

THE SIXTH INTERNATIONAL SCIENTIFIC CONFERENCE

RURAL DEVELOPMENT 2013

PROCEEDINGS

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Aleksandras Stulginskis University
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FOREWORD

*A sustainable world means working together to create prosperity for all. ...
Even when early innovations start to succeed, it is not uncommon to see growing ...*
/Jacqueline Novogratz, founder and CEO of Acumen Fund, 2011/

Conference “Rural Development 2013: Innovation and Sustainability” is an international event designed to bring together key stakeholders involved in agricultural and food systems, natural resources and rural development research for discussion on the most important issues impacting our efforts to address the Challenges of Tomorrow. The importance of collaborating internationally relies upon the communication and sharing of research results, plans, resources and lessons learned by all international stakeholders.

Rural development originates from combining innovatively a wide range of different and often, refigured resources, which consequently flow into a set of new activities, interactions, transactions and networks. Only through a successful mix of technological, social, organizational and institutional elements, and emerges through stakeholder interaction and learning Innovation occurs. Therefore, the 6th international conference of Rural Development is orientated to innovations and sustainability.

Innovation – the process by means of which social and economic needs are met with new ideas and new products, services or business and organizational models are created; they are successfully introduced into existing markets or are capable of creating new markets. Innovation is a key factor, as in most developed countries it has long been the main engine for the economic growth, enabling achievement of high business efficiency and profitability, and rapidly improving quality of life.

Sustainable growth means building a resource efficient, sustainable and competitive economy, exploiting leadership in the race to develop new processes and technologies, including green technologies and bio-based economics, using the EU-scale and foreign networks. Such an approach will help to prosper in a low-carbon, resource constrained world while preventing environmental degradation, biodiversity loss and unsustainable use of resources. It will also underpin economic, social and territorial cohesion.

It is a great pleasure for us to welcome at our conference the scientists from our neighbouring countries and those coming from Belgium, the Czech Republic, Estonia, Finland, Germany, Hungary, India, Ireland, Italy, Kazakhstan, Latvia, Lebanon, the Netherlands, Poland, Romania, Russia, Spain, Turkey, the Ukraine, the United Kingdom, the United States and other countries.

All the participants will be awarded the possibility to express their attitudes towards the scientific issues related to the Food Safety and Security, Engineering and Environment of Biosystems, Multifunctional Approach to Sustainable Use of Natural Resources, Social Innovations of Regional Rural Development Future and Present Policy of Agriculture and Rural Development.

May this conference be a useful step in meeting the challenges faced by Agricultural, Food system and rural communities. Proceedings of the International Scientific conference “Rural Development¹” (ISSN 1822-3230 (print), ISSN 2345-0916 (online)) have been published periodically every two years since 2003. The proceedings are indexed and abstracted in the international databases: Thomson Reuters ISI Web of Science (since 2005) and Academic Search Complete via EBSCO (since 2009). The research papers meet the requirements of editorial board and are reviewed by two reviewers under single-blind refereeing process.

The editorial board of the proceedings “Rural Development 2013: Innovations and Sustainability” hope that the scientific ideas presented in the research papers are meaningful not only for the researchers in the fields of agriculture and rural development, but also for the students, politicians and decision makers in the EU, national, regional, local organizations of agriculture and rural development. These ideas will promote constructive debate and search for new solutions, sharing the experience and will encourage further cooperation in and sustainability of rural areas development.

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¹ Website of the scientific journal – http://www.asu.lt/rural_development/en

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The Income Structure of the Rural Population with Precarious Income

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Abstract

The article describes the chief sources of income of the rural population with precarious income. It discusses the situation taking into consideration the most important factors influencing the possession of any source of income. Pearson's chi-squared test (χ^2) resulted in the observation that the sex, age, number of people in the household, the area of the country and education are decisive factors to the character of the main source of income. The article also describes the methods of supplementation of the existing sources of income if it is impossible to satisfy one's needs. The article briefly discusses the possibility to find employment outside agriculture and the chance for any employment which could be treated as permanent.

Key words: income, rural population, income structure.

Introduction

Modern economics has developed a wide range of criteria of assessment of the economic situation of individuals and households. One of them is to investigate income, especially the sources which substantially influence the amount and level of cash received. In consequence they are the key element in the process of satisfying one's demand. Thus, the form and source of income significantly influence the individuals' development opportunities and as a result they affect people's consumption behaviours and their lifestyles.

The particular importance of the source of income results from its strong influence on consumers' buying behaviours and thus it determines the demand and consumption. All the same, it is possible to say that the source of income influences the range of individuals and households' freedom of action. It influences activating behaviours and the possibility to improve one's qualifications. Thus, the source of income is not only an element affecting the amount of emolument received but it is also a factor influencing a large number of consumers' individual decisions and behaviours on the market. It also determines the manner of income management.

Methodology

The empirical materials included in the article come from the studies conducted as part of the research project No. UMO-2011/01/B/HS5/01034, financed by the National Science Centre and they are only a fragment of them. The research was conducted from the beginning of June to mid-July 2012. The size of the research sample was 1067 adult respondents, the inhabitants of rural areas in Poland. Information about the population was obtained from a questionnaire, which was both a research tool and scenario of the direct interviewing method PAPI (*paper and pencil interview*). The problems in the questionnaire consisted of nine thematic blocks. The article chiefly uses the information from the third block – The respondents and household members' economic activity.

The research sample was a representative selection according to the formula for an unknown fraction, where the assumed significance level was 0.05 and the population size was retained. Due to the research on an 'unknown' population (there is no research on the population with precarious income, which could enable assessment of the demographic distribution) the only possibility was to apply a quota sample, which was equally divided according to voivodeships and demographic traits (sex, age). The sex was assumed according to the Local Data Bank of the Central Statistical Office. However, it was only an approximate value, because during preparations for the research it was impossible to specify the ratio between the men and women who met the input criteria. On the other hand, the size of the sample in individual voivodeships depended on the population of rural communes in the voivodeships under study and it ranged from 26 in Lubuskie Voivodeship to 133 in Mazovian Voivodeship. The statistical error for the entire country was assumed to be 3%. Thus, it is possible to assume that the sample is representative, which results from the fact that for the most significant major traits proportions were retained and thus the percentage in the sample was equal to the percentage in the population.

Precariousness of income

Precariousness is an important trait of the economic and social life and it is one of the qualities of the human activity. According to the Polish dictionary, something precarious includes the element of risk and it is difficult to predict it. However, this definition does not adequately describe the phenomenon, because in economics risk is the phenomenon where it is possible to identify the result by means of probability, although it is difficult. As far as precariousness is concerned, it is impossible to determine the probability of its occurrence due to the absence of statistical parameters of assessment of the frequency of event occurrences (Zalega, 2008). According to G. Maciejewski (2010), the states of risk and precariousness coincide and sometimes they are identified with each other. When W.F. Samuelson, S.G. Marks (1998), A.H. Willet (1951), or F.H. Knight (1921) analysed the problem of precariousness, they used the terms *precariousness* and *risk* interchangeably. According to A.H. Willet, risk is an objectivised uncertainty concerning the occurrence of an undesirable event. On the other hand, Knight thought that risk was a measurable uncertainty. I. Pfeffer (1955) analysed and combined the two concepts and in consequence, he found that the

measurability of uncertainty is only limited to belief. In other studies, e.g. by K. Bolesta-Kukulka (2003), precariousness as an element of the decision-making conditions is distinguished from risk, which is the consequence of the choice of a particular decision.

When analysing the precariousness of income it is necessary to take its unpredictability, indeterminacy and discontinuity into consideration. In this aspect unpredictability is related with the impossibility to determine if the consumer can gain any income. This results from the difficulty determining if the individual will be employed in a particular period of time, or possibly what their working time will be, and from the difficulty receiving a social security benefit. Indeterminacy results from the atypical activity and/or source of income. Discontinuity is the result of temporary employment or employment in selected, short periods, whereas the income itself is sporadic. These traits make it impossible to determine the objective probability of receiving remuneration or other income. In this sense precariousness could be identified with certain fortuity and can be used as a synonym of doubt.

Research section

In the practice of establishing employment relationships there are more and more various organisational and legal solutions which are far from the classic model of traditionally understood employment relationship (Kucharski, 2012). Among the surveyed population with precarious income the most common source of income is project contract or work for hire (24.27% of all respondents). However, it is also possible to observe that flexible forms of employment are very important, including part-time employment (12.46%), fixed term employment (4.8%), temporary employment (3.28%). Replacement employment (0.66%) and home-based employment, including the use of the Internet (0.66%) are less common (Table 1). Family aid is of vital importance to the households under study – it is the main source of income for every seventh household. According to M. Styrac (2007) and P. Szukalski (2002) financial transfers in such households are usually intergenerational, i.e. from older to younger generations. As results from the research by S.M. Bianchi, J.P. Robinson and M.A. Milkie (2007), the access to informal sources of aid is combined with the use of commercial and public forms of welfare.

It is noticeable that the distribution of responses concerning the forms of employment and character of support differs between the sexes. Pearson's chi-squared test (χ^2) gives the value of 81.9454, where the significance level is $p < 0.05$, so the differences are significant. There are much more men than women who declare illegal employment (11.35% vs 1.80%) and self-employment (9.78% vs 4.68%). On the other hand, women receive family aid more often than men (19.96% vs 9.78%) (Table 1). This distribution partly confirms the stereotypical approach to the sexes. Men much more often feel obliged to support their families and they start work regardless of the form and character of employment. Women are much more often obliged to do housework and take care of their families, so they have to give up their jobs. As results from the research, women are more economically dependent both on informal (family) and formal (welfare institutions) networks. For nearly every third woman these sources are her basic maintenance strategy.

Table 1. The main sources of income of the rural population under study according to the sex (number and percentage)

Specification	TOTAL		Women		Men	
	(N)	(%)	(N)	(%)	(N)	(%)
project contract or work for hire	259	24.27	138	24.82	121	23.68
family aid	161	15.09	111	19.96	50	9.78
part-time employment	133	12.46	75	13.49	58	11.35
self-employment	76	7.12	26	4.68	50	9.78
illegal employment	68	6.37	10	1.80	58	11.35
fixed term employment	51	4.78	21	3.78	30	5.87
unemployment benefit	36	3.37	28	5.04	8	1.57
temporary employment	35	3.28	14	2.52	21	4.11
seasonal employment	27	2.53	14	2.52	13	2.54
social security	24	2.25	22	3.96	2	0.39
cleaning, minor repairs	10	0.94	6	1.08	4	0.78
leasing employment, replacement	7	0.66	3	0.54	4	0.78
home-based Internet employment	7	0.66	1	0.18	6	1.17
other	173	16.21	87	15.65	86	16.83

Source: The author's own research, UMO-2011/01/B/HS5/01034, n=1067.

The main source of income is influenced by education. Pearson's chi-squared test (χ^2) reaches the value of 169.5063, where the significance level is $p < 0.001$, so there is a strong correlation. The respondents with higher education usually have employment contracts or they are self-employed, whereas illegal and seasonal employment is more common with people with lower qualifications (vocational or lower education). As results from the research, the higher the education, the higher the chance to find any employment. It is not equal to a satisfying job, but as far as flexible employment is concerned, if we assumed gradation of employment relationships, it would favour finding relatively more stable employment. The very depreciation of the security of the employment relationship is usually related with those groups of workers who do the jobs which do not require particularly high education or qualifications (cf. Polawski, 2012). It is noticeable that the people whose education is not higher than that of the middle school find it the most difficult to specify their activities. Two out of five were unable to specify the source of their income (Table 2).

The results of the research by P. Teisseyre (2012) confirm the fact that aid is of lesser importance to people with higher education. The author noted that on average people with higher education provide twice as much aid as those with primary education.

The respondent's age is an important factor influencing the main source of income. As results from the research, the younger the respondents' age is, the more important family aid is (Pearson's chi-squared test (χ^2) amounts to the value of 709.3992, where $p < 0.001$). It is another argument proving the cash transfer from older to younger generations. Simultaneously, the older the respondent is, the more important self-employment is. It is noticeable that illegal employment is prevalent among the youngest people on the market (18-24) and middle-aged people (45-54). In the former group the number of illegally employed is 11.24%, whereas in the latter it is 9.29%. The high percentage of young people who are illegally employed is particularly dangerous in view of their entrance to the labour market and gaining work experience. Relatively low education and professional qualifications make finding any legal employment more difficult. According to E. Staszewska (2012), these elements are the key factor which is decisive to the chance to find employment and all the same they affect the sources of income. In view of the fact that although it is not a *sine qua non*, the lack of appropriate skills and the failure to comply with the current demand on the market combined with difficulties meeting the requirements of the knowledge-based economy are reflected by the form and quality of one's employment and in consequence the group is pushed away to the grey market.

Another factor that influences the main source of income is the number of people in the household. Pearson's correlation coefficient χ^2 is 128.6079, where the significance level is $p < 0.001$. Although in public perception the larger the family is, the greater the chance to find employment by any person in the household is, the research proves that the more people there are in the household, the greater the importance of aid is. Among the households of five or more people this source of income is the most important maintenance strategy. It is noticeable that in large households there is a greater number of people earning income from illegal sources. Difficulties finding legal employment are correlated with a lower level of education. As results from the research, the members of larger households are usually worse educated. Among one-person households higher education prevails (26.9%), among two-people households it is secondary vocational education (24.4%), whereas among the households consisting of five or more people vocational education prevails (27.1%). However, the investigation of the education coefficient¹ does not lead to such obvious conclusions. The coefficient for one-person households is 1269, for two-people households it is 1265, for three-people households – 1309, for four-people households – 1253 and the households of five or more people – 1260, so the differences are not so considerable.

The megaregion is an equally important factor influencing the main source of income. In this case Pearson's chi-squared test (χ^2) amounts to the value of 193.6072, where the significance level is $p < 0.05$. In view of the critical value of 55.7585 it is possible to prove the correlation. In the central, southern, south-western and north-western regions the main source of income is usually a project contract or work for hire, in the eastern region it is family aid, whereas in the northern region it is part-time employment. Family aid is of vital significance regardless of the region. Only in the voivodships of the north-western region it is of minor importance and only every fiftieth respondent admits to it (2.33%). The largest percentage of self-employed people can be found in the central region, whereas the largest percentage of illegally employed is in the south-western region. Although the three main sources of income are similar in most of the regions, a considerable difference in the distribution of responses is noticeable.

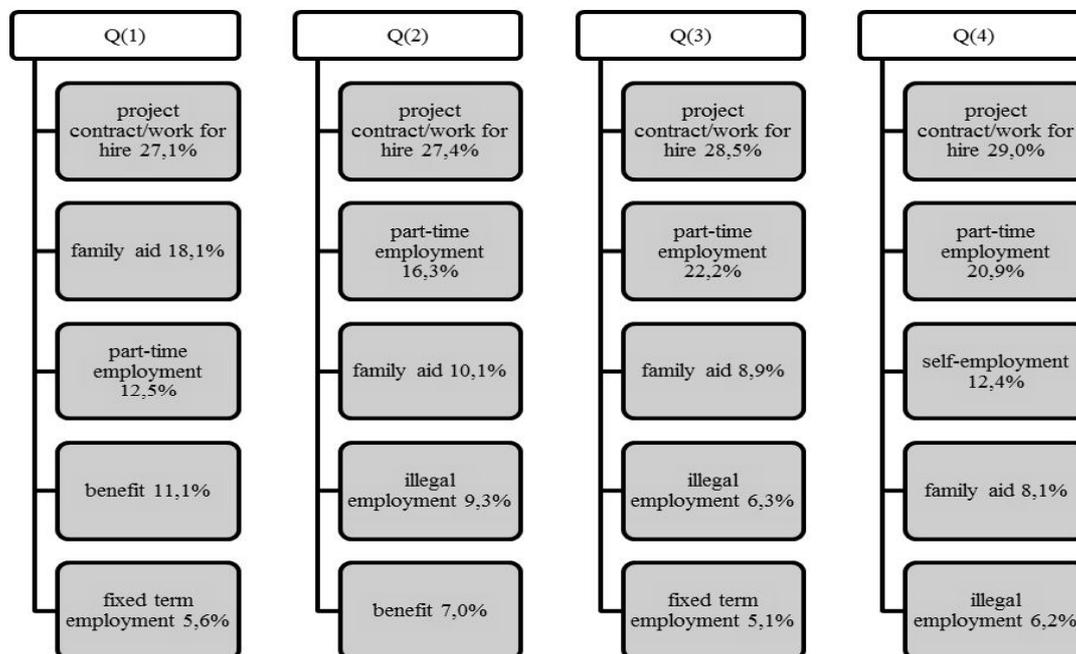
It is necessary to note the fact that among the rural population with precarious income the model of the only supporter of the family is common. In two out of three households only one of its members is employed. Usually the only supporter of the family is a man – 70.5% of men are employed, whereas only 47.7% of women have a job. Pearson's chi-squared test (χ^2) produces the value of 56.0521, where $df=1$ and $p < 0.001$, and thus it proves the significance of differences. In every third household the finances are supplemented with an extra job done by another member of the household. However, this job is usually atypical, too. High unemployment in rural areas causes the situation where we can rarely speak of the family model where both the man and the woman earn income from employment and share their family duties at the same time. Thus, it stands in opposition to the observations made by P. Kingston and S. Nock (1984), who note that changes in the social roles cause women's dilemma of the allocation of time between their jobs and family duties. It is possible to say that among the rural population with precarious income the social roles remain unchanged or they are changing very slowly. Thus, a question arises whether it is a deliberate choice of the group under investigation or maybe the model results from the economic conditions and situation on the labour market. In spite of the fact that the research does not provide a definite answer to the question I am ready to make the statement that the lack of change in the roles has been imposed and it is not a direct reaction of the people concerned.

Maintenance from precarious sources of income is rarely a guarantee of economic independence (Mueller, Wyss, 2003). Thus, if we assume that precarious sources of income favour one's worse living standard, a question arises which extra sources of income let individual people or households function. As results from the research, the most common extra source of income is family aid (25.9%), which causes a worrisome view of the population under investigation in view of the fact that it is an essential source of income for more than 15% of the respondents. Illegal employment, project contracts or work for hire, cleaning and minor repairs, seasonal employment and replacement employment are

¹ The coefficient was calculated by assuming the number of years which are necessary to achieve a specific level of education and the total share of people with a particular level of education as the factors of the equation.

of vital importance in the process of satisfying one's needs and supplementing income. However, it is noteworthy that only 27.84% of the respondents indicated that they had and took advantage of the opportunity to earn extra income.

The structure of the main sources of income of the rural population with precarious income changes depending on the quartile group (Q). As we pass on to higher income groups, the number of people whose main source of income is a project contract or work for hire increases, whereas the importance of family aid decreases (from 27.1% in Q1 to 29.0% in Q4). At the same time it is possible to observe the vital importance of benefits among the poorest population (11.1%), which drops to 1.4% in the last quartile (Q4). The opposite situation can be seen in self-employment, which is characteristic of relatively the wealthiest people and applies to almost every eighth respondent (Diagram 1).



Q(1) – number of the quartile group

Diagram 1. The most important sources of income according to quartile groups

Source: The author's own research, UMO-2011/01/B/HS5/01034, n=1067.

It is possible to improve the employment structure and in consequence, the situation of the rural population with precarious income and to increase the number of people with employment contracts only if alternative sources of income are developed and the diversity of rural areas is increased. The fact that agriculture and work directly related with agriculture prevail in Polish rural areas leads to limitations in employment opportunities for the non-agricultural rural population. It is important to support the development of services, tourism, housing and forestry in rural areas. However, it is also important to support the development of small-scale production, the production of regional food and the food which is characteristic of a particular town as well as the functions related with care and health-promoting values provided to sick and elderly people. However, it is necessary to note that rural tourism may be an alternative source of income only to a small number of households. Thus, we can say that it has marginal significance in the process of finding employment for the rural population with precarious income. According to J. Bański (2004), overestimation of the role of tourism is unjustified. It is necessary to take into consideration the fact that rural tourism has an opportunity to develop only in scenically and culturally attractive areas, and to a lesser extent – in places with other special values (including the values resulting from rural inhabitants' inventiveness – theme villages).

The situation of low living standard in rural areas and unemployment may be solved by an increase in the self-employment activity. However, although self-employment in rural areas has a wide range of advantages, it also has come limitations. The most important barrier to the development is relatively low human capital. Rural inhabitants are worse educated and thus, potential investors are not encouraged to place their business in rural areas. They look for a location which may guarantee not only qualified workforce but also specialised staff, which is usually limited in rural areas. Additionally, low qualifications cause the situation where people do not have sufficient skills to start and run their own business. On the other hand, the low demand for non-agricultural products and services as well as ineffective distribution channels cause the situation where a small number of rural inhabitants is ready to start such activities. In spite of such unquestionable advantages as cheaper workforce, lower maintenance costs and own physical resources (areas, buildings) there are no initiators who are ready to face the challenge of the market. In view of the insufficient opportunities for rural people to generate development in rural areas external aid is necessary.

Conclusion

In spite of the fact that the economic situation and source of income do not guarantee correct functioning on the market, they substantially determine one's living situation and influence the amount of income earned. The importance

of sources of income is proved by the income structure in individual income quartiles. The better the respondent's living situation is, the greater the importance of the sources of income is and the lesser the significance of formal and informal aid is. On the other hand, being employed favours gaining higher income and better living situation. As results from the research, in practice the source of income is influenced by all of the most significant socio demographic factors such as: the sex, age, the number of people living in the household and the megaregion inhabited. The findings of the research on the rural population with precarious income are confirmed by other studies, which point to the prevalent model of the only supporter of the family in the areas under investigation. Presumably, in view of the employment difficulties for a larger number of people in a family the chances to improve the living standard of this group of people are doomed to failure.

References

1. Bański, J. (2004). Możliwości rozwoju alternatywnych źródeł dochodu na obszarach wiejskich. *Studia Obszarów Wiejskich* 5, pp. 9-22.
2. Bianchi, S. M., Robinson, J.P., Milkie, M. A. (2007). *Changing Rhythms of American Family Life*, Russel Sage Foundation, New York.
3. Bolesta-Kukulka, K. (2003). *Decyzje menedżerskie*, PWE, Warszawa, pp. 190.
4. Kingston, P., Nock, K. (1984). Time Together Among Dual-Earner Couples. *American Sociology Review* 52/3, pp. 391-400.
5. Knight, F.H. (1921). *Risk, Uncertainty and Profit*, Boston.
6. Kucharski, M. (2012). Koncepcja flexicurity a elastyczne formy zatrudnienia na polskim rynku pracy, Dom Wydawniczy Elipsa, Warszawa..
7. Maciejewski, G. (2010). *Ryzyko w decyzjach nabywczych konsumentów*, Wyd. UE w Katowicach, Katowice, pp. 38.
8. Mueller H., Wyss U. (2003). Atypical working hours and their impact on leisure – an official Swiss Time Use Study. *Tourism Review* 62/1.
9. Poławski, P. (2012). Generacja prekariuszy na polskim rynku pracy. *Polityka Społeczna* 9, pp. 16-23.
10. Pfeffer, I. (1956). *Insurance and economic theory*, Irwin Inc. Homewood, Illinois 1956, pp. 24.
11. Samuelson, W. F., Marks, S. G. (1998). *Ekonomia menedżerska*, PWE, Warszawa, pp. 323.
12. Willet, A. H. (1951). *The Economic Theory of Risk Insurance*, Philadelphia, pp. 6.
13. Staszewska, E. (2012). Przygotowanie zawodowe dorosłych. *Praca i zabezpieczenie społeczne* 2.
14. Styrc, M. (2007). Transfery finansowe i opieki w nieformalnych sieciach wsparcia, in: I.E. Kotowska, U. Sztanderska, I. Wóycicka (ed.), *Aktywność zawodowa i edukacyjna a obowiązki rodzinne w Polsce w świetle badań empirycznych*, Wydawnictwo Naukowe Scholar, Warszawa, pp. 306-344.
15. Szukalski, P. (2002). *Przepływy międzypokoleniowe i ich kontekst demograficzny*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź.
16. Teisseyre, P. (2012). Formalne i nieformalne sieci wsparcia socjalnego wśród pracujących na czas określony. *Polityka Społeczna* 9, pp. 39-46.

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