FARM HOUSEHOLD-FIRM UNIT: Its importance in agriculture and implications for statistics

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Non-Agricultural Diversification of Farm Households and Corporate Farms in Central Europe[1]

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1 Introduction

This research was inspired by the potential key impact of non-agricultural farms diversification on incomes and economic development of rural areas in countries in transition. The study attempts to contribute to the debate about the future of the vast rural areas in Central and Eastern European countries (CEECs) in general, and of farm households in particular in view of the accession of these countries to the EU. Three Central European Countries are analysed, the Czech Republic, Hungary and Poland.

The main questions the study tries to answer are: (i) Did incomes and activities of farm households diversify during transition and did diversification contribute to rural job creation? (ii) What are the common characteristics that identify diversifiers? (iii) What are the main impediments to diversification during transition? (iv) What are the possible implications of different policies on diversification?

This paper focuses on farm households only and does not include discussion about corporate farms.

2 Diversification: what is specific for countries in transition?

The future of rural areas in CEECs is a hot issue due to their size, high dependence on agriculture, low farm labour productivity and profitability. In the Czech Republic the employment in agriculture in the rural areas is on average 25 per cent. There is a process of depopulation and an increasing share of inhabitants over 55 in rural areas (EC, 1998a). Farm profitability is a big problem, as a great deal of farms cannot cover their costs with revenues.

The problems connected with low incomes of farm households are probably the most pronounced in Poland. Poland is a rural country with only 19 per cent of population living in predominantly urban regions. The unemployment rate is over 25 per cent in Northern Poland where the former state farms collapsed compared to 3 per cent in urban areas (EC, 1998b). As structural change has been slow, agriculture's share of rural employment remains as high as 44 per cent (26.7 percent of the total Polish labour force) and agricultural employment has not fallen by as much as was expected by many at the outset of transition (OECD, 1995). Agriculture is widely seen as masking rural under-employment. The low level of education of farmers has been identified as a substantial constraint to labour mobility and this has created concerns about the competitiveness and viability of rural Poland within the enlarged Union (EC, 2001).

A comparison of the net value added in agriculture in the three studied countries with the situation in one of the EU regions, Navarra in Spain, that has been chosen due to the prevalence of small family farms, shows the poor situation of CEEC farms, particularly in Poland and the Czech Republic (Table 1).

Table 1: Net value added per farm, hectare and AWU (EUR)

	Czech R	Hungary	Poland	Spain
Value added per farm	97,166	125,483	4,685	44,723
Value added per ha	116	974	199	1,961
Value added per AWU	3,472	16,481	2,044	29,185

Source: Davidova *et al*., 2002.

Diversification of income portfolio seems to be one possible solution for many farmers faced by low farm productivity, profitability and income. In order to study

non-agricultural farm diversification the definition of diversification as *all other gainful activities* outside of the primary production of food, fibre and fuel is adopted (Slee, 1987). Thus, agricultural contracting, woodland activities or off-farm wage work on non-own farm are excluded as sources of diversified income/activities and are included in the agricultural part of incomes/activities. However, on a few occasions in the analysis this definition has been broadened due to the prevalence of agricultural contracting in the sample farm households. Ignoring it would have resulted in a very small sample size of farm diversifiers. The other gainful activities outside of agriculture are classified into one of the three categories: off-farm work (employment diversification), non-agricultural enterprise on- or off-farm (enterprise diversification) and unearned income. In the *unearned income* pensions and other social benefits are included, as well as interest from savings, dividends, and also private remittances. This coverage of other gainful activities is consistent with the treatment of household-firms in OECD countries, looking at them from three aspects, activity - independent and dependent (agricultural or non-agricultural); asset ownership - income from property; and social unit - social benefits. However, transition countries have several specificities that have to be taken into account.

First, independent income (agricultural or non-agricultural) is a relatively new phenomenon with a few exceptions, e.g. Poland, where small-scale private farming and other small private activities persisted under the central planning. A small flow of independent income in all countries in transition came only from the household plots in rural areas. So, the main sources of income at the start of 1990s were dependent activities and social transfers. Second, as a result of the initial situation of collectivised agriculture, current farm structures differ substantially from the farm structures in Western countries. In the CEECs there are two distinct types of farm structures, individual farms (the household sector) and corporate farms. In several CEECs the latter are very important and cannot be neglected. For example, in the Czech Republic they account for 77 per cent of the total agricultural area (EC, 1998c). This leads to different emphases when studying pluriactivity and multiple source incomes. For the individual farms (farm households) all potential sources of income diversification are important and should be investigated. For the corporate farms the non-agricultural enterprises and contracted out non-agricultural services are of the main importance. In addition, corporate farms do not form income, and in general diversification is studied on the basis of revenues. Third, the possible sources of independent agricultural income of farm households are three, own (rented) farm, household plot, and participation in producer co-operative (joint-stock company). The last two sources are normally used in combination. Members of co-operatives (or shareholders in a joint-stock company), who are co-owners of the assets and in addition contribute labour, are not treated as wage labour and they receive income on their labour contribution and returns on property (land rent and dividends). Fourth, in the CEECs land restitution brought about diversification into agriculture from non-agricultural activities, so the situation by 2000 presented in this study is a compound outcome of moves into and out of agriculture. Fifth, the problems of the lack of statistics to measure total incomes of farm households and to treat them as a 'complete household firms' are more extreme than in most of the OECD countries. Even the measurement of agricultural incomes is at its beginning. Several CEECs still have not adopted FADN (e.g. Poland)[3] or FADN is at embryonic stage. For this

[3] Poland has to date not introduced the FADN system; the Polish Institute of Agricultural and Food Economics carries out an annual farm survey that is not fully consistent with FADN.

reason the current study is based on own data collection that makes the results difficult to generalise.

3 Methodological approach

In order to identify the characteristics distinguishing diversifiers from non-diversifiers a discriminant analysis was applied. The effect of different factors on diversification decisions was studied through multinomial logit analysis. Four alternatives were included: non-diversified, diversified through enterprise creation, diversified by off-farm employment, or diversified through both enterprise creation and off-farm employment. The reference category included households relying on farm income only. The coefficients for each type of diversification measure the change relative to the group relying on agriculture only.

The sub-set of non-diversifiers was studied using factor and cluster analyses. The aim was to determine the impediments the non-diversifiers faced, what influenced their decision to maintain a non-diversified income portfolio and how various policy instruments might affect their decision in future. The cluster analysis was chosen since this enables to identify groups of households for whom particular problems or policies were an issue, which would be otherwise masked if the mean values for the whole sample were used.

At the initial stage all existing sources of relevant information were studied. Countries were supplied with a pre-designed table to fill and to list relevant existing surveys, as well as the survey frequency and the nature of data collected. An example of existing surveys that can provide data on farm households in Poland is presented in appendix 1. The overview of the existing data showed that the information is not sufficient to get insight into pluriactivity of farm households. For this reason primary data collection was undertook.

Data were collected on the basis of a pre-tested questionnaire in three regions in each country using enumerators in the field. For each country the sample was first stratified in three pre-selected regions and then randomly selected within the regions. The regions were selected together with local experts in a way to incorporate some of the regional diversity.

4 Data sets and description of survey answers

For Poland the initial sample consisted of 342 household farms. The sample has clearly two size groups into which most farms fall, between 2-5 ha and over 15 ha. In comparison to the agricultural census the main over representation is of farms over 15 ha. This bias is acceptable for the main objective of the analysis, to study more commercially orientated farm households that are expected to be more fully exposed to market competition post-accession to the EU.

Households in the sample ranged in size from 1 – 10 members. Most had 3 or 4 members. There also seem to be many extended families living together. The average age of the head of household confirms the widely known fact of the high age of population in rural Poland. Heads of household have a greater frequency of agricultural education than general education. This indicates a commitment to farming. Apart from parents and parents-in-law who showed the same trend, other household members more frequently had general education (Table 2)

Table 2 Summary of socio-economic characteristics of household members

Household member	Number of household member in the sample	Average age	Number with at least high school education	Number with agricultural vocational course or school
Head of household	342	53	193	218
Spouse	243	48	153	44
Children	533	18	350	46
Parents or parents – in law	112	74	4	20
Other relative	143	24	73	12

Annual total household income was surveyed in four bands. Most (38 per cent) households fell into the upper band, which was 25,000PLN (around USD 6,000) and over. Only 3 per cent fell into the lowest band, 6,000PLN (around USD 1,500) or less. The other two bands were PLN 6,000-15,000 (USD 1,500-3,500) and PLN 15,000-25,000 (USD 3,500 - 6,000) into which 27 per cent and 32 per cent of households fell respectively.[4] Thus, the sample households tend towards the upper income bands. However, despite this 56 per cent felt that their standard of living had declined between 1990-2001 with only 17 per cent indicating that it had improved.

For the Czech Republic the sample consisted of 217 farm households. The average size of the household farms in the sample is 35 ha. The farms are larger than the national average of 18 ha according to the agricultural census. Only 10 per cent of the farm households did not own any land and 44 per cent did not rent any land.

As mentioned, unlike Western countries, diversification in CEEC's also occurs by entry into agriculture from non-agricultural activities; 54 (25 per cent) of Czech farm households moved into agriculture in 1990's. The most influential factor seems to be related to gaining land during the post-communist land reform. Diversifiers into agriculture came from a variety of other activities. Some were agricultural or related to agriculture such as picking produce, plant breeding or harvesting. Others were adding value to commodities for example potato processing and packing, wine production, slaughter houses, feed production and the sale of feedstuffs. Some diversifiers were engaged in activities related to forestry or trades such as painters, plumbers, while others provided services such as car and agricultural machinery repairs. Professionals from business, the health service, civil service and research also entered agriculture.

The households within the sample range in size from 1 – 10 members. The most common household size was two members (29 per cent), so fairly small. The socio-economic characteristics of the household members are summarised in Table 3. A greater proportion of heads of household have achieved at least high school education than other household members. The data about individual household members suggest that at least 84 households are engaged in off-farm employment and that at least 82 gain income other than wages from the state. The head of household is more active than other household members in the off-farm employment market. Children are more active than spouses and travel further than other household members. The higher number of heads of households than spouses gaining income other than wages from the state is likely to be related to the higher average age of household heads and, therefore, a greater number of pensioners.

[4] The average exchange rate in 2001 was applied for the currency conversion.

Table 3: Summary of socio-economic characteristics of household members

Household member	Number	Average age	Number with high school education or higher
Head of household	214	53	99
Spouse	165	50	64
Child	252	20.5	92
Parent or parent – in –law	14	53	3
Other relative	52	41.69	22

Other relative includes all relatives of the head of household who are not spouses, children, parents or parents-in-law i.e. siblings, aunts, uncles etc.

The total annual farm household income bands suggested by local experts were less than 150,000 CZK or USD 4,000, between 150,000 CZK and 300,000 CZK (USD 4,000 – 9,000), 300,000 to 450,000 CZK (USD 9,000 - 13,000) and above USD 13,000.[5] Of those households which responded (86 per cent of the sample), the majority (58 per cent) were in the lowest income band. Those in the second income band accounted for 31 per cent, while in the third for 9 per cent. Only 2 per cent fell in the highest income band.

Reasons for diversification which farm household treated as important were the generation of cash income and the need to smooth income. All other reasons seemed unimportant.

The Hungarian sample consists of 267 households. The household farms have a mean area of 48.5 hectares. As in the other countries, the sample is biased towards larger farms. According to the census, the percentage of farms under 1 ha is the greatest in Hungary, whereas in the diversification sample their relative share is the lowest. The sample also has more farms in the 5-10 ha range than the agrocensus.

Ownership is the dominant form of land tenure with 261 farms owning land; 96 farm households rent land. The most common way of gaining agricultural land was by purchase during land privatisation (65 per cent of farms in the sample). This accounted for a mean of 75 per cent of the land acquired by the sample farm households.

Similar to the Czech Republic, diversification in Hungary also occurs by entry into agriculture from non-agricultural activities; 90 (34 per cent) households moved into agriculture. Of these, 25 (28 per cent) were attracted by tax benefits provided by agricultural activity.

Most of the farm households in the sample are rather small. There are 152 one and two-member households. The average age of the head of household is above 50, which is not different from the results for Poland.

According to the distribution of total household income, 30 per cent of households have an annual gross income of less than 1 million forints (USD 3,500), 31 per cent of households have incomes between 1 million and 2 million forints (USD 3,500-7,000), 14 per cent are between 2 million and 3 million forints (USD 7,000-

[5] The average exchange rate in 2001 was applied for the currency conversion.

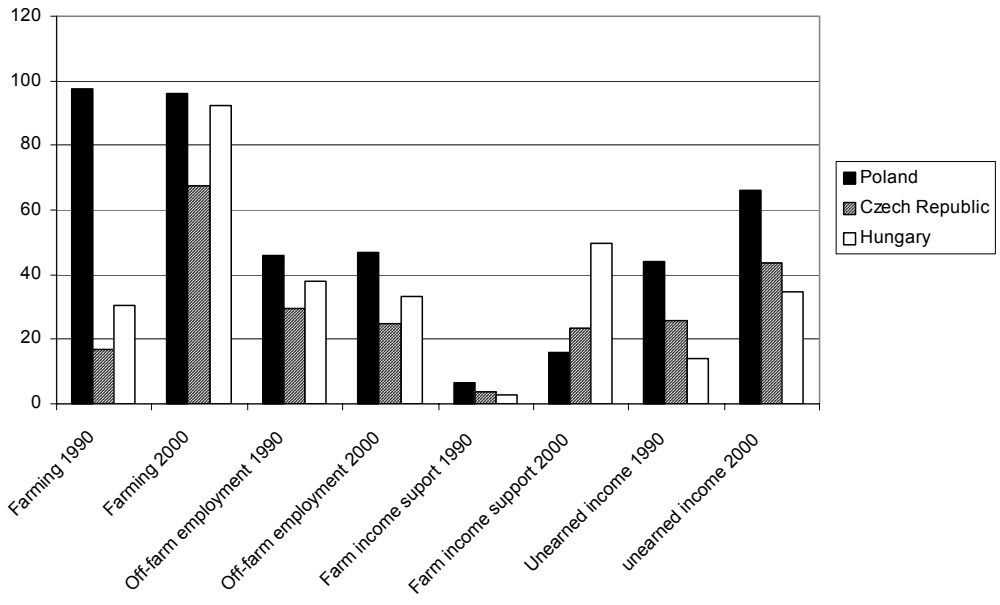
10,500) and 25 per cent have an income over 3 million forints (USD 10,500).[6] Therefore, 61 percent of the sample have an annual total household income of less than USD 7,000. Related to this, it is not surprising that the main reasons for diversification stated by households were directly related to income, to generate cash income, to smooth income, and to counter unstable returns to agriculture.

5 Summary of results

5.1 Diversification of incomes and activity of farm households

Between 1990 and 2000 the number of households which generated independent income from agriculture rose markedly. This process is specific to transition economies and it is related to the initial conditions at the start of reforms when they had income mainly from wage employment. For the same reason agricultural paid employment and non-agricultural paid employment fell (Chart 1). In Poland, the frequency of off-farm paid employment has remained stable. For all three countries, there has been a substantial increase in government transfers based on farm support policies, and unearned income provided by social transfers, mainly pensions. Thus, although at first glance it appears that farm household incomes diversified over the period 1990-2000, this diversification can hardly bring a sustainable multiple income sources, as it has been mainly due to increases in independent farm income, social transfers and agricultural support policies.

Chart 1: Percentage of farm households receiving income from different sources for the period 1990-2000

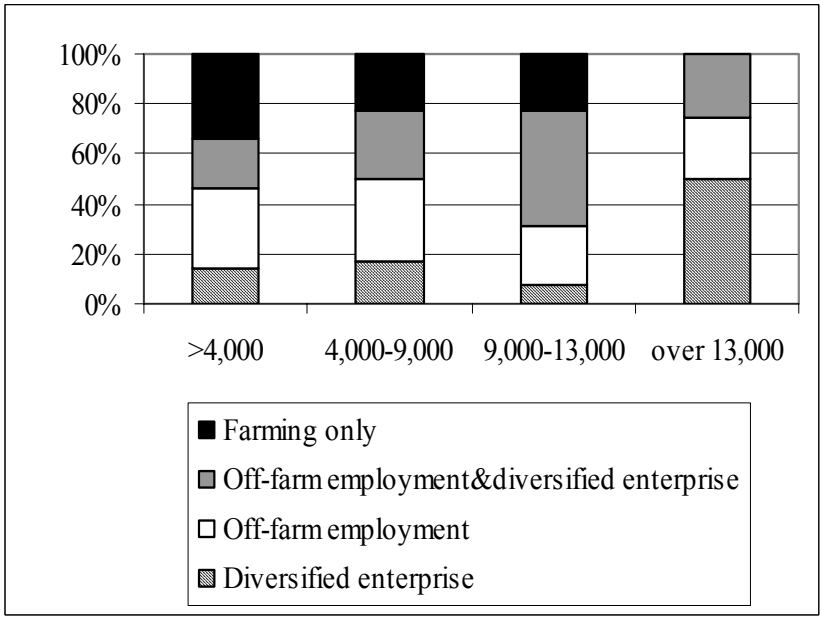


[6] The average exchange rate in 2001 was applied for the currency conversion.

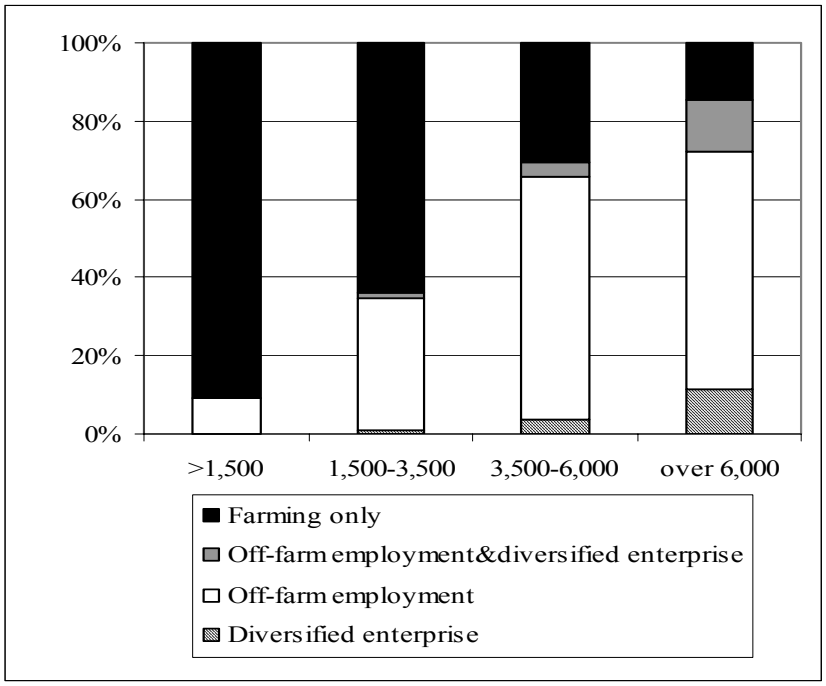
Despite this result, a closer look at household incomes show, as expected, that diversifying income sources helps household to increase total household incomes. In the three studied countries the lowest income band incorporates the largest share of households relying on farm incomes only. The two highest groups have the greatest frequency of diversification occurring through off-farm employment and diversified enterprises. The results for Hungary and Poland are presented in Chart 2. Total annual household income bands are expressed in USD.

Chart 2: Sources of total household incomes within income bands

a) Hungary



b) Poland



Another important point of policy relevance relates to diversification through non-agricultural enterprises. This form of diversification has been promoted in CEECs as a strategy for increasing family and rural employment. But its potential appears to be overestimated. Altogether, the sample farm households accounted for 46 diversified enterprises in Poland, 120 in the Czech Republic and 96 in Hungary (Table 4). When the definition of diversification, which excludes agricultural contracting, biomass and woodland is applied, the number of diversified enterprises decreases sharply, particularly in Hungary by nearly 45 per cent. In Poland, where individual farms are the smallest, the frequency of investing in a non-agricultural enterprise is the lowest.

Table 4: Frequency of diversified enterprises in household farms and their effect on employment, 2001

	Poland	Czech Republic	Hungary
Number of enterprises	46	120	96
Number of enterprises excluding agricultural-based (e.g. contracting)	30	78	54
Number of full-time jobs created by enterprises	5	18	41
Number of part-time jobs created by enterprises	15	3	14
Number of jobs created by business development[7]	2	60	8
Number of jobs expected to be created in the next three years	3	104	9

Diversified enterprises do not appear to be a major source of new jobs on household farms. In cases where family members did not take up the jobs, nearly all employees were recruited locally. For the Czech Republic, the development of businesses on land or buildings leased or sold by a farm was more important in its effect on creating jobs than diversified enterprises themselves. The expectations for the future are somewhat pessimistic; most respondents aim at maintaining operations in the same size. The contribution of enterprise diversification to new job generation in rural areas is currently modest and there is little evidence that this will change in the future.

When the types of diversified enterprises are examined for the farm households, in the Polish sample a variety of services are most important, while for the Czech sample retail is the most frequent activity. For both these countries, however, agricultural contracting and forestry are common forms of diversification. For the Hungarian sample, agricultural contracting is the most frequent activity. It appears that *adding value to raw agricultural products through processing or using the farm for providing tourist services have not developed yet in Central Europe.*

5.2 Main characteristics differentiating diversifiers from non-diversifiers

The results for the three countries are summarised in Table 5. Discriminant analysis indicates that in Poland the factors that distinguish all form of diversifiers from non-diversifiers are age of the head of household, general education, frequency and distance of public transport, and farm size. Thus, the most important factors are related, first, to some socio-economic characteristics of the head of household, and second, to the transport infrastructure. In the Czech Republic the variables with

[7] Business development refers to businesses created on land or buildings that were leased out or sold by an individual farm.

sufficient power to discriminate between diversifiers and non-diversifiers were age of the head of household, general education and unearned income. Farm size is also important. Unearned income is correlated with the age of household members, as the largest portion is derived from pensions. Diversifiers tend to have low levels of unearned income. Variables with significant discriminating power distinguishing diversifiers from non-diversifiers in Hungary were general education, age of the head of household and distance to public transport.

In summary, diversifiers have smaller farms, younger heads of household, a higher level of general education, they are closer to public transport and enjoy a more frequent transport service than non-diversifiers. In general, smaller farms generate smaller income and holders of such farms are keener to diversify. However, diversification also depends on the age of the head of the household and education, with substantial problems in rural areas of CEECs brought about by out migration of young and educated people.

Table 5: Characteristics distinguishing diversifiers from non-diversifiers

	Non-divs	Divs	Mean	F-test	Non-divs	Divs	Mean	F-test	Non-divs	Divs	Mean	F-test
	Poland				Czech Republic				Hungary			
No of farms	121	219			52	107			82	172		
Unearned income	6.7	7.1	7.0		37.0	18.7	24.7	***	0.21	0.12	0.15	*
General education	5.7	7.7	7.0	***	6.3	9.5	8.4	***	5.7	8.2	7.4	***
Ag.education	1.1	1.3	1.2	*	0.5	0.8	0.7		0.34	0.49	0.44	
Age head of household	49.8	44.2	46.2	***	56.9	49.9	52.2	***	55.6	48.2	50.6	***
Farm area	13.1	8.3	10.0	***	61.4	30.9	40.8	**	54.5	46.4	49.0	
Distance to public transport	0.56	0.44	0.48	***	0.67	0.86	0.7		1.7	1.3	1.4	***
Frequency of transport	16.9	32.9	27.2	***	52.8	61.4	58.6		15.3	17.7	16.9	**

*** significance at 1%, ** 5%, *10%

5.3 Factors affecting household farm diversification

The results of the application of a multinomial logit model for all three countries are presented in Table 6. They indicate that *general education level has a positive and significant effect on diversification*. When *agricultural education* was considered, there was considerable disparity between the countries. The Czech and Polish results showed no significant effect of agricultural education on diversified activity. Hungary had a significant negative effect on off-farm employment only. A significant negative effect of agricultural education was observed by Benjamin (1994) and Mishra and Goodwin (1997). In contrast, Woldehanna *et al* (2000) found no significant effect of agricultural education on off-farm employment.

Agricultural extension and advice had a significant negative effect on off-farm work participation for all countries. In CEECs, the use of agricultural extension and advice may indicate more commercial and larger farms since it would be difficult for a subsistence producer to utilise such services. Larger, more commercial farms may be less likely to have surplus labour to be utilised in non-agricultural activity and may generate a larger income from farming.

Unearned income had a significant negative effect on off-farm employment alone and combined with diversified enterprises for Poland. For the Czech Republic the same effect was present for all forms of diversification, whereas for Hungary the effect was not statistically significant. Previous research has found a significant negative effect of unearned income on off-farm employment (Sumner, 1982; Thompson, 1985; Woldehanna *et al*, 2000). The reason is that unearned income reduces the variability in total income and, therefore, decreases income risk. An interesting point to note in light of this is that Hungary has directed most of its agricultural support towards market price support, Poland has directed most towards the agricultural pension scheme (KRUS), while the Czech Republic has split up the funds between credit and market support. The difference in effect of unearned income may be due to lower income risk for agricultural producers in Hungary compared to the other two countries, thus, unearned income plays a less important role in reducing income volatility.

Availability of public transport is one of the conditions for farm diversification. Distance to public transport was exerting a significant negative effect for Hungarian and Polish households engaged in off-farm employment alone and combined with diversified enterprises. For the Czech sample distance to public transport was insignificant for all cases. Distance to public transport is an indicator of remoteness of a household. The lack of significance for the Czech sample indicates a high density of public transport in rural areas, a fact that was confirmed by Czech experts. Insufficient transport infrastructure may be a long-lasting impediment to income and activity diversification in Polish and Hungarian rural areas. This is even more of a problem in other less developed CEECs like Romania and some countries in South-East Europe.

Table 6: Summary of the factors affecting diversification decision

	Poland	**Czech Republic**	**Hungary**
General education	Significant and positive for all forms of diversification	Significant and positive for all forms of diversification	Significant and positive for off-farm employment alone and in combination with diversified enterprises
Agricultural education	Insignificant	Insignificant	Significant and negative for off-farm employment alone and for diversified enterprises alone
Use of agricultural advice and extension	Significant and negative for off-farm employment	Significant and negative for off-farm employment	Significant and negative for off-farm employment
Unearned income	Significant and negative for off-farm employment alone and in combination with diversified enterprises	Significant and negative for all forms of diversification	Insignificant
Distance to public transport	Significant and negative for off-farm employment alone and in combination with diversified enterprises	Insignificant	Significant and negative for off-farm employment alone and in combination with diversified enterprises

5.4 Impediments to diversification and policy effects

Analysis of the reasons given for not pursuing enterprise diversification indicated that a desire to focus on farming was an important factor for the majority of farms in the sub-sample of non-diversifiers in the three countries. It is necessary to emphasise that these countries are on the door step of the EU membership and some farmers contemplate increase in their farm incomes due to CAP instruments and do not try to diversify pre-accession. A lack of capital or credit was important for 60 per cent, 67 per cent and 93 per cent of the Polish, Czech and Hungarian sub-samples, respectively. Insufficient knowledge and skills were important for 38 per cent of the Polish sub-sample and 61 per cent of the Hungarian sample. Locational characteristics were also important, as remoteness increases the costs to reach customers and to access inputs.

Reasons for not taking up off-farm employment were varied across the countries studied. For all three countries, those with the smallest farms were most likely to indicate insufficient knowledge and skills to be important. Improving education and providing vocational training may help to overcome this impediment. However, for Poland and Hungary, those indicating that they have insufficient knowledge and skills were also more likely to identify *high regional unemployment* as an important impediment. Thus, without an improvement in the overall economic situation the fruits of raising educational levels in rural areas may be limited.

The perceptions about the effects of agricultural policy on diversified activity varied between the three countries. For Poland, output price guarantees and direct payments for agricultural production were the most important policies stated as reducing motivation to diversify. The importance given to price support policies indicates that the nature of agricultural policies extended to the EU applicant states will impact on the magnitude of diversification, therefore on the scope and speed of moving towards pluriactivity. The Czech sample similarly suggests that diversification may be motivated by a desire to increase total household income. Thus, a fall in agricultural incomes due to switch in support instruments to environmental or rural development measures would increase the propensity to diversify. In considering possible proactive policies to stimulate enterprise diversification, *for all the countries farm households considered the most important to be financial measures*, the most central being the provision of seed-money for enterprise start-up, with loan guarantees and interest rate subsidies being almost as important.

6 Conclusions

The problems of insufficient or declining incomes of households from farming that are wide spread in Western world are exacerbated in transition economies by high unemployment in rural areas, lack of skills for running independent business enterprises (most of the present farmers were wage earning agricultural workers pre-reform) and unfavourable structural characteristics of predominantly small-scale farms. Particularly Poland appears to present a clear structural problem: there are too many people farming on too small land areas. Due to underdeveloped land and credit markets many of these farms are dependent on the initial family endowment of resources and familial human capital.

At first glance, the diversification of income portfolio of farm households in CEECs increased during the period 1990-2000. However, looking at the sources of

this increase, most frequently the independent income from farming was added in the income portfolio, together with social transfers (mainly pensions) and a flow from agricultural directs support. This is hardly the way to achieve a more balanced income portfolio that could compensate for low or decreasing farm incomes. A minority of farm households in each of the three countries has pursued enterprise diversification and in each country job generation from enterprise diversification has been modest. This leads to the question of whether farmers should be seen as drivers of structural change in rural areas that is expected in several CEECs. At present, there is little evidence that farmers will serve as drivers and there is a need to reassess the contribution of farms to the future of the vast rural areas in CEECs.

The relatively small size of household farms and the low level of farmers' education are one of the important impediments to productivity growth in CEEC agriculture and perpetuate low farm incomes. For many of these farm households, due to the current structure of their farms, small and often operating on bad quality soils, the main question might be how to transfer out of the sector or at least diversify into non-agricultural activities (either through employment or enterprise diversification). Diversification might be a feasible way out of the vicious circle of fragmented farms, low productivity and poor profitability. However, this is unlikely to be a smooth process. In general there is a mismatch between those most in need of diversification and those who are most likely to be able to achieve such a transfer as shown by the characteristics of diversifiers. The poorest farms have the smallest asset base and frequently low education attainment. This is likely to hamper both enterprise and employment diversification and overcoming these barriers represents a difficult challenge.

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Appendix 1

Farm Household Data Availability: Poland

	FADN	**Production Costs Survey**	**Farm Structure Survey**	**Agricultural Census**	**Labour survey (Rural labour survey)**	**Household budget survey**	**Other**
Frequency of Survey. Time of year that survey is usually undertaken. Who is responsible for the survey? What definition is used to define the minimum land area which is a farm	No, at initial stage	Annual IERiGZ* Farm: minimum 1 ha of land	Every 4 year, IERiGZ Last survey, 2000	5-year, last census, 2001 (data not available yet) All farms, including smaller than 1 ha	Quarterly, based on national sample, GUS*, Agric. Census (1996)	Annual GUS	
Number and type of farms sampled. Are they classifed by: a) ownership-private, collective, state, b) management such as farming company, collective, owner, c) size, d)enterprise mix. What percentage of the sample size does each classification constitute.		1200 individual, private farms, (in additiona 300 state and corporate farms)	1500 private farms -IERiGZ Farms established on the base of former state farms-AWRSP*	All farms			
Nature of the data collected Is data collected on: a)Yields b)Area of individual grown, number and type of stock. c) revenue by commodity (output prices) d) Tradable input costs (total tradable input costs for each farm or broken down by commodity) e) non- tradable input costs (land, labour and capital). f) gross margins per commodity g) liabilities h) total agricultural income i) total household income		All data on a)-i) are collected Farm accounting, sample: 1200 farms		Data available on a) and b),			
Are data on non-agricultural activities of farms collected? If yes, what type of data (income, time allocation, type of non-agricultural activity, who carries out the non-agricultural activity etc.)			Data on non-agricultural activities are available from the IERiGZ surveys, coducted every 4 year			Some data on non-agricultural activity; mostly income	Individual research projects, related to particular regions or group of farms.
Are data collected on non-earned icome such as insurance payments, interest etc.			Data on incomes from agricultural pension system, from welfare and unemployment payments			Data on incomes from pension, welfare and unemployment payments	
Have there been data collected for research on farm household incomes or diversification			Yes. IERiGZ publishes reports based on representative survey (every 4 year)				IRWIR PAN*

*IERiGZ (Institute for Agricultural and Food Economy), IRWIR PAN (Institute for Agricultural and Rural Development, Polish Academy of Sciences), AWRSP (Agency for State Property in Agriculture), GUS (Central Staistical Office)