performance (expected value of the standardized evaluation distribution) of alternative a_i on criterion f_k ,

F_k^i – distribution function representing standardized evaluations of alternative a_i with respect to criterion f_k ,

and SD denotes stochastic dominance relation: FSD/SSD (see [25] and [15]), AFSD/ASSD (see [20]).

3. Standardization of the dominance measures as follows:

$$\delta_{ij} = \alpha_{ij} \left(\sum_{i=1}^m \sum_{j=1}^m |\alpha_{ij}| \right)^{-1}, \quad (6)$$

$$\sigma_{ij} = \gamma_{ij} \left(\sum_{i=1}^m \sum_{j=1}^m |\gamma_{ij}| \right)^{-1}. \quad (7)$$

4. Calculation of the overall dominance measure q_{ij} for each pair of alternatives:

$$q_{ij} = w_O \delta_{ij} + w_Q \sigma_{ij}, \quad (8)$$

where:

w_O – the sum of weights of qualitative criteria,

w_Q – the sum of weights of quantitative criteria.

5. Determination of the final appraisal score u_i for each alternative:

$$u_i = \frac{1}{m} \sum_{j=1}^m q_{ij}. \quad (9)$$

6. Ranking of the alternatives (PBOs) according to the descending order of the final appraisal scores.

4. Case study

The present study illustrates the application of the proposed procedure in the process of appraising and ranking nine Public Benefit Organizations from one of Polish voivodships operating in the field of ‘Ecology, animals and heritage protection’, and eight charities from two neighboring English metropolitan boroughs, operating in the field of ‘Animals’. Factors affecting the choice of the organizations of public benefit for donation have been identified through the literature review as well as based on the authors’ own ideas. They are presented in Table 2.

No.	Criterion (min/max/value of); earlier studies	Measure – calculation formula	
		United Kingdom	Poland
f ₁	Average amount of aid per beneficiary (max)	(charitable activities + cost of generating voluntary income)/number of beneficiaries	cost of unpaid statutory activities/number of beneficiaries
f ₂	Average revenue generated by people involved in organization’s activities (max)	total revenue/number of people involved in charity activities	total revenue/number of people involved in PBO’s activities
f ₃	Labor cost in relation to total revenue (min)	gross salaries/total revenue	
f ₄	Change in revenue (max); [4]	(total revenue in current year – total revenue in previous year)/ total revenue in previous year	
f ₅	Financial stability ratio (value of 73); [6], [7]	(cash at bank and in hand + other short-term investments (in previous year))*365/total cost (in current year)	cash and other short-term investments (in previous year)*365/total cost (in current year)
f ₆	Private revenue concentration ratio (% of private financing) (max); [6], [7]	(individual donations + fundraising + legacies)/total revenue	(1% of PIT + incomes from private sources including individual and institutional donations)/total revenue

f ₇	Administrative costs ratio (% of administrative costs) (value of 6.5%); [6], [7], [9], [31]	governance cost/total cost	administrative cost/total cost
f ₈	Activity scope (value of 36); [6], [7]	number of beneficiaries/number of people involved in organization's activities	
f ₉	Alternative labor costs (max); [6], [7]	(number of volunteers*gross salaries)/employees	
f ₁₀	Organization's age (max); [31]	the number of days an organization has been active	the number of days an organization has PBO status
f ₁₁	Statutory goals and activities or projects (max); [7]	Do annual statements of an organization or its promotion materials define precisely statutory goals and activities or projects undertaken to achieve those objectives? (appraisal of the DM on scale 0-3)	
f ₁₂	Effects of activities (max) [7]	Do annual statements of an organization or its promotion materials disclose accurately effects of activities undertaken by the organization in the recent period? (appraisal of the DM using scale 0-3)	
f ₁₃	Beneficiaries of activities (max); [7]	Do annual statements of an organization or its promotion materials characterize thoroughly beneficiaries of activities conducted by the organization in the recent period? (appraisal of the DM using scale 0-3)	
f ₁₄	Organization's image (max); [7]	Does the web-site of the organization help to produce a positive image of the PBO? (appraisal of the DM on scale 0-3)	

Sources: [4], [6], [7], [9], [31], [34] and own elaboration

Table 2: PBOs performance assessment factors

Analysis has been conducted on the basis of the official and publicly available annual reports (from 2014) of the organizations considered. Criteria f₁₁ – f₁₄ have been assessed by the article's authors, who played roles of potential donators. They have also determined weighting coefficients for the evaluation criteria (arbitrarily, using compromise). The model of preferences for the decision-making problem and measurement data are presented in the table included in Appendix.

In turn, Table 3 provides a summary of the results received by applying the EVAMIX technique for mixed evaluations.

No.	United Kingdom		Poland	
	Organization (Charity)	Appraisal score	Organization (PBO)	Appraisal score
1	UK A	0.0112	POL H	0.0097
2	UK B	0.0058	POL D	0.0082
3	UK D	0.0053	POL F	0.0053
4	UK C	0.0048	POL A	0.0035
5	UK E	0.0018	POL I	0.0025
6	UK F	0.0014	POL G	-0.0005
7	UK H	-0.0141	POL B	-0.0038
8	UK G	-0.0162	POL C	-0.0119
9			POL E	-0.0130

Source: own elaboration.

Table 3: *Rankings of public service organizations obtained using the EVAMIX method for mixed evaluations*

The higher the value of appraisal score is, the better is the performance of the public service organization from the point of view of decision-makers. Thus, the rankings of entities we have obtained show that the best organizations for donation, taking into account their effectiveness and reputation, are Charity A in the United Kingdom and PBO H in Poland. Charities B, D, C, E and F as well as PBOs D, F, A and I also turned out to be quite good solutions since the values of their appraisal scores are positive. On the other hand, neither Charity H nor PBOs G, B and C seem appropriate entities for supporting by the DMs examined since the values of appraisal scores determined for them are negative. The worst organizations for subsidizing in the UK and in Poland are Charity G and PBO E respectively.

5. Conclusions

In the article we have proposed a universal tool, based on the outranking MCDA methods (EVAMIX and EVAMIX with SD rules), namely EVAMIX for mixed (deterministic and stochastic) evaluations, which can be used to solve the problem of choosing public service organizations for subsidizing. In fact, applying this approach can enhance the evaluation process and improve decision-making since the assumptions on which it is based are in line with reality.

The procedure discussed can be applied in the case of public service organizations all over the world. The example presented in the paper may serve as a guide.

Nonetheless, we have to remember that activity of such organizations may be assessed differently across countries taking into account 1) the tradition of the third sector in the economy, and 2) the level of development of social capital and the model of voluntary service (for example the engagement in voluntary service in Poland is very low comparing to Western European countries).

Furthermore, it has to be taken into consideration that reports of organizations of public benefit are not harmonized even in the European Union (for instance in Poland it is obligatory to present administrative costs and there is no such position in English reports; generally speaking, positions from Polish statements correspond to those from English reports but we cannot consider them as exactly the same as they may have different content), not to mention other countries. Thus, the measures considered in the analysis should certainly be tailored to each country's specific circumstances. However, bearing in mind trend of promoting accountability and transparency in the third sector organizations, above mentioned problems may be minimized in the future.

Finally, it cannot be forgotten that the tool proposed is only as good as the input data. Hence, the quality of information that is presented in financial statements and/or on the web pages is crucial and may constitute a restriction on the proposed approach application.

In our future work the focus will be on organizations of public benefit in other countries, for instance Canada and Australia.

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Appendix: Model of preferences and input data

a_i/f_k	f_1 [MAX]	f_2 [MAX]	f_3 [MIN]	f_4 [MAX]	f_5 [goal: 73]	f_6 [MAX]	f_7 [goal: 0.065]	f_8 [goal: 36]	f_9 [MAX]	f_{10} [MAX]	f_{11} (scale 0-3) [MAX]	f_{12} (scale 0-3) [MAX]	f_{13} (scale 0-3) [MAX]	f_{14} (scale 0-3) [MAX]
weight w_k	0.1286	0.1238	0.0762	0.0429	0.0571	0.0667	0.0167	0.0452	0.0238	0.0333	0.0762	0.1095	0.0952	0.1048
United Kingdom - Charities														
Charity	Evaluation of the alternative a_i on the criterion f_k													
UK A	1757.48	26049.93	0.2352	0.6649	167.58	0.8482	0.0378	7.82	24879.21	11349	3	2	2	2
UK B	614.59	35569.69	0.3572	0.0910	566.49	0.8335	0.0097	43.48	40028.80	3817	3	3	2	2
UK C	180.54	13783.80	0.2886	0.0946	510.38	0.9951	0.0118	49.05	114208.33	19459	3	3	3	2
UK D	110.97	49569.32	0.1548	1.5192	484.57	0.8206	0.0108	124.24	352733.57	9143	3	2	2	2
UK E	157.95	19478.20	0.4727	-0.2722	193.44	0.1693	0.0550	57.67	48362.95	19006	3	3	3	3
UK F	84.54	50083.00	0.0000	-0.3450	136.90	0.9168	0.0027	620.00	7807.86	9453	2	2	1	1
UK G	27.96	8009.93	0.2214	-0.0820	895.36	0.2021	0.2982	228.99	45003.08	19057	1	1	2	2
UK H	24.97	29505.38	0.4273	-0.5079	803.92	0.8932	0.0231	1272.50	9338.61	5891	3	3	2	2
Poland – Public Benefit Organizations														
PBO	Evaluation of the alternative a_i on the criterion f_k													
POL A	197.20	383884.58	0.0306	0.1856	600.96	0.9713	0.0000	1557.78	0.00	4295	2	3	2	2
POL B	21.20	85530.73	0.4169	0.0190	26.37	0.0689	0.0000	3190.41	21618.83	4183	2	3	3	3
POL C	6.79	39454.64	0.5393	-0.3545	133.91	0.2975	0.2676	3671.60	0.00	3971	2	2	3	3
POL D	1295.11	212473.12	0.2056	0.4287	0.00	0.4296	0.0000	174.55	0.00	3468	2	3	2	2
POL E	107.74	14979.51	0.1583	0.2640	24.77	0.0000	0.0000	59.56	0.00	2559	0	0	1	1
POL F	266.29	46481.07	0.1654	0.0899	19.71	0.8302	0.2516	140.53	42596.82	2877	3	3	3	3
POL G	145.29	42698.40	0.0000	0.0907	14.68	0.9799	0.0000	228.86	16800.00	1422	2	2	2	2
POL H	534.47	316603.83	0.0923	0.2363	149.83	0.0002	0.0002	521.20	39434.33	606	3	3	3	3
POL I	436.91	45257.92	0.2073	0.8890	51.00	1.0000	0.0000	71.15	86950.59	414	2	2	3	3