

## PROFILE OF A VISITOR OF SOUTH-EAST REGION

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### Abstract

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The report deals with an analysis of the questionnaire inquiry results about Internal tourism in the Czech Republic in 2005 from the Czech Statistical Office sources. Besides basic information about the tourist trade statistics and terminology questions the core of this publication is the analysis of the Internal tourism in the NUTS II South-East region and both its parts (South Moravian region and Vysocina region)<sup>1</sup> and its comparison with the Czech Republic. Authors tries to create a visitors background from the point of view of visit seasonality, a region from which he comes, an age, a travel purpose, a travel duration, an accommodation type, travel expenses and a conveyance used. Indicators were selected, in which the region visitors differ in comparison with the entire Czech Republic, eventually in which the visitors of South Moravian region differ from the Vysocina region visitors. At the conclusion authors speculate about the conditions of regional localization of the tourist trade satellite account in the Czech Republic.

tourist trade, satellite account, regional localization, Vysocina region, South Moravian region, South-East region, tourist, visitor

The Czech Statistical Office accomplishes the questionnaire inquiry each year, oriented to acquiring of information about internal and external tourist trade in the Czech Republic, serving also to demands of the rising tourist trade satellite account in the Czech Republic. The Czech Republic satellite account is yet formed for the entire Czech Republic, but prospectively it should become local, i.e. the data are processed in the scope of the particular regions. This article looks for the answer to the question, if and how internal visitors of the South-East region and its sections (Vysocina region and South Moravian region) differ from internal visitors of the entire Czech Republic.

WTO defines several terms in this field. The *internal visitor* is a person, who travels the home land outside his own usual surroundings for the period shorter then 12 months, with the main reason of the journey

different from the award. This definition covers two types of the internal visitors – internal tourists and internal diurnal visitors. Internal tourists spends at least one night in the collective or personal accommodation facilities at the visited place and the aim of the journey is the leisure time or recreation, business or official journey, negotiation or other tourist reasons. Internal diurnal visitors (also excursionists) do not spend the night in the collective or personal accommodation facilities at the visited place.

### MATERIAL AND METHODOLOGY

Readings about the external and Internal tourism surveys the Czech statistical office at a selected household member older then 15 years, who usually lives in the investigated flat. He is polled about journeys ended within the monitored month in order to

<sup>1</sup> The Czech Republic is dividend to 8 regions (NUTS II), each of them dividend to other 2 or 3 regions.

spend a leisure time and recreation or an official journey outside his own usual surroundings (i.e. outside his permanent and temporary address, workplace, school etc.). This is the two stage accidental selection. The first stage selection unit is a summing district, at the second stage accomplishes a simple accidental selection of flats within the summing district.

In the scope of this inquiry the series of indicators are monitored (month of journey, gender, age, education, economic wealth, marital status, kind of journey, type of journey, number of journeys, domestic or foreign journey, final destination, number of nights spent, kind of accommodation, form of transportation, journey organization method, journey purpose and very detailed segmentation of the travel expenses).

The enquiry was created at the Department of trade statistics, tourist trade, transportation and communication of the Czech statistical office with the aim to obtain the complex data of Czech Republic. From the regional point of view there are another interesting and meaningful questions, for instance to where and for which purpose does the internal diurnal visitors travel, which the current questionnaire does not handle. The Czech statistical office is going to supplement the questionnaire with some questions in 2007, but on the other hand the investigators try not to inconvenience respondents too much, because this could be the reason of the rising non-response.

From the point of view of regional localization of the tourist trade satellite account in the Czech Republic it seems problematic, that the current questionnaire does not investigate the question which region the internal diurnal visitors have visited. That is why the information from more than 65% of internal visitors is not possible to be used for the regional localization. The current questionnaire does not investigate also some information at journeys shorter than 4 days, for instance the form of transportation, journey organization method and especially a journey purpose, which is determinant information from the destination management point of view.

There were 31 457 respondents spoken in the scope of the above mentioned inquiry in the entire Czech Republic in 2005, from which 24 647 were willing to fill in the presented questionnaire, which represents the non-response to be 21.6%. Within the monitored period 11 607 respondents have travelled and have thus really filled in the questionnaire, which represents 36.9% of the spoken citizens.

10 169 respondents stated, that they travelled in the scope of the Czech Republic and 4 460 of them come under „tourist“ category, which means they have

spent at least one night during their journey. Considering that each tourist<sup>2</sup> answers also the question, to which region he travelled, it was possible to select from these 4 460 entries those ones, in which the respondent states, that he travels to the Vysocina region or South Moravian region and to compare selected indicators. The Vysocina region visited almost 7% of all respondents, which travelled in the monitored period and spent a night within a journey. A journey to the South Moravian region stated 10% of all internal tourists.

This article sets a task to compare firstly the Vysocina region and the South Moravian region and secondly the South-East region with the entire Czech Republic from several points of view: seasonality of the tourist trade according to particular months, structure according to the regions from which visitors come, age structure, structure of a journey purpose, number of nights spent during a journey, type of accommodation facilities, travel expenses and form of a transportation used. Besides a graphical comparison the categorical data zero hypothesis was verified, that a destination has no influence on a category frequency. In case of rejection of this hypothesis we accept alternative hypothesis (a structure from the point of view of a said indicator depends on the destination) and we state a conclusion, that compared destinations are different.

## CONCLUSIONS AND DISCUSSION

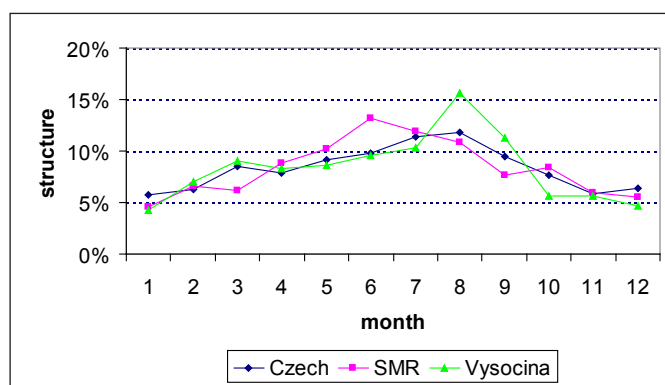
### Seasonality according to months

The graph at the Fig. 1 compares structure of tourists, which visited Vysocina region and South Moravian region with all internal tourists according to particular months in 2005. Vysocina region is characterized in the distinct maximum in August, South Moravian region in less distinct maximum in June.

To compare the seasonal structure of Vysocina region and South Moravian region a testing criterion was calculated  $\chi^2 = 12.86$  (for 11 degrees of freedom),  $p = 0.3028$ . Then we do not refuse the zero hypothesis about seasonality agreement of the tourist trade in both regions.

The same test was applied to compare a structure of respondents, who stated, that during their journey they visited South-East region and all internal tourists. In this case  $\chi^2 = 8.59$  (for 11 degrees of freedom),  $p = 0.6598$ . We can make again the same conclusion that seasonality of an attendance of South-East region and the entire Czech Republic do not differ.

2 The visitors, which do not spend a night during a journey, did not answer the question of which region they visited, therefore their answers were not used in this research.

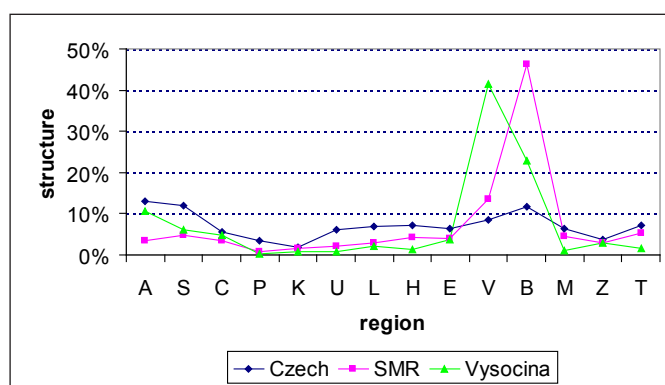


1: Seasonality of Internal tourism in the Vysocina region, Southern Moravia region (SMR) and Czech Republic in 2005

### Visitors structure according to regions

The Fig. 2 shows the structure of arriving tourists according to regions observing the thought of the Fig. 1. The largest part of tourists arriving to the Vysocina region originates from this region (22%) and also from Prague and from the Central Bohemian region (17%). Important numbers of tourists arrive also from South

Bohemian and from Pardubice regions, which immediately neighbour upon Vysocina region. The largest part of visitors of South Moravian region originate from this region (45%), further from the Vysocina region (13%) and also from Prague and from Central Bohemian regions (9%). It is then obvious, that significant part of tourists travels in the scope of their own region.



2: Structure of internal tourists according to regions from which they come<sup>3</sup>

From the graph at Fig. 2 follows at the same time, that the most often travel tourists from Prague, Central Bohemian region and South Moravian region, behind them the Vysocina region and the Moravian-Silesian region.

To compare South-East region and the entire Czech Republic a testing criterion was calculated again:  $\chi^2 = 594.49$  (for 13 degrees of freedom),  $p = 0.0000$ . With respect to this result we refuse a zero hypothesis and we can make a conclusion that the structure of tourists arriving to the South-East region from particular

regions differs from the structure of internal tourists travelling in the scope of the entire Czech Republic. This confirms an above mentioned finding that the largest tourist share travels in the scope of their home region.

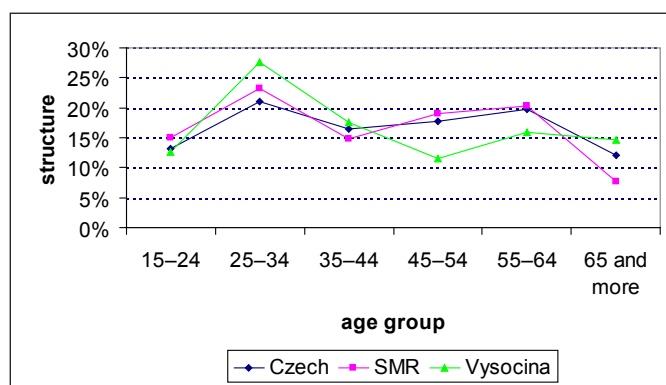
### Visitors structure according to age

From the graph at Fig. 3 it is obvious, that among visitors of Vysocina region, South Moravian region and also among all internal tourists the age group from 25 to 34 years dominates.

3 This one and all other graphs show data from Southmoravian region, Vysocina region and the Czech Republic in 2005

To compare the Vysocina region and the South Moravian region we obtain in this case  $\chi^2 = 19.19$  (for 5 degrees of freedom),  $p = 0.0018$ . We refuse a zero hypothesis and we accept a conclusion that the age structure of tourists arriving to both regions differs. Even from the graph at the Fig. 3 it is obvious, that to the Vysocina region younger tourists come than to the South Moravian region.

At comparison of South-East region and the entire Czech Republic was calculated:  $\chi^2 = 594.49$  (for 5 degrees of freedom),  $p = 0.1624$ . We do not refuse a hypothesis in this case and we can make a conclusion, that the age structure of internal tourists arriving to the South-East region do not differ from the age structure of all internal tourists.



3: Structure of internal tourists according to age

### Purpose of journey

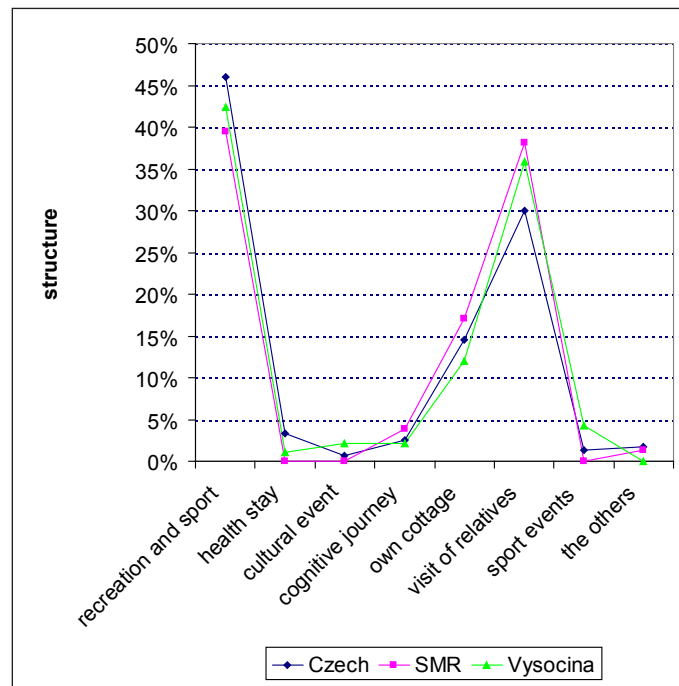
From the graph at the Fig. 4 it is obvious, that as the main purpose of the journey tourists indicate a recreation and sport, then a visit of acquaintances, relations or their own bungalow or a cottage. From the graph it is possible to conclude, that for an increase of an attendance of particular regions by visitors from the Czech Republic and for an increase of tourist trade incomes could be possible to reach by investments to the field of recreation and sport. This idea is supported by the fact, that more than 46% of all respondents presents recreation and sport as the purpose of a journey

The fact is interesting, that about 4% of visitors of Vysocina region and South Moravian region presents, that their purpose of journey was a cultural event or a cognitive reasons. In the group of all tourists the part presenting their journey as a cognitive or a cultural one forms only 3%.

Answers to the question: “Which is the purpose of your journey?” are however distorted by the fact that only respondents, which spent at least 4 nights on a way, answer this question.

At comparison of the Vysocina region and the South Moravian region  $\chi^2 = 8.35$  (for 7 degrees of freedom),  $p = 0.3027$ . With respect to this we do not refuse a zero hypothesis and we can make a conclusion that the structure of tourists according to the purpose of a journey in both regions do not differ.

At comparison of the South-East region and the entire Czech Republic  $\chi^2 = 9.22$  (for 7 degrees of freedom),  $p = 0.2373$ . We do not refuse a zero hypothesis again and we can make a conclusion that the purpose of a journey of internal tourists arriving to the South-East region do not differ from the purpose of a journey of all internal tourists.



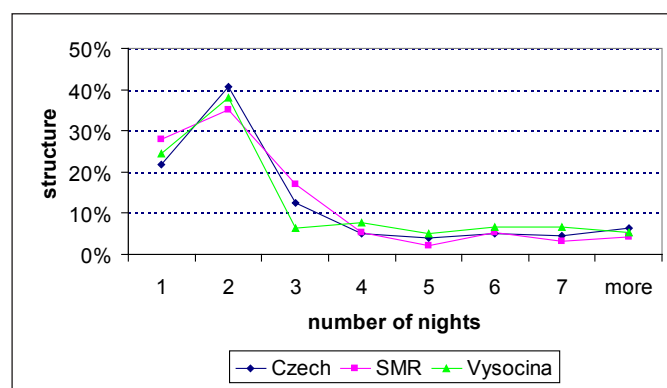
4: Structure of internal tourists according to purpose of journey

#### Duration of journey

At the Fig. 5 there is graphically depicted the structure according to the number of nights spent by the tourists on their journey. From the graph it is obvious, that number of tourists who stay one or two nights predominate noticeably. Number of tourists who spend more then 7 nights on the journey is not much significant. That is why these cases are not depicted in the graph. This phenomenon probably re-

lates with the fact depicted at the Fig. 4, that almost one-half of tourists visiting regions travel to relatives or to own cottage or bungalow and for their journey they probably take advantage of a weekend.

If we look at the group of all respondents who stated, that they travel in the scope of the Czech Republic we find out, that within this group noticeably predominate journeys without lodging (56%) and then short journeys lasting 1 or 2 nights (27%).



5: Structure according to nights spent on a journey

At comparison of the Vysocina region and the South Moravian region  $\chi^2 = 27.99$  (for 6 degrees of freedom),  $p = 0.0001$ . We refuse a zero hypothesis and we can make a conclusion that the structure of visitors according to the number of nights tourists spend

on a journey to the Vysocina region and to the South Moravian region differs.

At comparison of the South-East region and the entire Czech Republic  $\chi^2 = 15.00$  (for 6 degrees of freedom),  $p = 0.0203$ . Here even in this case the structure

according to the number of nights on a journey which all internal tourists and internal tourists arriving to the South-East region spend differs.

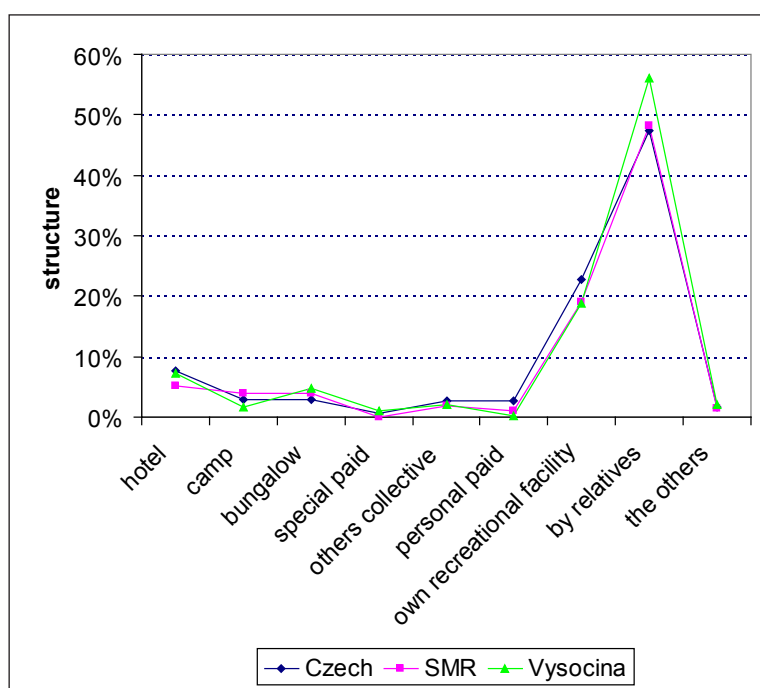
### Accommodation facility type

From the graph at the Fig. 6 it is obvious, that majority of tourists are accommodated by their relatives (about 50%) or at their own vacation building (about 20%), which means they do not bring any profit to commercial accommodation facilities. At paid accommodation facilities there are only 17% of tourists visiting the Vysocina region and scant 15% of tourists visiting South Moravian region. In the scope of

the entire Czech Republic there are 21% of tourists accommodated in paid accommodation facilities.

At comparison of the Vysocina region and the South Moravian region  $\chi^2 = 11.19$  (for 8 degrees of freedom),  $p = 0.1914$ . We do not thus refuse a zero hypothesis and we can make a conclusion that the structure of tourists according to the accommodation facility type in both regions do not differ.

At comparison of the South-East region and the entire Czech Republic  $\chi^2 = 23.31$  (for 8 degrees of freedom),  $p = 0.0030$ . We refuse a zero hypothesis and we can make a conclusion that the structure of tourists according to the accommodation facility type in the South-East region differs from a structure of all internal tourists.



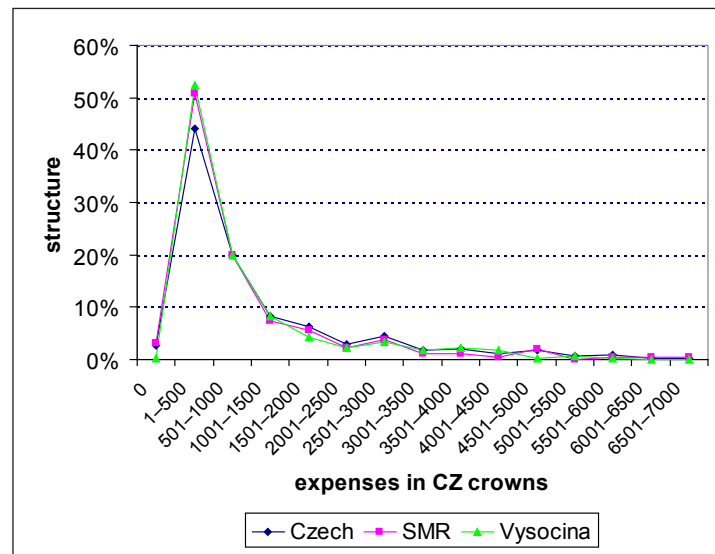
6: Structure of internal tourists according to accommodation facility type

### Travel expenses

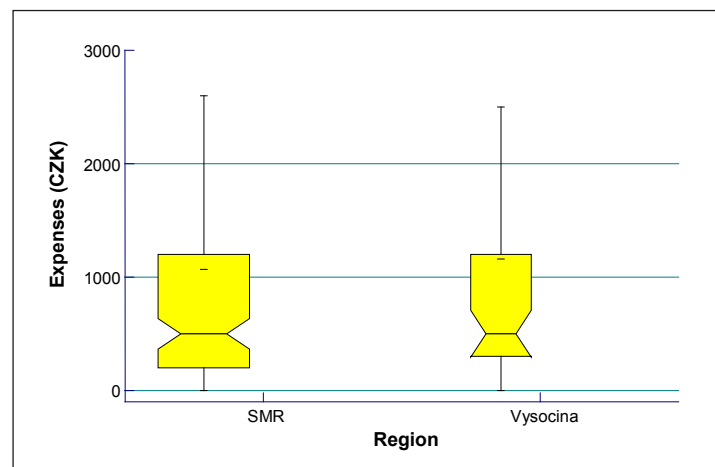
At the Fig. 7 there are depicted travel expenses which are stated by individual tourists. Those ones, who travel to the Vysocina region state average expenses for a journey 970 CZ crowns, while tourists travelling to the South Moravian region state average expenses for a journey 1 640 CZ crowns. Average expenses of all tourists travelling in the scope of the entire Czech Republic are a little bit higher – come to 1 238 CZ crowns.

74% of the visitors of the Vysocina region and 78% of the visitors of the South Moravian region state, that

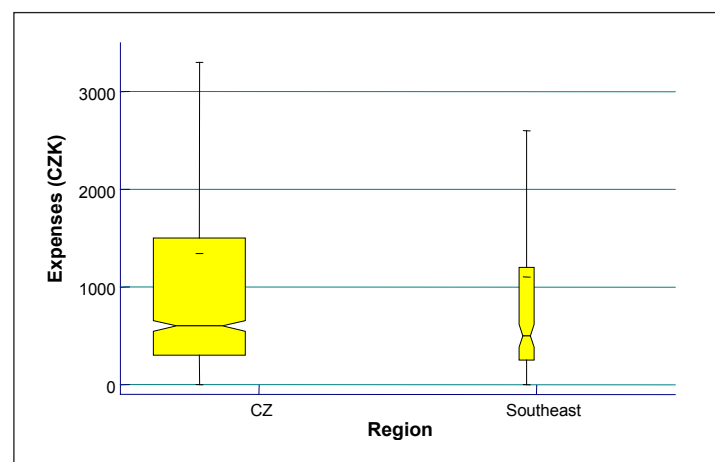
during their journey they do not spend any money for the boarding and even up over 90% of tourists visiting both regions state, that they do not have any expenses for lodging. At first sight it could seem, that there is some disproportion, because from the Fig. 6 results, that 17% of tourists visiting Vysocina region and 15% of tourists visiting the South Moravian region are accommodated in paid accommodation facilities. Accommodation in paid facilities is stated also by those respondents, who paid for a tour in a travel agency and did not pay for the accommodation at the place and therefore they do not demonstrate accommodation expenses.



7: Total travel expenses



8: Box graph of travel expenses for journey to Vysocina region and South Moravian region



9: Box graph of travel expenses of all internal tourists and for tourists travelled to South-East region



According to a considerable asymmetry of expenses distribution there was given precedence to the presentation of data with the use of box graphs instead of standard incremental intervals. These commonly used graphs inform with a maximally concentrated appearance about basic data characteristics. The box transversal is a median, top and bottom box edges correspond to the top and bottom quarter. A short mark inside a box represents an arithmetical average. Strands define an area; beyond it values out of range occur upwards and also downwards. The box width corresponds with the data scope and the notch represents incremental interval of the most important sturdy location characteristic – median. From the graph implies, that there is no difference in the expenses level in the South Moravian region and the Vysocina region, while at comparison of expenses of South-East region visitors with the entire Czech Republic it results, that these expenses are remarkably lower (incremental intervals overlap in the first case, while in the second case do not).

### Form of transportation used

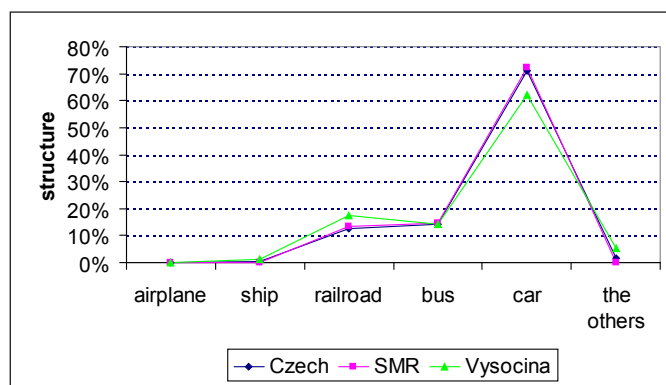
As it could be seen from the Fig. 10, tourists use their own cars for their journeys most often (over 60%). Other transportations often used are the train and bus (about 15%).

Answers to the question: “Which transportation did you use?” are also distorted by the fact, that only respondents, which spent at least 4 nights on a way, answer this question.

At comparison of the Vysocina region and the South Moravian region  $\chi^2 = 6.12$  (for 5 degrees of freedom),  $p = 0.7288$ .

At comparison of the South-East region and the entire Czech Republic  $\chi^2 = 2.81$  (for 5 degrees of freedom),  $p = 0.7288$ .

In both cases we can thus make a conclusion, that the group structure from the point of view of form of transportation used does not differ.



10: Form of transportation used

### CONCLUSION

Finally we can establish, that one of the ways how to raise the tourist trade incomes in the Czech Republic could be extension and improvement of recreation and sport possibilities, for instance by building of a quality cycle-ways system, which could connect UNESCO landmarks (for instance there are several ones in the Vysocina region – Telč, Třebíč, Zelená Hora by the Žďár nad Sázavou) with another region interests, eventually with the big cities in the region. This idea is supported by the fact, that in the scope of the entire Czech Republic 85% of respondents arranges their stay, which purpose is recreation and sport completely individually, 53% of respondents spend 6 or 7 nights during this kind of trip and their average expenses come to 3836 CZ crowns.

As far as the regional localization of the tourist trade satellite account is concerned the biggest prob-

lem is a lack of reliable information at the region level, which is connected with an extent of an existing examination of Internal tourism organized by the Czech statistical office (Český statistický úřad).

The contribution analyses differences among particular regions and the entire Czech Republic. Although the differences for most indicators have not been proved, in some cases it was in an opposite way. Therefore currently arising satellite account at the entire Czech Republic level could not offer completely correct information for the regional destination management and it is necessary to approach to its regional localization.

As the fundamental priority seems to be an evaluation of source and target regions for particular kinds of journeys in term of number of journeys, lodgings but likewise in term of expenses. It will be necessary to test reliability of this data (or intervals of reliabil-



ity, random sampling errors etc.). It would be possible to think about value determination for a longer time period, so it would be possible to handle with larger sample, with the bigger data source. The prerequisite is of course firstly to prove an assumption that respondents behaviour did not change during last 3–4 years.

From the data structured by regions it would be necessary to obtain information about number of journeys, number of nights spent and expenses according to the respondent's residence and then to determine source destinations and also to find out a structure of expenses. Next will be necessary to create cross tables according to regions (14 × 14 – NUTS III) for particular journey kinds (numbers and expenses) and to test

reliability of a data used within these tables. It is also important to determine a portion of bargain tourism and to determine a portion of journeys with travel offices / agencies, which could be a helpful indicator for determination of portion and extent of expenses on a way and before it.

Other problems occur for a solution. It is necessary to consult cases, when a tourist at a particular place accommodates and then makes trips to a neighbourhood (another region). This is important in Prague above all, but maybe in other regions (or rather destinations). Similarly for instance in case of expenses in advance these expenses must not always be spent at the respondent's place.

## SOUHRN

### Profil návštěvníka regionu jihovýchod

Příspěvek se zabývá analýzou výsledků dotazníkového šetření o domácím cestovním ruchu v ČR za rok 2005 ze zdrojů Českého statistického úřadu. Vedle základních informací o statistice cestovního ruchu a terminologických otázek je jádrem publikace analýza domácího cestovního ruchu v regionu NUTS II Jihovýchod a obou jeho součástí (Jihomoravský kraj a kraj Vysočina {Vysočina region}) a jeho komparace s Českou republikou. Autoři se pokoušejí vytvořit profil návštěvníka z pohledu sezonnosti návštěvy, kraje odkud přijíždí, věku, účelu cesty, délky cesty, typu ubytovacího zařízení, výdajů spojených s cestou a použitého dopravního prostředku. Byly vytipovány ukazatele, ve kterých se návštěvníci regionu liší ve srovnání s celou ČR, případně ve kterých se liší návštěvníci Jihomoravského kraje a kraje Vysočina. Závěrem se autoři zamýšlejí nad podmínkami regionalizace satelitního účtu cestovního ruchu v podmínkách ČR.

cestovní ruch, satelitní účet, regionalizace, kraj Vysočina, Jihomoravský kraj, region Jihovýchod, turista, návštěvník

## REFERENCES

- Satelitní účet cestovního ruchu - 2. Metodologické základy TSA* [online]. Praha: ČSÚ, 2006 [cit. 2007-05-15]. Dostupný z WWW: <<http://www.businessinfo.cz/cz/clanek/oborove-statistiky/sat-ucet-cr-2-metodolog-zakl-tsa/1000452/42668/>>.
- ČSÚ. *Satelitní účet cestovního ruchu v ČR 2003–2005*. Praha, 2006. p. 57. Dostupný z WWW: <<http://www.czso.cz/csu/2006edicniplan.nsf/p/9211-06>>. ISBN 80-250-1312-X.
- ČSÚ: *Příprava satelitního účtu cestovního ruchu*

- v ČR. Praha, 2004. p. 30. Dostupný z WWW: <[http://www.czso.cz/csu/http://www.czso.cz/csu/2005edicniplan.nsf/t/B9002B3516/\\$File/137005a4.pdf](http://www.czso.cz/csu/http://www.czso.cz/csu/2005edicniplan.nsf/t/B9002B3516/$File/137005a4.pdf)>. ISBN 80-250-0876-2.
- Analýza regionálních rozdílů v ČR v letech 1994–2005* [online]. [2006] [cit. 2006-05-10]. Dostupný z WWW: <[http://www.czso.cz/csu/2005edicniplan.nsf/t/9002B3516/\\$File/137005a4.pdf](http://www.czso.cz/csu/2005edicniplan.nsf/t/9002B3516/$File/137005a4.pdf)>.
- Eurostat – OECD – WTO – OSN. *Tourism Satellite Account: Recommended Methodological Framework*, Luxembourg – Madrid – New York – Paris, 2001. p 138. ISBN 92-1-161438-4

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