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LOCAL PRODUCTION SYSTEMS: ANALYSIS AND FORECASTING OF REGIONAL ECONOMIC DEVELOPMENT

Edited by
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This collection of papers contains the results of research carried out by the participants of the «International Project FOLPSEC № 295050 within the 7th EU Framework Programme FP7-PEOPLE-2011 IRSES» «Functioning of the Local Production Systems in the Conditions of Economic Crisis (Comparative Analysis and Benchmarking for the EU and Beyond)».

These papers study the following problems: general approaches to forecasting the development of local production systems (LPS), the possibilities of LPS-based clusters formation, methodological approaches to the creation of LPS, strategic planning of regional development, innovativeness of clusters, program approach to environmental management, local production system management, governance of local production systems in Bulgaria, Poland, Slovakia, Ukraine and Russia.

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PREFACE

Local production systems (LPS) could be defined as a «territorial union of economic, political and social actors, whose efforts are focused on a specific group of interrelated activities» (definition is given by Local Production and Innovation System Research Network). Challenges of LPS development and functioning at the level of a region and of a country as a whole are in the focus of many researchers today.

This book being the second edition of the Institute of Economics and Industrial Engineering of the Siberian Branch of the Russian Academy of Sciences (IEIE SB RAS) collection of academic papers prepared by the participants of the International Project FOLPSEC is one of the main outputs of the project. The first edition – «Local Production Systems and Regional Economic Development» (ed. by A.S. Novoselov and V.E. Seliverstov) was published in 2014. Additionally, some of the results of studies on LPS carried out by researches participating in FOLPSEC project have been published in the collection of scientific papers «Problems in the management of socio-economic development of regions of Siberia» (ed. by A.S. Novoselov, 2013) by the IEIE SB RAS.

Project FOLPSEC is one of the research projects of the 7th Framework Programme of the European Union FP7-PEOPLE-2011 IRSES «Functioning of the Local Production Systems in the Conditions of Economic Crisis (Comparative Analysis and Benchmarking for the EU and Beyond)» – FOLPSEC, № 295050. The Institute of Economics and Industrial Engineering, Siberian Branch of the Russian Academy of Sciences is one of the research participants of this project. Project Coordinator is the University of National and World Economy (Sofia, Bulgaria). Other participants in the project are Novosibirsk State University (Novosibirsk, Russia), the University of Lodz (Lodz, Poland), University of Matej Bel (Banska Bystrica, Slovakia) and Ternopil National Economic University (Ternopil, Ukraine).

The project is aimed at deepening theoretical research of local production systems (LPS) establishment, development and their functioning under current economic environment and their practical implementation to meet the challenges related to the world crisis overcoming. The objectives of the project are as follows:

- To exchange knowledge on research of approaches in studying LPS and to elaborate recommendations for implementation of EU good practices in the conditions of economic crisis;
- To share the results of research of LPS functioning conducted by the Project participants for speeding up regional social and economic development and overcoming regional disparities;
- To make use of knowledge gained and good practices identified for research and teaching purposes at all partners' institutions;
- To establish long-term research cooperation between the EU and Third countries and to strengthen joint research and partnerships.

An important role in this project belongs to the program of the exchange of researchers and to the greatest possible practical acquaintance with different kinds of LPS in the participating countries, as well as meetings with representatives of business and local authorities.

Within the framework of the implementation of this item of the project, each participating country has made a significant contribution to the organization and organization and realization of study visits to various LPS to examine the practical experience of their formation and operation. So extensive programs of visits were provided by all participating countries, and included not only visits to various LPS (including technoparks, clusters,
special economic zones, and so on.) but acquaintance with approaches to their formation and received practical results, but also meetings with representatives of government and business structures.

In particular, the Institute of Economics and Industrial Engineering of the SB RAS has prepared and implemented a program of joint-training activities with the scientists from Bulgaria, Poland and Slovakia, including a number of scientific meetings and study visits to the bodies of regional and local authorities, meetings with the representatives of business and universities in Novosibirsk, the town of Koltsovo and Tomsk.

All this allowed to combine theoretical studies and practice of the Novosibirsk and Tomsk regions economic development and to share the results with the partner organizations doing research on LPS functioning. In addition, the participants of the project visited the Ministry of Economic Development of the Novosibirsk region and met with the administration of the Soviet District of Novosibirsk.

Five scientific meetings devoted to the problems of research on the project FOLPSEC (in 2012, 2013 and 2014) were held in the IEIE SB RAS and the program of joint-training activities was implemented.

Three international scientific conferences were also held in the framework of the project in Poland and Slovakia:

1. International Scientific Conference in Series: Knowledge, Innovativeness, Entrepreneurship and Regional Development «Territory and contemporary dilemmas of its development» on the Project FOLPSEC (Functioning of the local production systems in the conditions of economic crisis (comparative analysis and benchmarking for the EU and beyond), 25–26 of October 2013, Lodz, Poland.
2. International Scientific conference «Functioning of the local production systems in the conditions of economic crisis, closing FOLPSEC conference», 16–19 November 2014, Rzeszow, Poland.
3. International Scientific conference «Functioning of the local production systems in the conditions of economic crisis», 26–27 January 2015, Banska Bystrica, Slovakia.

Completed has been the preparatory work for publication of two monographs containing the main results of research carried out within the framework of the FOLPSEC project. One of them, «Local Production Systems in EU Member States and Beyond: from Theory to Practice. Sofia: UNWE, 2015» was prepared in Bulgaria and published in the electronic version. Second – «Functioning of the local production systems in the conditions of economic crisis (comparative analysis and benchmarking for the EU and beyond). – Lodz: University of Lodz, 2015» is published in Poland.

Joint research and scientific visits provided a platform for the direct exchange of scientific ideas and concepts, combining the knowledge and experience necessary to discuss the potential results of research, discussion of methodological approaches to the establishment and development of local production systems of participating countries in the project FOLPSEC.

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POTENTIAL HOUSEHOLDS' DEMAND FOR THE UNPAID WORK MARKET SUBSTITUTES IN SLOVAK REGIONS[1]

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Miroslava Tuschlová[4]

To understand the economic situation in any particular country, it is necessary to understand the demand for goods and services. Not only real, effective demand, but also potential demand plays an important role in the economic growth and development. In Slovakia, however, potential demand is not determined on regular basis. In 2012, interdisciplinary team of researchers from the Faculty of Economics, Matej Bel University in Banská Bystrica, Slovakia started to focus on a possible fraction of the potential demand – transformation of traditionally unpaid household activities to the paid market supply of goods and services. Firstly, it was necessary to calculate volume and extend of the unpaid work activities performed by individuals and households. Research showed that individuals spend in average 222 minutes per day by unpaid work activities. Even more research confirmed, that unpaid work in Slovakia covers approximately 30% of Gross Domestic Product. This is a strong argument according to which we can assume that, in case of transforming unpaid work activities into paid goods and services offered by market, there will be possibility to increase a real demand by a significant amount. This research assumption is a part of our new research project VEGA no. 1/0935/13 «Unpaid work as a potential source of socio-economic development of society and the determinant of individual well-being».

This paper focuses on households´ potential demand calculated according to the willingness of households to replace unpaid work activities by market substitutes. Because of the significant differences in Slovak regions, we focus not only on the whole Slovak situation, but also on the regional potential households´ demand. Even if this demand represents only a part of the whole potential demand of the Slovak households, it could have important influence on the decision makers (country, regional as well as local), about the future economic development of Slovakia.

INTRODUCTION

Demand, in general, has been a matter of the economic analysis in different circumstances for many years. We can define demand as a willingness and ability of the consumers (households or individuals) to purchase certain amount of goods and services at the certain price level. Demand of the households is, however, permanently changing due to the various economic and non-economic factors. Not only price level of goods and services, but also incomes level, consumers' preferences, habits and way of live can influence the demand. To understand demand´s patters is crucial for the supply side (producers) and for reaching market equilibrium as well as for the early reaction on new requirements and needs of the consumers.

[1] This paper is an output of scientific project of Grant Agency VEGA no. 1/0935/13 «Unpaid work as a potential source of socio-economic development of society and the determinant of individual well-being».

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In the article, we focus on the potential households´ demand. This potential demand could be, in certain circumstances and conditions, transformed into the real or, more accurately, efficient demand. We can define potential demand as that kind of demand, which does not occur in realty yet, but which exists and could be possible changed into the real demand. One of the possibilities, how to calculate potential demand, is to find out and evaluate how much tome households spend by unpaid work activities (such as food preparation, children and adults care). According to the international methodology (Time Use Survey), persons perform following activities during the day: personal care, household activities, caring for and helping household members, caring for and helping non-household members, work and work-related activities, education, consumer purchases, professional and personal care service, household services, government services and civic obligations, eating and drinking, socializing, relaxing and leisure, sports, exercise and recreation, religious and spiritual activities, volunteer activities, telephone calls, traveling (source: http://www.bls.gov/tus/lexiconwex2013.pdf). As an unpaid work activities, we can consider mostly household activities, caring for and helping household members, household services, and volunteer activities.

Volume of the unpaid work has not been officially verified in Slovakia so far. However, research team from the Matej Bel University in Banská Bystrica has been determining and analysing unpaid work in Slovakia already for three years. The team tries to determine volume of the unpaid work, motives (economic and non-economic) for the unpaid work activities, regional particularities of unpaid work, as well as reasons why and at which circumstances households prefer to arrange certain activities through the market goods and services. It means, that we try to find out (besides other research questions) whether there is a potential households' demand for the market substitutes that can replace standard unpaid work activities in households. Not only existence of the potential demand, but also its extent and structure is matter of our research.

Knowing the extent of the unpaid work of households, as well as potential households' demand for the market substitutes, is important not only from the theoretical point of view, but also for the practical purposes. Practical contribution of determining potential households' demand for certain goods and services (it means demand that is not evident or is not quantified) has several dimensions. For the purpose of our research, it is important, that transformation of the potential demand on the real (efficient) demand could stimulate development of the entrepreneurial activities (more in Foltys, 2012), increase of the local employment (Hronec, 2012) as well as higher households´ satisfaction, quality of life and better utilisation of the leisure time.

Knowing the extent of the unpaid work activities and the extent of the potential households' demand in the whole Slovakia is not sufficient for understanding all features of unpaid work. Potential demand for market substitutes is different in various localities of Slovakia and will depend on particular socio-economic, cultural and environmental conditions in which households live (more about regional differences in Borseková, Vaňová, Petríková, 2012). This is one of the reasons, why we consider crucial to find out how big differences in unpaid work and potential demand are in particular regions in Slovakia. In our research in 2011 and 2012 we confirmed, that there is really potential households' demand (we verified it on 1559 households and 4435 individuals). According to this result we suggested a hypothesis that there are differences in potential households' demand in particular regions in Slovakia (we consider regions as 8 self-governing territorial units, level NUTS 3).

It is evident that identical regional policy in different types of regions (undeveloped contra developed ones) could not lead to the expected effects (more about regional development in Kollár, Uramová, Tuschlová, 2013). Development, or support of the entrepreneurial activities in regions should take in account particularities of certain territory, as well

as particular needs, requests and possibilities of consumers/households in that territory (including their potential demand for the market substitutes). This subject matter has not been researched in Slovakia yet. It means, that results of our research bring very original point of view and they can contribute to the development of the entrepreneurial activities in particular regions in Slovakia.

METHODOLOGY AND UNPAID WORK RESEARCH

The aim of this article is to focus (according to the results of the unpaid work research) on the possibility of transformation chosen forms of the unpaid work activities on the paid work represented by market supply of different kind of services. This possible paid work could be utilised by entrepreneurial entities as well as by municipalities (and self-government regions) as a specific and so far unexploited source of the economic growth of particular territory. On the other side, development of such market services could lead to the more rational utilization of the households' and individuals' daily time. They will be able to spend their daily time by other activities (we suppose by more productive and meaningful ones than unpaid work activities). This could consequently lead to the better quality of life and higher subjective satisfaction of individuals and households.

In 2011 and 2012, the interdisciplinary team of researchers from the Faculty of Economics, Matej Bel University in Banská Bystrica, focused on the unpaid work in Slovak households and its particularities (project VEGA 1/1141/11). It was the first systematic attempt to understand and evaluate unpaid work in Slovak republic. The aim of the research was to find out extent of the unpaid work, types of activities performed as unpaid work, as well as to understand trends in the development of the unpaid work in Slovak households. As a part of research, we also tried to find out motives (economic and non-economic) of Slovak households to perform unpaid work activities.

Besides other results we also found out that individuals spent in average 25.8 hours per week by unpaid work (it is approximately 3.7 hours or 222 minutes per day). According the extent of the unpaid work, we can divide European countries into three groups. The first group includes Austria, Belgium, Finland, France, Germany, Hungary, Ireland, Italy, Netherlands, Norway, Sweden and United Kingdom. In these countries, individuals spend from 190 to 215 minutes per day by unpaid work activities. In the second group, where extent of unpaid work is between 216 and 229 minutes per day, there are Denmark, Portugal, and Spain. In addition, Slovakia, where unpaid work of individuals found out from our research is 222 minutes per day, belongs also to the second group. The last group includes states in which unpaid work of individuals is 130 and more minutes per day. In this group, there are Estonia, Poland a Slovenia (Uramová, Nedelová, Tuschlová, 2014).

According to the gender structure of the respondents, men spent 21.41 hours per week by unpaid work activities, while women spent about 35.58 hours per week by these activities. Households living in rural areas spent in average 75.8 hours per week by unpaid work activities, while households living in urban areas spent by these activities only 61.79 hours per week in average.

In 2013, we launched a new pre-research. It focused on finding the most important motives for unpaid work activities, as well as on identifying reasons for utilising (eventually not utilising) market services that could replace unpaid work. This pre-research was a first step of the project VEGA no. 1/0935/13 «Unpaid work as a potential source of socio-economic development of society and the determinant of individual well-being».

The main research of the project VEGA no. 1/0935/13 was realised in April 2014. The aim of the research was to find out, whether Slovak households use market services that replace unpaid work in households (divided into following categories: preparation and

delivery of the cooked food, household cleaning, laundering and ironing, delivery and preparation of the fuel, care of the plants in garden, harvesting and etc., dwelling maintenance, equipment and furniture maintenance, cars and mechanism maintenance, buying of foods and other consumables, care of children and adult (old or ill) persons). In the research we also tried to find out what are the main reasons of utilising or not utilising market services, plan to use or not to use these services in the future including information about the possible amount of money that households plan to dedicate for these services.

Our article is based on the data, which we collected within the main research of VEGA no. 1/0935/13 research. In the research, there were 1142 respondents (households) included and results of the research are adequate and representative according to the number of household's members and place of living of the respondents (8 regions on the NUTS 3 level).

ESTIMATION OF THE POTENTIAL HOUSEHOLDS' DEMAND FOR THE UNPAID WORK MARKET SUBSTITUTES IN SLOVAK REGIONS

To calculate potential demand for the services, that could replace unpaid work in households, we have divided all unpaid work activities into five groups. Table 1 includes these five categories of activities, number of households which are willing to replace unpaid work by market substitutes (data from our research), as well as average sum of money that households want to spend for market services per year.

Table 1

Number of households willing to replace unpaid work by market substitutes and possible average yearly expenditures for market services

	Food and Beverages	Household Chores	Maintanance (dwelling, equipments)	Maintanance of Cars	Care (children and adults)
No. of households that think on trade substitutes	667	135	385	596	84
Average amount of money (eur) to spend per year	266.93	618.33	747.83	345.42	1080.16

Source: Own elaboration.

In the field research, respondents could have chosen more activities which they are willing to replace by market substitutes. This is the reason, why there are different frequencies of answers in particular categories of activities. The highest sum of money in average per year would households like to spend for the children and adults care (more than 1000 euro per year per household), for household chores (more than 600 euro per year per household) and for the dwelling and equipment maintenance (almost 750 euro per year per household). These amounts represent potential demand of the requested households. It means, how much money requested households would spend for market activities that could replace traditionally unpaid work activities in the household.

There are many differences in Slovak regions regarding the socio-economic particularities (see more in Kožiak, Uramová, 2008). That is why we focused also on the regional differences in potential households' demand for the market substitutes of the unpaid work activities. In Table 2, there are data concerning potential households' demand for market

substitutes of unpaid work activities (expressed in money term) in Slovak regions (Bratislava region, Nitra region, Trnava region, Trenčín region, Banská Bystrica region, Žilina region, Prešov region and Košice region).

The highest interest of the households to pay for the market substitutes of unpaid work activities is in Bratislava region. This could be link with the fact, that Bratislava region is the most developed region in Slovakia, there is the highest ratio of the urban population (by the end of 2013 this ratio was almost 81%; comparing to rest of Slovakia with ratio of urban population of less than 51% (source: Statistical Office of the Slovak republic)), the highest net income per household's member (468.5 euro per person; comparing to amount between 327.7 euro and 384.6 euro per person in other regions (source: Statistical Office of the Slovak republic)), as well as the lowest unemployment rate (on 31.12.2013 only 5,6% comparing to the Slovak average of 13.17% (source: Statistical Office of the Slovak republic)).

Table 2

Potential households' demand for market substitutes of unpaid work activities in Slovak regions

Region		Food and Beverages	Household Chores	Maintanance (dwelling, equipments)	Maintanance of Cars	Care (children and adults)
Bratislava Region	No. of households that think on trade substitutes	105	36	44	79	14
	Average amount of money (eur) to spend per year	360.58	1047.54	824.75	457.52	2200.94
Trnava Region	No. of households that think on trade substitutes	94	24	12	35	0
	Average amount of money (eur) to spend per year	291.38	617.49	800.00	597.32	
Trenčín Region	No. of households that think on trade substitutes	68	11	53	69	7
	Average amount of money (eur) to spend per year	233.80	131.89	616.22	289.63	993.62
Nitra Region	No. of households that think on trade substitutes	80	16	70	92	11
	Average amount of money (eur) to spend per year	218.28	391.14	827.37	241.67	1197.31
Žilina Region	No. of households that think on trade substitutes	66	12	48	68	9
	Average amount of money (eur) to spend per year	262.84	256.41	781.88	317.89	942.85

Region		Food and Beverages	Household Chores	Maintanance (dwelling, equipments)	Maintanance of Cars	Care (children and adults)
Banská Bystrica Region	No. of households that think on trade substitutes	83	20	51	81	13
	Average amount of money (eur) to spend per year	254.25	589.14	714.16	370.59	1006.64
Prešov Region	No. of households that think on trade substitutes	79	11	47	79	10
	Average amount of money (eur) to spend per year	231.73	445.19	878.76	365.01	624.86
Košice Region	No. of households that think on trade substitutes	91	6	60	92	20
	Average amount of money (eur) to spend per year	245.82	622.97	604.70	280.17	618.

Source: Own elaboration.

Households in all eight regions would like to spend the highest amount of money for services that could replace children and adults care and dwellings and equipment maintenance. According to the results of VEGA 1/1141/11 project we found out, that children and adults care cover one the highest part of time that households spend within the unpaid work activities (women about 5.7 hours per week in average and men 3.5 hours per week in average (source: Kaščáková, Nedelová, 2014)). We assume, that mostly tendency to confide children and adults (for example disabled or retailed adults) to the care of professional care services, is the reason why households would like to spend most of money on these market substitutes.

Another group of activities for which households would spend money at the market, is dwelling and equipment maintenance. These activities are linked with higher level of professional knowledge and abilities and households are not always able to arrange them by themselves (eventually by friends or neighbours). This is one of the reasons, why households need to find out maintenance services offered by market.

On the other side, the lowest amount of money (it means also the lowest demand) will households spend for market services linked with food and beverages preparation. According to the results of VEGA 1/1141/11 project, preparation of food and beverages covers the biggest portion of the daily time of households and individuals (it is in average 7.8 hours per week in case of women and almost 3.5 hours per week in case of men ((source: Kaščáková, Nedelová, 2014)). It is interesting, that most of the researched households in all eight regions would prefer to replace food and beverages preparation by paid market substitutes. However, households are not willing to pay significant amount for these services. It means, there is a high potential households´ demand for these market services (if it is expressed in the amount of households), but this potential demand is quite law (if it is expressed in money term).

DEPENDENCE OF POTENTIAL HOUSEHOLDS' DEMAND FOR THE UNPAID WORK MARKET SUBSTITUTES ON SOCIO-ECONOMIC PARTICULARITIES OF SLOVAK HOUSEHOLDS AND SLOVAK REGIONS

Data on potential households´ demand for market substitutes of unpaid work activities in eight Slovak regions (expressed as amount of money that households would like to spend in average per year for particular market services) serve us also for determining dependence (eventually independence) of the potential demand on the most important socio-economic particularities of Slovak households. We tested correlation of potential demand on the number of household´s members, number of children in the household, number of economically active members of the household, number of retired persons living in the household, income group to which household belong, household type and kind of living. According to the income (expressed in euro per month per household), we divided households into seven groups (without any income, income from 1 to 300 euro, from 301 euro to 600 euro, from 601 euro to 900 euro, from 901 euro to 1 200 euro, from 1201 euro to 1500 euro, from 1501 euro to 1900 euro and more than 1901 euro). According to the household type, we divided households into four groups. First group includes households in which person with the highest income is an employed person (he/she can perform manual or intellectual job, including employed retired person). Second group includes households, in which person with the highest income is an entrepreneur (economically independent self-employed person). The third group covers households, in which person with the highest income is a retired person (who is not employed any more). The fourth group includes any other type of household. According to the kind of living, households are divided into three groups (households living in the family house, households living in the apartment in the block of flats, and households living in other kind of dwelling).

To calculate correlation intensity, we used a Pearson correlation coefficient. In case of the kind of living and household type, we used Cramer´s V contingency coefficient. The correlation coefficients were tested at the significance levels 0.05 and 0.01.

In Table 3, there are results of testing, including marking those correlations, that are statistically significant.

Results show, that there is the strongest correlation between the willingness of households to spend money for market services relating to the household chores, dwelling and equipment maintenance, children and adults care and income group of the households. It means, the highest the income group (income level) of the household, the more money this household is willing to spend for household chores, maintenance and children and adults care.

There is just a weak positive correlation between the food and beverages preparation and the household income group; between the maintenance of cars and kind of living; and between the dwelling and equipment maintenance and number of household's members and number of economically active members of household.

We found out, on the other side, that there is only a weak negative correlation between the food and beverages preparation and number of household´s members and number of retired persons in the household (it means that the more members or retired persons are in the household, the less household is willing to spend for market services linked with food and beverages preparation). This negative correlation seems to be logic (even if it is only a weak negative correlation), because retired person in the household usually cook and prepare food also for other household members. The fact, that retired person cook also for other household´s members could not have any strong influence on the division of his/her daily time, because this person do not spend any time in paid work (and that is why he/she has more free time). The negative correlation is evident also between the willingness

of households to spend money for paid household chores services and number of retired persons in the household (reason is probably the same, as in case of food and beverages preparation). There is also a weak negative correlation between the car maintenance and number of economically active members of the household and number of retired persons in the household.

Table 3

Correlations between the potential demand for unpaid work market substitutes and socio-economic particularities of Slovak households

		No. Of Household Members	No. Of Children	No. Of Economically Active Members	No. Of Retaired Members	Income Group	Household Type	Kind of Living
Food and Beverages	Pearson Correlation	**–.099***	–.066	–.056	–.078*	**.169****	.337	**0.393**
	Sig. (2-tailed)	.011	.089	.147	.045	.000	.070	.000
	N	667	667	667	667	666	661	657
Household Chores	Pearson Correlation	–.048	.038	.000	**–.173***	**.448****	.639	**.751**
	Sig. (2-tailed)	.580	.666	.996	.045	.000	.273	.001
	N	135	135	135	135	135	128	130
Maintanance (dwelling, equipments)	Pearson Correlation	**.188****	**.123***	**.219****	–.046	**.252****	.440	0.387
	Sig. (2-tailed)	.000	.016	.000	.363	.000	.230	.910
	N	385	385	385	385	385	377	383
Maintanance of Cars	Pearson Correlation	–.072	–.052	**–.104***	–.090*	.078	**.390**	**0.453**
	Sig. (2-tailed)	.079	.204	.011	.029	.057	.000	.000
	N	596	596	596	596	594	591	591
Care (children and adults)	Pearson Correlation	–.055	–.117	.050	.062	**.458****	**.838**	.751
	Sig. (2-tailed)	.620	.289	.651	.574	.000	.005	.181
	N	84	84	84	84	84	81	83

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0,05 level (2-tailed).

Source: Own elaboration on the basis of SPSS output.

Not only particularities of the households, but also socio-economic particularities of the regions play an important role in estimating potential households' demand for unpaid work market substitutes. By the means of Pearson correlation coefficient, we tried to find out correlations between the potential households' demand and chosen socio-economic particularities of Slovak regions. In Table 4, there are basic socio-economic particularities of regions, which we considered important for determining potential households' demand.

Table 4

Basic socio-economic particularities of Slovak regions (NUTS 3) in 2012

	Bratislava region	Trnava region	Trenčín region	Nitra region	Žilina region	Banská Bystrica region	Prešov region	Košice region
Share of urban population (%)	80.9	47.5	56.1	45.9	49.2	53.3	48.1	55.6
Share of rural population (%)	19.1	52.5	43.9	54.1	50.8	46.7	51.9	44.4
Number of towns	7	16	18	15	18	24	23	17
Number of villages	66	235	258	339	297	492	642	423
Share of men in population (%)	47.38	48.87	49.04	48.54	49.09	48.43	49.36	48.8
Share of women in population (%)	52.62	51.13	50.96	51.46	50.91	51.57	50.64	51.2
Unemployment rate (%)	5.6	11.4	9	13.3	14.3	18	18.3	19.7
Unemployment rate men (%)	5.6	10.8	8	11	13.6	19.9	17.5	19
Unemployment rate women (%)	5.7	12.1	10.2	16.1	15.2	15.6	19.2	20.7
Average gross nominal monthly earnings of employee (eur)	1184	848	798	776	816	772	718	853
Net monthly income per capita in household (eur)	468.5	384.6	371	352.2	367	353.1	327.7	333.8
Net monthly expenditure per capita in household (eur)	409.3	335	325.8	313.8	333.1	313.4	285.3	289.3
Total expenditure per capita (eur)	409.3	335	325.8	313.8	333.1	313.4	285.3	289.3
Average gross monthly earnings (eur)	1157	819	766	742	783	740	680	814

Source: own elaboration according to Statistical Office of Slovak Republic data.

We have found out, that not all regional particularities influence extent of the potential households' demand for the market substitutes of the unpaid work activities. Demand for the services replacing maintenance of the dwellings and equipment, as well as maintenance of cars is not depending on the regional particularities at all (or there is only a very little correlation). On the other side, services replacing children care and adults care are depending almost on all regional particularities (except the men unemployment rate). There is a positive correlation in case of the rate of urban population (it means, the higher the rate of urban population, the more of households in the particular region are willing to pay for the services connected with the children and adults care); in case of rate of women in population, in case of average gross nominal monthly earnings of employees, in case of net monthly income per capita in household and in case of net monthly expenditures per capita in households. There is a positive dependence also in case of the correlation between the services linked with the food and beverages preparation and all the regional income and expenditures particularities.

On the other side, negative correlation is evident in case of relationship between the demand for the services linked with the food and beverages preparation as well as demand for the children and adults care and the women rate of unemployment. This negative correlation seems to be logic, because women that are not employed (and do not spend part of the day by the paid activities) dedicate much more time for the unpaid work activities in the household. According to our results from project VEGA 1/1141/11, preparation of the food and beverages as well as children and adults care represent the highest part of the unpaid work of women in all regions. That is why we suppose that also unemployed women spent most of their daily time by these activities and there is no any special reason to replace these activities by market substitutes.

CONCLUSIONS

In the paper, we focused on the possible estimation of the potential households' demand for the unpaid work market substitutes. As we confirmed in the previous researches, unpaid work plays an important role in the life of individuals and households. Persons spend about 222 minutes per day by these activities, what covers significant part of the daily time. Even if households and their members still have motivation (economic and non-economic) to perform unpaid work activities personally, there is a growing interest to replace traditional household works by paid market substitutes. Particularly willingness of Slovak households to pay for market services, which will replace unpaid work activities, was the subject-matter of our interest in this paper.

Our research showed of that households would like to spend the most of money for the children and adults care (more than 1000 euro per year per household), for household chores (more than 600 euro per year per household) and for the dwelling and equipment maintenance (almost 750 euro per year per household). These activities required high level of professionalism and particular knowledge and training. This could be the main reason to demand them at the market.

Another interesting (however, not surprising) results occurred regarding the differences between the Slovak regions. We confirmed, that households in Bratislava region (as the most advanced region in Slovakia) are the most interested in replacing unpaid work activities by paid market services. Regarding the particular activities, households in all eight regions would spent the most for children and adults care and any kind of maintenance.

In the paper, we also tried to determine correlations between the potential households' demands for unpaid work market substitutes and chosen socio-economic particularities of Slovak households and regions. We confirmed, that mostly income level of the households is a statistically significant feature, that influences willingness of households to replace unpaid work activities by market substitutes (we confirmed strong positive correlation between them). Another significant feature is the fact, whether there is a retired person or persons in the household. We confirmed negative correlation between the food and drinks preparation and household chores on one side and number of retired persons in the household on the other side. Regarding the regional particularities, we confirmed that mostly rate of urban population, average gross nominal monthly earnings of employees, net monthly income per capita in household and net monthly expenditures per capita in households are the most significant features that influence potential households´ demand for unpaid work market substitutes.

Knowing, whether there is a potential demand on the side of households, is only the first step to utilise potential demand in reality. There are still many questions that must be answered. Is it really possible to transform potential demand into the real, efficient demand? Are companies able to provide services that households required? Are the prices

that households would like to pay for market services really reliable? Should these market services be provided by private companies for market prices, or should they be provided by municipalities (regions, state) for regulated prices? Is there any possibility to create private-public partnerships or eventually clusters to provide these market services to the households? Only after answering these and many other questions, it will be possible to fully utilise potential households' demand for unpaid work market substitutes.

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