

CENTRUM EKSPERTYZ GOSPODARCZYCH
Fundacji Akademii Ekonomicznej

Sp. z o.o. w Poznaniu

ul. Składowa 4 lok. 6., 61-897 Poznań
tel. (061) 852 20 34, fax: (061) 851 06 42
e-mail: biuro@ceg.com.pl www.ceg.com.pl
Sąd Rejonowy Poznań Nowe Miasto i Wilda w Poznaniu
VIII Wydział Gospodarczy KRS 0000151174,
Kapitał zakładowy 50.000 zł wpłacony w całości



***Influence of the Exhibition Industry in Poland
on the Economy - Synthesis***

Poznan, May, 2013.

TABLE OF CONTENTS

I. INTRODUCTION	3
1. Aim and Character of the Study	3
2. Objective Scope of the Study	3
3. Time Range	3
4. Spatial Range	3
II. ANALYSIS OF QUANTITATIVE EFFECTS OF THE EXHIBITION INDUSTRY ON THE ECONOMY	5
1. Types of the differentiated effects	5
2. Expenditures of visitors and exhibitors related to participation in trade fairs and exhibitions	7
2.1. Methodology of the conducted research	7
2.2. Value and structure of visitors' expenditures	7
2.3. Value and structure of exhibitors' expenditures	8
3. Quantitative effects of expenditures of visitors and exhibitors - quantifying procedure	10
3.1. Basic assumptions	10
3.2. The procedure of quantifying quantitative effects in the approach using "partial effects"	11
3.3. Procedure of quantifying quantitative effects in the approach using the V index and E index	15
4. Quantification of quantitative effects concerning expenditures of visitors and exhibitors in terms of value.	16
4.1. Quantification of quantitative effects in the approach taking into account "partial effects"	16
4.2. Quantification of quantitative effects in the approach using the V index and E index	17
5. Quantitative effects of taxes from entities of the exhibition industry	17
5.1. Basic assumptions of the used quantifying procedure	17
5.2. Quantification of quantitative effects of taxes from entities of the exhibition industry in values	18
6. Analysis of the influence of the exhibition industry in Poland on the economy - a comprehensive list of quantitative effects	18
III. SUPPLEMENTING THE QUANTITATIVE EFFECTS BY THE ESTIMATED EXPENDITURES AND TAXES OF THE EXHIBITION BUSINESS NOT ASSOCIATED IN POLISH CHAMBER OF EXHIBITION INDUSTRY	19
Supplement to quantitative effects	20

I. INTRODUCTION

1. Aim and Character of the Study

The aim of this study is an attempt to quantify the comprehensive impact of the exhibition industry in Poland on the economy by presenting the consequences of the operations of:

- organizers, i.e. trade fair companies;
- trade fair service companies (enterprises of the so-called direct exhibition environment which deal with designing, construction and equipping of exhibition stands, as well as rendering technical, electronic and marketing services for stands, etc.);
- exhibitors;
- visitors;
- enterprises of the so-called indirect exhibition environment, such as hotels, catering establishments, telecommunications and public transport companies, entertainment;
- etc.

The authors conducted empirical research referring to the representatives of nearly all stakeholders of the exhibition industry in Poland.

2. Objective Scope of the Study

Firstly, diagnostic instruments were prepared and tested, which was followed by empirical research of the so-called areas of influence of the exhibition industry in the selected Polish cities (Kielce, Krakow, Lodz, Poznan, and Warsaw).

Secondly, a report on the empirical research was prepared, followed by the study based on primary and secondary sources, which presents the scale and directions of influence of the exhibition industry on the national economy in the quantitative and qualitative aspects.

In order to assess qualitative effects, a questionnaire was addressed to Presidents of the cities, to chairpersons (chancellors, presidents) of economic self-government institutions, as well as to exhibition companies. They were simultaneously sent by electronic mail, fax and snail mail.

3. Time Range

The research among this representative group of stakeholders of the exhibition industry in Poland started on February 19th and finished on July 27th, 2009. The majority of the questionnaires addressed to the stakeholders of the exhibition industry provided answers concerning events and behaviors from the period of 2007-2008m or exclusively from 2008.

4. Spatial Range

The concept of the study, which assumed the application of the quantification formula of the influence of the exhibitions on the economy, assumes the identification of the problem for the whole exhibition industry (trade fair cities) in Poland, and its complete range of influence.

The research approach assumed obtaining the primary empirical data limited to the most important exhibition centers in Poland which concentrate approximately 85-90% of the exhibition potential in Poland. Hence the research was conducted in Kielce, Krakow, Lodz, Poznan, and Warsaw.

Table 1. Research schedule in five exhibition centers in 2009

Name of the exhibition	Date	Qty. of exhibitors in total in 2009	Qty. of conducted questionnaire interviews	
			exhibitors	visitors
KIELCE				

AGROTECH XV International Fair of Agricultural Techniques	13-15 III 2009	430	70	154
LAS-EXPO IX Timber Industry and Forest Resources Management Fair		30	10	
STOM II Fair of Metal Processing, Tools and Machine Tools, CONTROL-STOM IX Fair of Industrial Measuring Technology	25-27 III 2009	192 (stom)+12 (cs)	45	102
DOM XVI Fair of Residential Building Materials and Interior Fitments	17-19 IV 2009	210	40	102
INTERKAMIEN XIV Stone Exhibition	17-19 IV 2009	33	20	
EXPO-GAS V Gas Engineering Fair	22-23 IV 2009	46	30	61
POZNAN				
GARDENIA Garden and Landscape Architecture Fair	27 II -1 III 2009	178	24	50
Books for Children and Young People - Poznań Trade Fair Meetings, Education Fair, School Equipment Exhibition	13 - 15 III 2009	375	33	5
Poznań Optical Exhibition	20-21 III 2009	71	23	83
DREMA International Trade Fair of Machines and Tools for Wood and Furniture Industries	31 III - 2 IV 2009	379	50	183
FURNICA International Trade Fair of Components for Furniture Production	31 III - 2 IV 2009	158	38	
Euro - Reklama OUTDOOR EXPO International Trade Fair of Advertising Goods and Services	21-24 IV 2009	252	68	206
POLIGRAFIA International Fair of Printing Machines, Materials and Services	21-24 IV 2009	158	38	
KRAKOW				
KRAKIDENT 17. Krakow Dental Fair	05-07 III 2009	270	52	101
BLACH-TECH-EXPO International Sheet Metal Working, Joining and Coating Fair	22-24 IV 2009	84	30	60
LODZ				
INTERBUD	19-22 II 2009	346	60	0
XX International Fair of Electronic Communication INTERTELECOM	17-19 III 2009	106	40	160
XII Fair of Photographic, Film and Video Equipment FILM VIDEO FOTO	02-04 IV 2009	148	44	99
WARSAW				

Murator EXPO 2009 - Construction Renovation House - Construction Fair	17-19 IV 2009	121	42	72
New House, New Apartment 2009 - Summer Housing Fair	25-26 IV 2009	105	35	60
IFE POLAND International Fair of Food, Beverages and Catering Services	20-22 V2009	128*	54	100

II. ANALYSIS OF QUANTITATIVE EFFECTS OF THE EXHIBITION INDUSTRY ON THE ECONOMY

1. Types of the differentiated effects

In order to present the influence of the exhibition industry in Poland on the economy, two types of effects were differentiated, presented in a form of compound flows possible for quantitative presentation in monetary units. The effects and their compound values are presented in picture 2.1., and they are:

- a) **quantitative effects**, including those referring to:
 - expenditures of exhibitors and visitors which were calculated based on data obtained from a representative questionnaire survey (quantitative effects - expenditures),
 - taxes, in particular all income taxes CIT and PIT, generated by the most important players of the supply on the exhibition market, i.e. by exhibition companies and closely connected with them trade fair service companies, as well as hotels (quantitative effects - taxes). The source base for the performed calculations was the statistical data and partially the results of the empirical research,

- b) **quantitative effects** – expressed by identification of the attributes (resources) of trade fair cities, whose activation represents development measured not only by cash flow, but also by the improvement of the quality of life of local inhabitants and developing better customer service for, among other, business tourists who visit exhibitions. These effects were specified based on a questionnaire survey conducted among Presidents of the five researched cities and presidents of two national organizations of economic self-government: the National Chamber of Commerce and Business Centre Club, as well as Chairpersons of Regional Chambers and Chancellors of Regional Chapters of these organizations in the researched five cities.

QUANTITATIVE EFFECTS - EXPENDITURES

EXHIBITORS	TRAVEL	PARKING	TAXI	ACCOMMODATION	CATERING	SHOPPING, ENTERTAINMENT, CULTURE, SPORTS, RECREATION	FOR THE STAND	PROMOTION ADVERTISING	TFSCs	ADDITIONAL EMPLOYMENT	TRANSPORT AND FORWARDING
VISITORS	TRAVEL	PARKING	TAXI	ACCOMMODATION	CATERING	SHOPPING, ENTERTAINMENT, CULTURE, SPORTS, RECREATION					

QUANTITATIVE EFFECTS - TAXES

EXHIBITION COMPANIES	CIT	PIT	OTHER
TRADE FAIR SERVICE COMPANIES	CIT	PIT	OTHER
OTHER	CIT	PIT	OTHER

QUANTITATIVE EFFECTS

ECONOMIC SELF- GOVERNMENT BCC, NCC	ATTITUDE OF INHABITANTS TO EXHIBITIONS	EVALUATION OF THE CITY INFRASTRUCTURE	EVALUATION OF PROMOTION OF EXHIBITIONS	INFLUENCE OF EXHIBITION ON SOCIAL SPHERES (CSR)	INVESTMENTS CONDITIONING THE DEVELOPMENT OF TRADE FAIR FUNCTION OF THE CITIES	COOPERATION WITH THE CITY FOR THE BENEFIT OF EXHIBITIONS	COOPERATION WITH BUSINESSES AND INSTITUTIONS FOR THE BENEFIT OF EXHIBITIONS	SUPPORT OF EXHIBITIONS SUBSTANTIALLY AND FINANCIALLY
TERRITORIAL GOVERNMENT PRESIDENTS	ATTITUDE OF INHABITANTS TO EXHIBITIONS	EVALUATION OF THE CITY INFRASTRUCTURE	EVALUATION OF PROMOTION OF EXHIBITIONS	INFLUENCE OF EXHIBITION ON SOCIAL SPHERES (CSR)	INVESTMENTS CONDITIONING THE DEVELOPMENT OF TRADE FAIR FUNCTION OF THE CITIES	PLACE OF EXHIBITION IN THE STRATEGIC DOCUMENTS OF THE CITY	CITY INVESTMENTS DIAGNOSIS AND PROJECTIONS	INCOME FROM CIT AND PIT TAXES TO THE BUDGET

**E
C
O
N
O
M
Y**

2. Expenditures of visitors and exhibitors related to participation in trade fairs and exhibitions

2.1. Methodology of the conducted research

The basic source of information which allows for measuring the influence of the exhibition industry in Poland on the economy is the results of the questionnaire survey conducted in 2009 by CENTRUM EKSPERTYZ GOSPODARCZYCH FAE.

Identification and quantification of the influence of the exhibition industry in Poland on the economy required conducting research among several groups of entities, which form both the supply and the demand of the exhibition industry, which gave the foundation for conducting the research in several environments.

General population, from which the sample was selected, consisted of:

- physical persons who visited selected trade fairs and exhibitions (referred to as "visitors"),
- companies which took part in selected trade fairs and exhibitions as exhibitors (referred to as "exhibitors").

The size of the research sample was: visitors – 1598, exhibitors - 846 persons.

The research was conducted at trade fairs and exhibitions held in the cities which are the largest exhibition centers in Poland, i.e. in Kielce, Krakow, Lodz, Poznan and Warsaw, between February 19th and May 22nd, 2009. The research was conducted using the method of a direct (personal) interview based on a standardized questionnaire.

2.2. Value and structure of visitors' expenditures

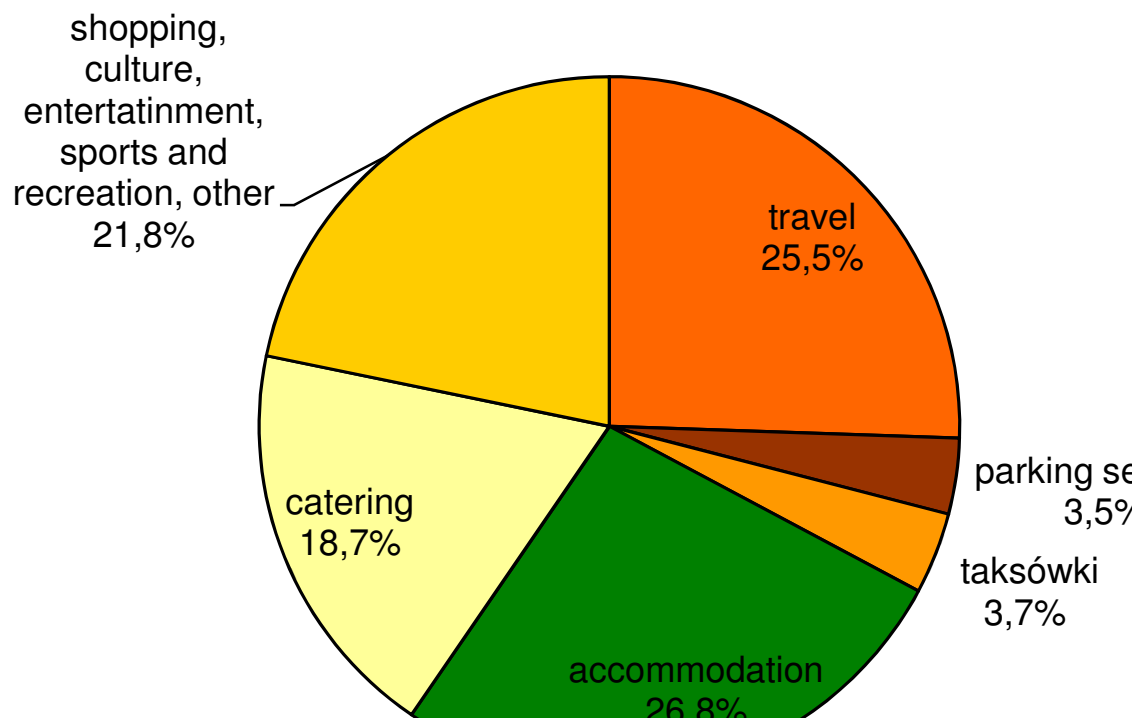
The starting point of the calculated estimation is the analysis at the level of an average "statistical" visitor - a participant of an exhibition. The average value of the expenditure borne in relation to participation in an exhibitions and the stay in the exhibition city was then used as a basis for estimating the global value of expenditures borne by visitors who took part in the research.

The conducted survey shows that visitors who took part in the research spent in relation to the participation in a trade fair or exhibition, and using various types of services accompanying their stay in the exhibition center, **PLN 677.2 thousand**. Taking into account the range of trust in the previously conducted estimation of the average value at the level of an individual "statistical" visitor, the value of the expenditures amounts to between PLN 574 thousand and PLN 780 thousand. (Table 2.1.)

Table 2.1. The value of consumer expenditures (in PLN) borne in relation to participation in trade fairs and exhibitions by visitors who took part in the research

Type of expenditures	Total	Taking into account the range estimation in calculating average expenses	
Expenditures on travel	172 912	142 137	203 687
Expenditures on parking services	23 776	21 191	26 361
Expenditures on taxis	25 475	21 494	29 456
Expenditures on accommodation	181 210	143 009	219 411
Expenditures on catering	126 467	116 844	136 090
Expenditures on shopping, culture, entertainment, sports and recreation, others	147 382	129 770	164 994
TOTAL	677 222	574 445	779 999

Drawing 2.1. The structure of consumer expenditures (in PLN) borne in relation to participation in trade fairs and exhibitions by visitors who took part in the research.



The analysis of the share of individual types of expenditures in the total sum shows that the two major positions in this respect are expenditures on accommodation and on travel, which in total generate over a half (26.8% and 25.5% respectively) of the means allocated by visitors to the stay at an exhibition and in the trade fair city. In total, exhibitors who took part in the research spent PLN 173 thousand on travel and PLN 181 thousand on accommodation.

2.3. Value and structure of exhibitors' expenditures

The basis for estimating the value of expenditures on trade fairs and exhibitions and the stay in the trade fair city, which allowed for presenting the strength of influence of the exhibition industry on the local economy was the analysis conducted at the level of an average "statistical" exhibitor" - a participant in an exhibition.

The conducted research shows that in relation to participation in trade fairs and exhibitions and using various types of services accompanying the stay in exhibition centers, companies-exhibitors which took part in the research had expenditures qualified to consumer expenditures in the amount of close to **PLN 835 thousand**. The value of expenditures is presented in Table 2.2. and their structure in Drawing 2.2.

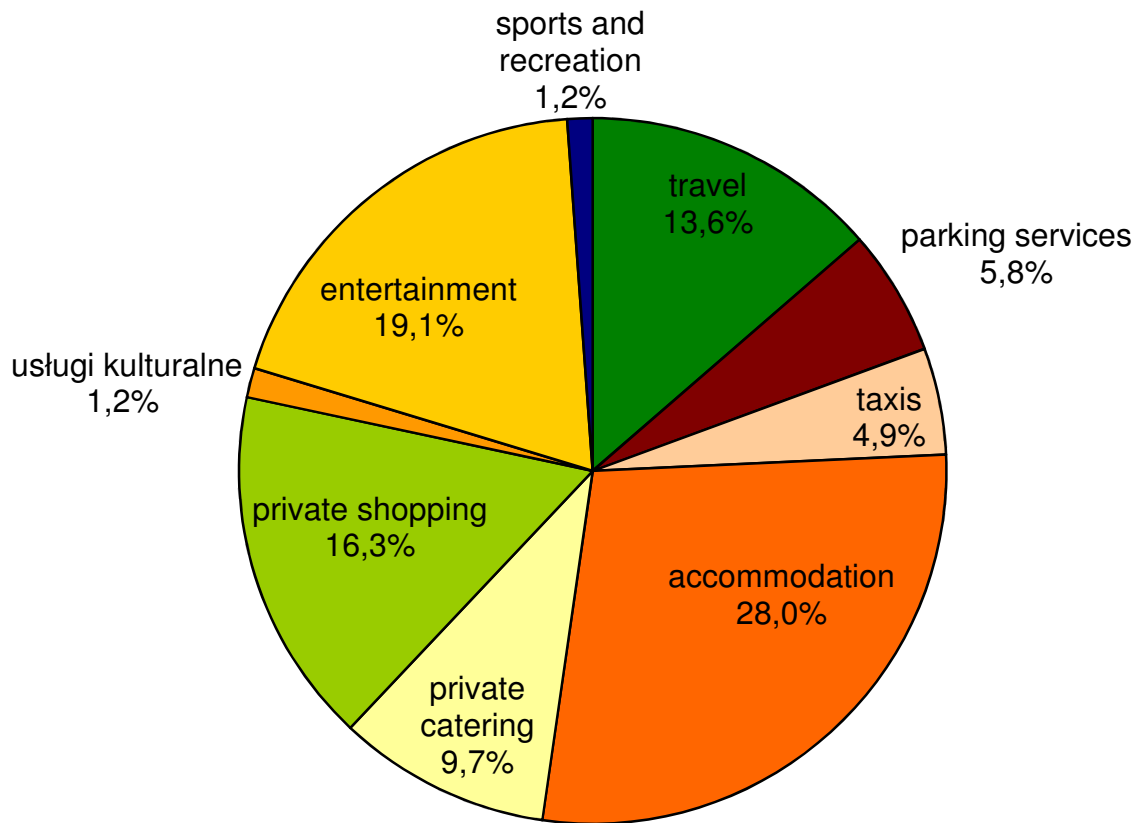
Table 2.2. The value of consumer expenditures (in PLN) borne in relation to participation in trade fairs and exhibitions by companies which took part in the research

Type of expenditures	Total	Taking into account the range estimation in calculating average expenses	
Expenditures on travel	113 699	80 056	147 342
Expenditures on parking services	48 052	41 677	54 427

Expenditures on taxis	40 780	35 288	46 272
Expenditures on accommodation	233 831	209 661	258 001
Expenditures on private catering	81 350	72 905	89 795
Expenditures on private shopping	136 300	115 928	156 672
Expenditures on culture	11 250	8 883	13 617
Expenditures on entertainment	159 800	137 163	182 437
Expenditures on sports and recreation	9 625	6 663	12 587
TOTAL	834 687	708 223	961 151

The most important position in the structure of expenditures which were described as consumer is **expenditures on accommodation (28.0%)**. In total, companies which took part in the research spent PLN 233.8 thousand on accommodation.

Drawing 2.2. The structure of consumer expenditures (in PLN) borne in relation to participation in trade fairs and exhibitions by companies which took part in the research



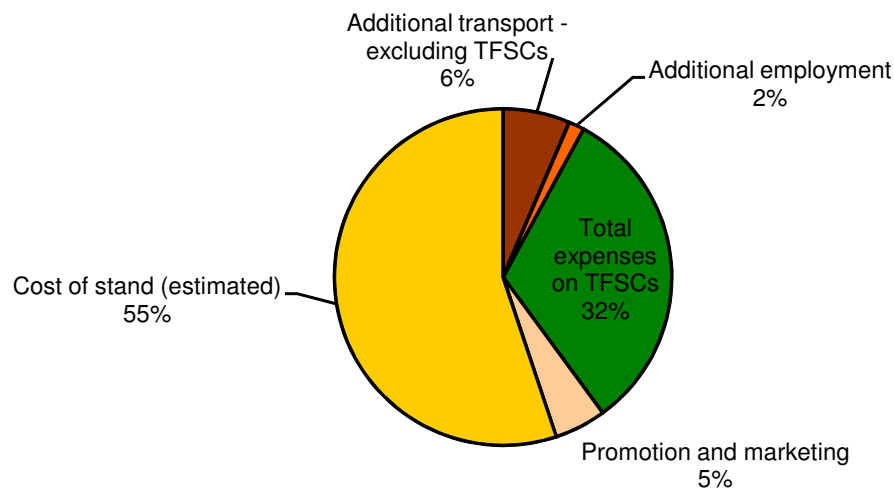
Apart from bearing typical consumer expenditures related to travel to the exhibition center and using accommodation, catering, entertainment services, etc., companies which took part in an exhibition spend certain financial resources on renting and preparing an exhibition stand, i.e. its design, construction and equipment. The conducted research shows that companies which took part in the research spent for this purpose PLN 14.8 million and, taking into account the range of trust in the previously conducted calculation of the average value of expenditures at the level of an "average" participant of an exhibition, the value of such expenditures amounts to between PLN 12.7 million and 16.8 million. (Table 2.3.)

Table 2.3. Value of expenditures related to the rent and organization of an exhibition stand (in PLN) borne by companies which took part in the research

Type of expenditures	Total	Taking into account the range estimation in calculating average expenses	
Expenditures on additional transport (forwarding) - excluding TFSCs (trade fair service company)	947 500	757 516	1 137 484
Expenditures on additional employment	223 150	179 722	266 578
Expenditures on TFSCs in total	4 729 500	4 031 190	5 427 810
Expenditures on promotion and marketing	731 350	647 081	815 619
Cost of the stand (estimated)	8 140 091	7 095 532	9 184 649
TOTAL	14 771 591	12 711 041	16 832 140

The most important position in this group of expenditures is the **cost of rent of an exhibition stand** which accounts for **55%** of the total sum of expenditures, which in the quantitative aspect amounts to PLN 8.1 million. The second key position belongs to costs related to **using the services of TFSCs (32.0%)**. The researched companies-exhibitors spent PLN 4.7 million of the services of TFSCs.

Drawing 2.3. Structure of expenditures related to the rent and organization of an exhibition stand (in PLN) borne by companies which took part in the research



3. Quantitative effects of expenditures of visitors and exhibitors - quantifying procedure

3.1. Basic assumptions

Quantifying the influence of the exhibition industry on the economy was achieved by analyzing individual expenditures borne by an "average" exhibitor" and visitor in relation to their participation in a trade fair or exhibition and the stay in the trade fair city.

The analysis was conducted of expenditures of such types of services as: transport, accommodation, catering services, culture, entertainment as well as sports and recreation. Additionally, in the case of the exhibitors, an analysis was also conducted of typical for such entities types of expenditures, which included cost of renting a stand, additional transport (forwarding), additional employment during the exhibition, expenditures on TFSCs (design, construction and furnishing of the stand, as well as transport and forwarding), expenditures

on promotion and marketing (including "company" costs of catering related to organization of official parties and catering at the stand).

The quantification of the influence of the exhibition industry on the economy used **two alternative solutions** (approaches), separate for the two groups of the players - visitors and exhibitors:

- a) approach taking into account the "partial effects" (visitors - diagram 3.1., exhibitors – diagram 3.3.),
- b) approach using the V index (visitors - diagram 3.2.) and E index (exhibitors – diagram 3.4.).

Value of expenditures borne by exhibitors and visitors was estimated in two ways:

- a) in a form of one concrete figure,
- b) in a form of a numerical range (with the assumed 95% level of trust).

Individual results obtained at the level of an "average" exhibitors and visitor based on the conducted empirical research form the basis for global generalization of the value of expenditures borne by the total of exhibitors and visitors. "Transfer" of results from the level of individuals to the population of exhibitors and visitors was made based on the following criteria:

- a) quantity of companies-exhibitors participating in exhibitions in 2008,
- b) quantity of visitors at exhibitions in 2008.

Additionally for the calculations conducted for exhibitors, alternatively the criterion of the area of the exhibition stand was used, which took into account the rented exhibition space in 2008.

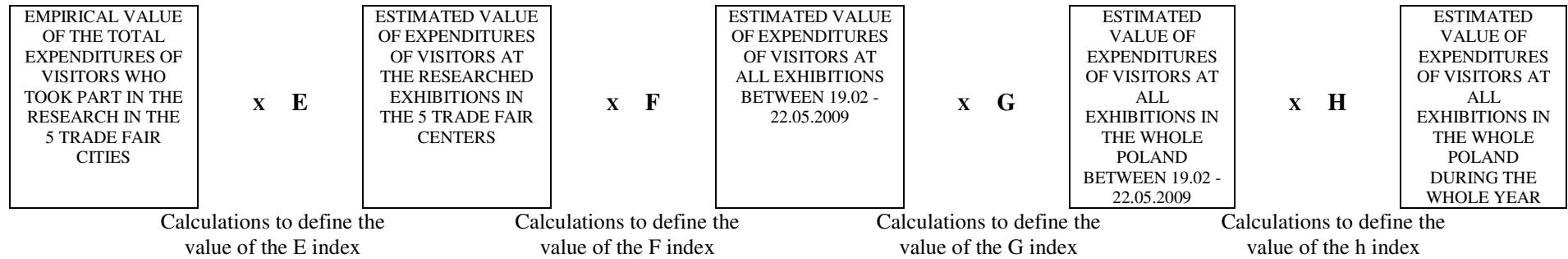
3.2 The procedure of quantifying quantitative effects in the approach using "partial effects"

In the applied approach, the value of expenditures borne by exhibitors and visitors was estimated taking into account two criteria simultaneously:

- a) the criterion of time - period when exhibitions were held,
 - b) the criterion of space - location of exhibition centers where exhibitions were held.
- Additionally, within the differentiated criteria, their following variants were adopted:
- a) for the criterion of time:
 - time of conducting empirical research at exhibitions, i.e. 19.02 - 22.05.2009,
 - the whole year.
 - b) for the criterion of space:
 - five selected exhibition centers in Poland,
 - all exhibition centers in Poland.

Using such a multidimensional format in the analysis allowed for calculating the "partial effect" of the influence of the exhibition industry on the economy, taking into account a specific "combination" of proper variants of the criterion of time and space. The simulation of the "partial effect" was conducted at four levels, the last of which ended with the calculation of the value of expenditures borne by exhibitors and visitors in the scale of the whole country (criterion of space) in the period of one year (criterion of time).

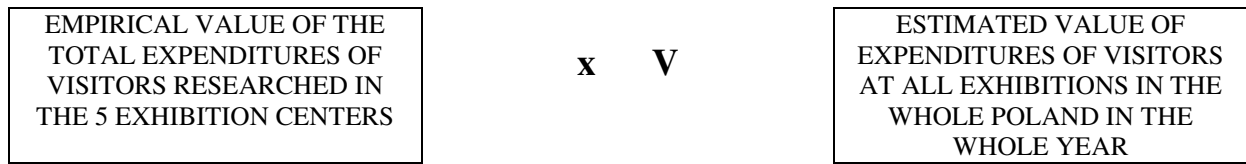
Diagram 3.1 Procedure of quantification of the influence of the exhibition industry on the economy - expenditures of visitors (taking into account partial effects)



$$\mathbf{E} = \frac{\text{Quantity of visitors at researched exhibitions in the 5 exhibition centers}}{\text{Quantity of researched visitors in the 5 exhibition centers}} \quad
 \mathbf{F} = \frac{\text{Quantity of visitors at all exhibitions in the 5 exhibition centers between 19.02-22.05.2009}}{\text{Quantity of visitors at researched exhibitions in the 5 exhibition centers}} \quad
 \mathbf{G} = \frac{\text{Quantity of visitors at all exhibitions in the whole Poland between 19.02-22.05.2009}}{\text{Quantity of visitors at all exhibitions in the 5 exhibition centers between 19.02-22.05.2009}} \quad
 \mathbf{H} = \frac{\text{Quantity of visitors at all exhibitions in the whole Poland during the whole year}}{\text{Quantity of visitors at all exhibitions in the whole Poland between 19.02-22.05.2009}}$$

Source: Author

Diagram 3.2. Procedure of quantifying the influence of the exhibition industry on the economy - visitors' expenditures

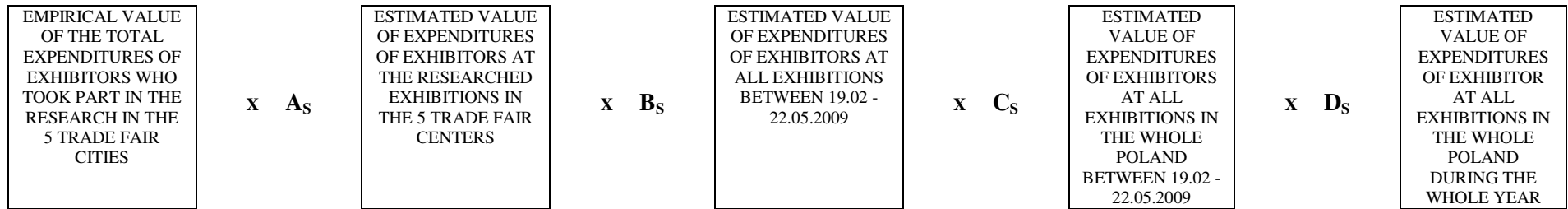


Calculations to define the
value of the F index

$$V = \frac{\text{Quantity of visitors at all exhibitions in the whole Poland during the whole year}}{\text{Quantity of researched visitors in the 5 exhibition centers}}$$

Source: Author

Diagram 3.3. Procedure of quantifying the influence of the exhibition industry on the economy – exhibitors' expenditures (taking into account partial effects)



Calculations to define the value of the A_S index

Calculations to define the value of the B_S index

Calculations to define the value of the C_S index

Calculations to define the value of the D_S index

$$A_S = \frac{A_1 + A_2}{2} \quad B_S = \frac{B_1 + B_2}{2} \quad C_S = \frac{C_1 + C_2}{2} \quad D_S = \frac{D_1 + D_2}{2}$$

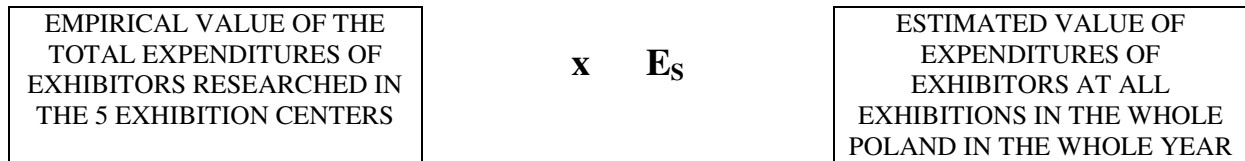
$$A_1 = \frac{\text{Quantity of exhibitors at researched exhibitions in the 5 exhibition centers}}{\text{Quantity of researched exhibitors in the 5 exhibition centers}} \quad B_1 = \frac{\text{Quantity of exhibitors at all exhibitions in the 5 exhibition centers between 19.02-22.05.2009}}{\text{Quantity of exhibitors at researched exhibitions in the 5 exhibition centers}}$$

$$A_2 = \frac{\text{Rented exhibition space at researched exhibitions in the 5 exhibition centers}}{\text{Exhibition space rented by researched exhibitors in the 5 exhibition centers}} \quad B_2 = \frac{\text{Rented exhibition space at all exhibitions in the 5 exhibition centers between 19.02-22.05.2009}}{\text{Rented exhibition space at researched exhibitions in the 5 exhibition centers}}$$

$$C_1 = \frac{\text{Quantity of exhibitors at all exhibitions in the whole Poland between 19.02-22.05.2009}}{\text{Quantity of exhibitors at all exhibitions in the 5 exhibition centers between 19.02-22.05.2009}} \quad D_1 = \frac{\text{Quantity of exhibitors at all exhibitions in the whole Poland during the whole year}}{\text{Quantity of exhibitors at all exhibitions in the whole Poland between 19.02-22.05.2009}}$$

$$C_2 = \frac{\text{Rented exhibition space at all exhibitions in the whole Poland between 19.02-22.05.2009}}{\text{Rented exhibition space at all exhibitions in the 5 exhibition centers between 19.02-22.05.2009}} \quad D_2 = \frac{\text{Rented exhibition space at all exhibitions in the whole Poland during the whole year}}{\text{Rented exhibition space at all exhibitions in the whole Poland between 19.02-22.05.2009}}$$

Diagram 3.4. Procedure of quantifying the influence of the exhibition industry on the economy - exhibitors' expenditures



Calculations to define the value of the W_S index

$$E_S = \frac{E_1 + E_2}{2}$$

$$E_1 = \frac{\text{Quantity of exhibitors at all exhibitions in the whole Poland during the whole year}}{\text{Quantity of researched exhibitors in the 5 exhibition centers}}$$

$$E_2 = \frac{\text{Rented exhibition space at all exhibitions in the whole Poland during the whole year}}{\text{Exhibition space rented by researched exhibitors in the 5 exhibition centers}}$$

Source: Author

The following levels of estimating "partial effects" were differentiated:

- Level 1** - value of expenditures of exhibitors/visitors in the research in 5 exhibition centers (empirical value - based on questionnaire survey),
- Level 2** – value of expenditures of the total of exhibitors/visitors at exhibitions where the research was conducted in 5 exhibition centers,
- Level 3** - value of expenditures of the total of exhibitors/visitors at all exhibitions during the conducted research, i.e. 19.02 - 22.05. 2009 in 5 exhibition centers,
- Level 4** - value of expenditures of the total of exhibitors/visitors at all exhibitions in whole Poland during the conducted research. i.e. 19.02 - 22.05.2009,
- Level 5** - value of expenditures of the total of exhibitors/visitors at all exhibitions (whole year) in all exhibition centers in the country.

The levels of estimating the partial effects described above, which form the procedure of "gradual transfer" of expenditures of exhibitors/visitors who were researched to all visitors which take part in exhibitions is illustrated in Diagram 3.1. (visitors) and Diagram 3.3. (exhibitors). It must be added in the analysis conducted for exhibitors, the procedure of weighing the obtained results was used, which was made based on the "corrective factor" specified on the basis of two variables considered crucial in evaluating the exhibition industry, i.e. the quantity of exhibitors and the area of the exhibition stand (calculated together).

3.3. Procedure of quantifying quantitative effects in the approach using the V index and E index

In the applied approach, which was illustrated in Diagram 3.2. (for visitors) and Diagram 3.4. (for exhibitors), "partial effects" were omitted.

The value of expenditures of visitors who took part in the research was multiplied by the V index, which is the quotient of the quantity of visitors at all exhibitions organized by exhibition companies associated in PCEI in the whole year and the quantity of visitors who took part in the study.

Analogically to visitors, the value of expenditures of exhibitors who took part in the research should be multiplied by the E index, which is the quotient of the quantity of exhibitors at all exhibitions organized by exhibition companies associated in PCEI in the whole year and the quantity of exhibitors in the research sample.

The used indexes allow for evaluation by how many times the global value of expenses borne by visitors/exhibitors at all exhibitions organized by exhibition companies associated in PCEI in the whole year is higher than the estimated global value of expenditures of entities who took part in the research.

4. Quantification of quantitative effects concerning expenditures of visitors and exhibitors in terms of value.

4.1. Quantification of quantitative effects in the approach taking into account "partial effects"

Presented in diagram 3.1. and described in point 3.2., the procedure of quantification of quantitative effects of the influence of visitors in the approach taking into account "partial effects", allowed for estimating the global value of expenditures borne by visitors. In relation to the stay in trade fair cities and visiting trade fairs and exhibitions, they spent over **PLN 446.4 million** (in the range perspective from PLN 378.7 million to PLN 514.1 million). Detailed values for individual levels of the analysis ("partial effects") are presented in Table 4.1.

Table 4.1. Quantification of the influence of the exhibition industry on the economy - visitors' expenditures (taking into account partial effects)

Type of estimation	Point	Range	
Level of analysis ("partial effects")	Value of expenses (in PLN)		
Level 1	677 222	574 445	779 999
Level 2	52 196 949	44 275 402	60 118 496
Level 3	158 213 129	134 202 287	182 223 972
Level 4	186 658 996	158 331 134	214 986 858
Level 5	446 396 518	378 650 203	514 142 833

The simulation conducted for exhibitors (Diagram 3.3.) shows that the total sum of expenditures which they spent on various types of services in relation with participation in trade fairs and exhibitions, as well as their stay before and during the event in the trade fairs city is the amount exceeding **PLN 507.0 million**, and taking into account the estimation made in the form of a numerical range, it amounted to between PLN 436.0 million and PLN 578.1 million. Detailed values for individual levels of the analysis, calculated based on the "corrective factor" are presented in Table 4.2.

Table 4.2. Quantification of the influence of the exhibition industry on the economy - exhibitors' expenditures (taking into account partial effects))

Type of estimation	Point	Range	
Level of analysis ("partial effects")	Value of expenses (in PLN)		
Level 1	15 606 278	13 419 265	17 793 290
Level 2	71 757 650	61 701 766	81 813 529

Level 3	158 394 888	136 197 944	180 591 822
Level 4	195 439 258	168 051 036	222 827 467
Level 5	507 004 545	435 954 578	578 054 479

4.2. Quantification of quantitative effects in the approach using the V index and E index

Using the simplified procedure where "partial effects" were omitted, while V and E indexes were used, it was possible to define by how many times the global value of expenditures borne by visitors/exhibitors at all exhibitions in the whole year is higher than the estimated global value of expenditures of entities which took part in the research, it was estimated that the expenditures of visitors amounted to **PLN 446.4 million** (in the numerical range from PLN 378.7 million to PLN 514.1 million). The value is similar - which may come as a surprise - to the global value of expenses borne by exhibitors, whose expenditures at exhibitions amounted to approximately **PLN 482.2 million**, and taking into account the estimates in range form, the amounted to between PLN 414.6 and PLN 549.8 million (Table 4.4.).

Table 4.3. Quantification of the influence of the exhibition industry on the economy - visitors' expenditures (using the V index)

Type of estimation	Point	Range	
Level of analysis	Value of expenses (in PLN)		
Level 1	677 222	574 445	779 999
Level 5	446 396 518	378 650 203	514 142 833

Tabela 4.4. Quantification of the influence of the exhibition industry on the economy - exhibitors' expenditures (using the E index)

Type of estimation	Point	Range	
Level of analysis	Value of expenses (in PLN)		
Level 1	15 606 278	13 419 265	17 793 290
Level 5	482 214 861	414 638 840	549 790 851

5. Quantitative effects of taxes from entities of the exhibition industry

5.1. Basic assumptions of the used quantifying procedure

The exhibition industry implies benefits both for the state budget and the budgets of trade fair cities. For the purpose of this study, an attempt was made to assess the benefits for the state budgets from:

- payments of Corporate Income Tax CIT of exhibition organizers, trade fair service companies (TFSCs) and hotels, i.e. the representatives of the more distant environment of exhibitions,
- payments of Personal Income Tax PIT by persons employed in the above-mentioned businesses.

Despite the dominating share of indirect taxes, due to the character and difficulties in defining what share of income from VAT results from the operations of the players of the exhibition industry, for the purpose of this analysis, it was not taken into account.

The flow of quantitative effects of taxes (CIT and PIT) was specified for the three major groups of entities which form the exhibition industry in Poland, and they are:

- a) exhibition companies,
- b) trade fair service companies (TFSCs),

- c) hotels which represent more distant environment of exhibitions.

The estimation of the **Corporate Income Tax** was made based on primary sources, such as financial reports and results of the questionnaire survey conducted among the representatives of these entities. Additionally - depending on the type of the entity - the analysis used the following values:

- a) exhibition companies: sales revenues, operational costs, income tax,
- b) trade fair service companies (TFSCs): sales revenues (including to the exhibition industry), estimated sales profitability,
- c) hotels which represent more distant environment of exhibitions: net turnover profitability for hotel industry and catering,

The estimation of the **Personal Income Tax** was made for the selected group of entities based on the data concerning average annual employment in the researched companies and the average remuneration level.

5.2. Quantification of quantitative effects of taxes from entities of the exhibition industry in values

The presented calculations are estimates only due to existing lack of data in the information gathered in the form of the questionnaire survey and the lack of possibility of conducting research on a representative research sample. Information about the value of the collected tax from corporations and individual people is presented in Table 5.1.

The conducted analysis shows that the most "income-generating" group of entities of the exhibition industry, thus in the category of financially largest impact on the economy, are the companies associated in PCEI. The analysis of data from 2004-2008 shows that they supply tax offices with approximately **PLN 10.3 million** in Corporate Income Tax per year. The Personal Income Tax per year for those companies amounts to **PLN 4.0 million**.

The data from the questionnaire survey supplemented by statistical data shows that the total gross profit generated by all Trade Fair Service Companies providing services for the exhibition industry amounts to approximately PLN 31.0 million per year. Assuming that the rate of the income tax for corporations is 19%, it is estimated that TFSCs supply tax offices with **PLN 5.9 million** in such tax per year. The similar value may be assumed for **personal income tax** in these companies and its value amounts to **PLN 5.9 million**.

The estimated amount of Corporate Income Tax paid by hotels from the profits accumulated from renting rooms to visitors and exhibitors amounts to **PLN 1.2 million**. The estimated amount of personal income tax amounted to **PLN 1.6 million**.

Table 5.1 Quantification of the influence of the exhibition industry on the economy - taxes of entities of the exhibition industry

Entities	CIT	PIT
	Value of taxes (in PLN)	
exhibition companies	10 300 000	4 000 000
trade fair service companies (TFSC)	5 900 000	5 909 217
representatives of the more distant environment - hotels	1 158 806	1 637 508

6. Analysis of the influence of the exhibition industry in Poland on the economy - a comprehensive list of quantitative effects

The presented analysis shows that the estimated expenses of all exhibitors and visitors who participate in trade fairs and exhibitions organized by companies associated in PCEI amount to **953.4 million**, whereas 53.2% of this figure, i.e. PLN 507,0 million is the expenditures of exhibitors which are spent on the purchase of various types of services connected with the participation in trade fairs and exhibitions and the stay before and during the events in the trade fairs city.

Table 6.1. Quantification of the influence of the exhibition industry on the economy - a comprehensive list

Quantitative effects of expenditures	m PLN	%
--------------------------------------	-------	---

Expenditures including:	953.4	100.00
visitors	446.4	46.8
exhibitors	507.0	53.2
Taxes (CIT +PIT) including:	28.9	100.00
Exhibition companies	14.3	49.5
TFSCs	11.8	40.8
Representatives of the environment - hotels	2.8	9.7
Total: Expenditures + taxes	982.3	

Visitors' expenditures amount to PLN 446.5 million which accounts for 45.4% of the total sum of expenditures borne by exhibitors and visitors in relation to participating in trade fairs and exhibitions. It is worth stressing that even though an "average" visitor, in comparison with an "average" exhibitor, covers lower individual costs (there are no costs related to the organization and servicing the exhibition stand which burden the budget of the exhibitor to a much larger extent than consumer expenditures), the great "mass" which is formed by the visitors due to their quantity, turns into the scale of the expenditures borne by them in the global scale.

Against the expenditures generated by visitors and exhibitors, the flow of quantitative effects in the form of Corporate Income Taxes and Personal Income Taxes from the three major groups of entities of the exhibition industry is relatively low and amounts to PLN 28.9 million, out of which relatively the most (almost a half) is the income from the profits of exhibition companies (PLN 14.3 million).

III. Supplementing the quantitative effects by the estimated expenditures and taxes of the exhibition business not associated in Polish Chamber of Exhibition Industry

For the purpose of this study, an attempt was made to estimate the size of the market outside the monitoring of PCEI. Due to the lack of precise data about all exhibition companies in Poland in terms of their quantity, as well as the scope of conducted business activities, shown among others in sales profits, rented exhibition space, the number of exhibitors and visitors, for the purpose of this study, approximate data provided by the Board of PCEI concerning exhibition organizers not associated in the Chamber was used.

Similarly to the empirical section of the study, in order to estimate the market share, the following four major parameters were used which specify trade fair activities:

- total rented exhibition space in m²,
- number of exhibitors,
- number of visitors,
- number of exhibitions organized.

Each of the above parameters was calculated based on data obtained from and verified by the Client.

The analysis of the data concerning the market outside PCEI shows that there are several significant players on the exhibition market in Poland, and those include Polish Chamber of Commerce for Agricultural Machines and Facilities from Torun, Chemobudowa Kraków S.A. Exhibition Center and Expo Silesia Exhibition Center. The scale of business activity of other exhibition organizers is much smaller, and they are mostly agricultural advisory centers, economic chambers and industry associations, foreign trade centers, or businesses specializing in really narrow sections of industries. This is usually related to the organization of only one or maximum two events per year and it is limited to the local market. Taking into account individual parameters which characterize trade fair activities, it is estimated that the market share of PCEI is 66% of the whole exhibition market in Poland.

It follows that in order to quantify the influence of the whole exhibition industry in Poland, all obtained results (both concerning expenditures and taxes) should be multiplied by the indicator **1.52** (=100/66).

Supplement to quantitative effects

The quantitative analysis leading to the summary view of the consequences of the operations of the exhibition industry was based on generating cash flows by consumer expenditures of exhibitors and visitors, as well as by their business expenditures.

The results of the research of opinions of Presidents of the cities allow for taking into account, although not completely, the level of investment outlays of the exhibition industry and other investments not unrelated to the players forming this sector.

The analysis of investment outlays completed in 2007-2008 and planned for 2009-2010 which apply to:

- investments of the exhibition sector,
- investments directly related to exhibitions,
- investments in technical infrastructure of the researched cities - exhibition centers, allowed for obtaining certain figures.

They show only a certain part of completed and planned investments in all the researched cities due to the lack of any objective values for Warsaw and Krakow and only selected values for Poznan.

The average annual value of investment outlays of the exhibition sector for Lodz and Kielce is at the level of **PLN 35,138 thousand per annum**.

The average annual value of investment outlays indirectly related to exhibitions for Lodz is at the level of **PLN 415,038 thousand**.

The average level of investment outlays in technical infrastructure for Poznan, Lodz, and Kielce is at the level of **PLN 632,475 thousand**.

With the lack of data for the three indicated types of investments from Poznan and Warsaw, it is safe to assume, without running the risk of overestimating, that in order to more accurately present the level of investments, the above-mentioned figures may be doubled at least.

This means that the average annual investment outlays of the exhibition industry may reach the level of at least **PLN 70,276 thousand**.

The average outlays on investments indirectly related to exhibitions would reach PLN 830,076 thousand but assuming that maximum 20% of their level is exhibition-related, we arrive at the figure **PLN 166,015 thousand**.

The annual outlays on investments in technical infrastructure would reach PLN 1,264,950 thousand but assuming that they are stimulated by the operations of the exhibition industry in 10%, we arrive at the figure of **PLN 126,495 thousand**.

To sum up, the quantitative effects of the operations of the exhibition industry for the economy may reach the level approximately **PLN 362.8 million** which is higher than the values calculated previously.

* * * * *

Summary

1.	Flow of quantitative effects from expenditures of exhibitors and visitors	PLN 953.4 m
2.	Flow of quantitative effects from taxes	
	PIT	PLN 17.4 m
	CIT	PLN 11.5 m
3.	Estimated quantitative effects from expenditures and taxes from operations of businesses not associated in PCEI	PLN 510.8 m
4.	Value of investment outlays related to exhibitions	PLN 362.8 m

Without adding the above figures due to the different scope and level of accuracy of the calculations and estimates, we may get the rough picture of the **range of the quantitative effects of the exhibitions on the economy at the level between:**

PLN 1.8 - 2 bln.

It must be highlighted that due to the lack of possibility of calculating the proneness to consumerism (to savings) of entities which gain profits, multiplying effects (the so-called induced effects) caused by the operations of the exhibition industry were not tested.