

## Characteristics of Private Farms and Family Farm Labour in Hungary by Settlement Size

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The Hungarian Central Statistical Office (HCSO) conducted a general agricultural census (ÁMÖ) in 2010, where enterprises and households performing agricultural activity were surveyed. According to the preliminary results, the number of private farms fell significantly in the last ten years. The present study concentrates on these farms and their labour force, drawing attention to a specific factor, the settlement size and the characteristics related to it.

The total population, the agricultural labour force as well as the private farms are not evenly distributed in Hungary by settlement size, specific disparities can be seen in this respect. The study aims to demonstrate not only these differences, but also several other specialities, for instance, the changing role of agricultural activity, the education level and age of the farm labour force on the basis of ÁMÖ 2000 and 2010 databases.

#### KEYWORDS:

Agricultural census.

Private farms.

Settlement size.

The size of settlements (described by the number of population) has a significant effect on the general situation, role, and demographic processes of the municipalities (Beluszky [1999] p. 293). In 2010, their 56 percent had a population of less than 1 000 inhabitants and nearly 9 percent of them reached the number of 5 000. Conversely, only 8 percent of the total population lived in places with less than 1 000 inhabitants, and nearly 69 percent in settlements with over 5 000 residents. (For the main characteristics of the Hungarian settlement structure, see Perczel [2003].)

Small villages are often associated with such concepts like disadvantageous, peripheral location, lack of supplies, ageing, etc. Although size is important, it is not the only factor which poses problems for small villages, other dimensions also should be taken into consideration (Szabó [2011]). They usually have small areas under cultivation and weak soil and are mostly located in areas surrounded and divided by hills (Beluszky [1999] p. 293.).

In Hungary the traditional and close connection between agriculture and villages radically changed in the last half century (after World War II) in consequence of the drastic reduction in the number of agricultural employees. Thus, nowadays, the formula that villages equal to the agricultural role is untenable without doubt (Beluszky-Sikos [2007]). It is also supported by (the dimension of) urbanization when differences are fading between rural and urban areas. This process does not only mean the improvement of the infrastructure and supplies, but also the transformation in the way of living and the spread of urban lifestyle. However, the changed, wider role of villages did not alter the fact that the main places of agricultural production are still the rural areas (smaller settlements) and their income from agriculture is significant. Nevertheless, beyond these obvious facts, it could be relevant to draw distinction by other features between agricultural activity of rural areas and that of urban regions. Our aim is to find these differences, paying attention only to the private farms and their labour force.

The study examines the preliminary data of the general agricultural census (ÁMÖ) 2010 compared with the previous census conducted in 2000 (where it is relevant). The eight categories of settlements, classified by total (midyear) population in 2010, and the database of the settlement-level data of private farms (part of the households exceeding the threshold of a certain size) were linked together.<sup>1</sup>

<sup>1</sup> ÁMÖ covered the farms which provided agricultural services over the previous 12 months or reached/ exceeded at least one of the following thresholds: they had at least 1 500 m<sup>2</sup> of productive crop land; 500 m<sup>2</sup> of orchards and vineyards together; 100 m<sup>2</sup> of area under glass or high (accessible) cover; or the following livestock: one head of larger livestock (cattle, pig, horse, sheep, goat, buffalo, ostrich), 50 heads of poultry (chicken, goose, duck, turkey, guinea-fowl), 25–25 rabbits, furry animals, or pigeons for slaughter; or 5 beehives.

## 1. Some preliminary results of ÁMÖ

The seventh general agricultural census of Hungary was conducted in June 2010 with the reference date of 1st June. Its targeted respondent units were divided into two groups: households and enterprises. While the latter were subject of the census on the basis of their agricultural activity, irrespectively of their size, households were only surveyed if exceeded the threshold of a certain economic size.

According to the preliminary data, 8 800 enterprises and 567 thousand private farms<sup>2</sup> were engaged in agricultural activity, however, almost further 1.1 million households had certain agricultural production in kitchen gardens and holiday homes under the threshold. The number of farms decreased by 41 percent compared with the previous census in 2000. In addition, the characteristics of farms have changed, too. (For details see *KSH* [2011].) Therefore attention shall be paid to some phenomena connected with private farms, which are also the objective of this study.

The analysis of the purpose of production shows that 60 percent of the farms produce only for own consumption which ratio roughly equals to the value of the previous census. However, the share of the market-oriented private farms in the private farming sector has increased from 8 to 20 percent over the last decade.

In 2010 1.1 million unpaid family labourers performed agricultural work on private farms. This means a 45 percent drop compared to the previous survey. Moreover, the share of family farm labour within working-age population has decreased notably.

The age structure of the labour force changed between 2000 and 2010, too: the average age rose by nearly 4 years. The share of young farmers (under 35) has decreased, while that of elder holders (over 54) has increased. Simultaneously with the improvement in the general educational level of family workers, the ratio of the labour force who graduated from agricultural colleges/universities has increased notably.

## 2. Private farms by settlement size category

As it was mentioned, the number of private farms has continuously decreased over the past decades in Hungary: in the last ten years the reduction was 41 percent. It was mainly caused by their disadvantageous farm structure, capital shortage and

<sup>2</sup> The private holdings providing only agricultural services are excluded from this study as their share within the total private holdings is under 1 percent. Therefore little more than 566 thousand households are included in the present study.

the lack of appropriate expertise (*Pintér* [2011]). The present study examines whether the different settlement sizes show coherence with the rate of this decline.

Table 1

*Private farms and family farm labour force in Hungary by settlement size*

Settlement size category (inhabitant)	Number of private farms		Share of the total in 2010 (%)	Family labour			Share of total population in 2010 (%)
	2000	2010		2000	2010	Share of the total in 2010 (%)	
under 500	71 655	40 241	7.1	151 983	78 273	7.3	2.8
500–999	107 255	63 036	11.1	232 324	123 267	11.5	4.9
1 000–1 999	179 264	108 138	19.1	384 795	209 177	19.5	9.1
2 000–4 999	247 350	152 766	27.0	512 520	290 702	27.0	14.4
5 000–9 999	120 441	69 179	12.2	239 364	129 032	12.0	9.0
10 000–49 999	170 549	99 120	17.5	334 399	180 264	16.8	24.2
50 000–99 999	21 062	13 417	2.4	44 684	26 192	2.4	6.6
100 000 and above	36 534	20 330	3.6	74 519	37 728	3.5	29.0
<i>Hungary total</i>	<i>954 110</i>	<i>566 227</i>	<i>100.0</i>	<i>1 974 588</i>	<i>1 074 635</i>	<i>100.0</i>	<i>100.0</i>

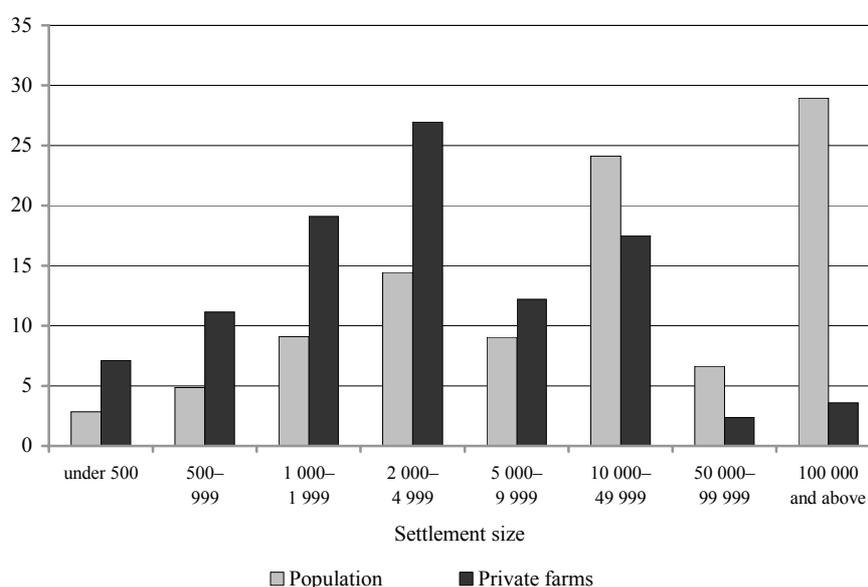
Between 2000 and 2010, the number of private farms fell by nearly 388 thousand, while their distribution by settlement size did not change significantly, and a spectacular difference could not be seen among categories. However, it shall be mentioned that the highest (44%) decrease of the number of private farms was in the two ‘extreme’ (the smallest and the biggest) settlement size groups, which could be partly explained by the formerly mentioned disadvantageous features of small villages and the naturally modest role of agriculture in large settlements. Still, due to the indefinite trend and the relatively small differences between categories, exact explanation cannot be given. Despite the fact that the situation of settlements with increasing number of inhabitants is improving in terms of agricultural production (see *Bóday–Kaposi–Konrád* [2001]), the result has shown that there is no direct link between the settlement sizes and the reduction in the number of private farms.

The role of agriculture has decreased significantly in economy over the past few decades. As mentioned formerly, the function of villages has also changed, their close connection with agriculture has slacked. This, of course, does not mean that the traditional structures broke up, agricultural activity, farms, and agricultural labour concentrate in smaller settlements even today.<sup>3</sup> (See Figure 1.) In 2010 more than

<sup>3</sup> To compare settlement categories appropriately, we should also take into consideration the large differences by the weight of farms and their labour.

three-quarters of the private farms and family farm labour were engaged in settlements with under 10 000 inhabitants, while only 40 percent of the total population lives there. Over a quarter of the private farms are located in settlements between 2 000 to 4 999 inhabitants but even places with 10 000 to 49 999 inhabitants have notable share. The previous census has shown approximately the same distribution.

Figure 1. The distribution of the population and private farms in Hungary by settlement size, 2010 (percent)



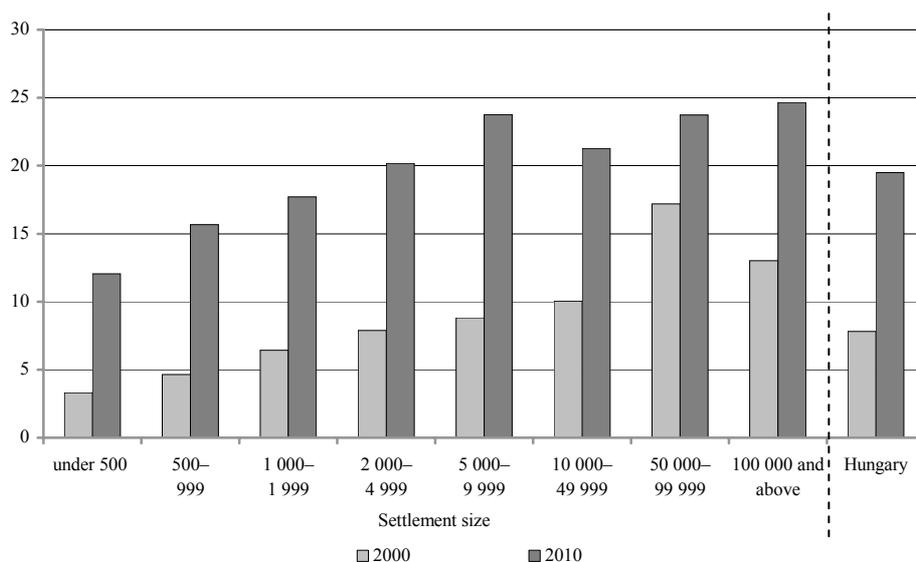
In contrast, other factors have changed considerably, which can illustrate the differing agricultural activities by settlement size. Among other, the census also examined the purpose(s) of production. Accordingly, farms vary depending on whether they

- produce only for own consumption;
- market the surplus over the production for own consumption;
- produce mainly for the market (more than 50 percent of the production is marketed).

Production only for own consumption is most typical of smaller settlements according to the data of the last two censuses. Approximately two-thirds of the farms in settlements having under 1 000 inhabitants have no marketing activity at all. This characteristic of the smallest villages seem to be stable over years, similarly to the

relevant Hungarian average (60%). Examination of the production for marketing is a more interesting task as certain changes can be experienced in this field. While the number of private farms decreased by 41 percent, that of the farms producing mainly for the market increased by 48 percent (more than 110 thousand farms), their total share within the private farming sector was 19.6 percent in 2010 (compared with 7.8 percent in 2000). In contrast, the number of those who produce only for household consumption has fallen by 41 percent and who sell only the surplus has dropped by 62 percent. These trends show that, simultaneously with the decrease in agricultural production only for own use, the profile of the farms has changed towards product selling.

Figure 2. The ratio of private farms producing mainly for the market within the private farming sector by settlement size (percent)



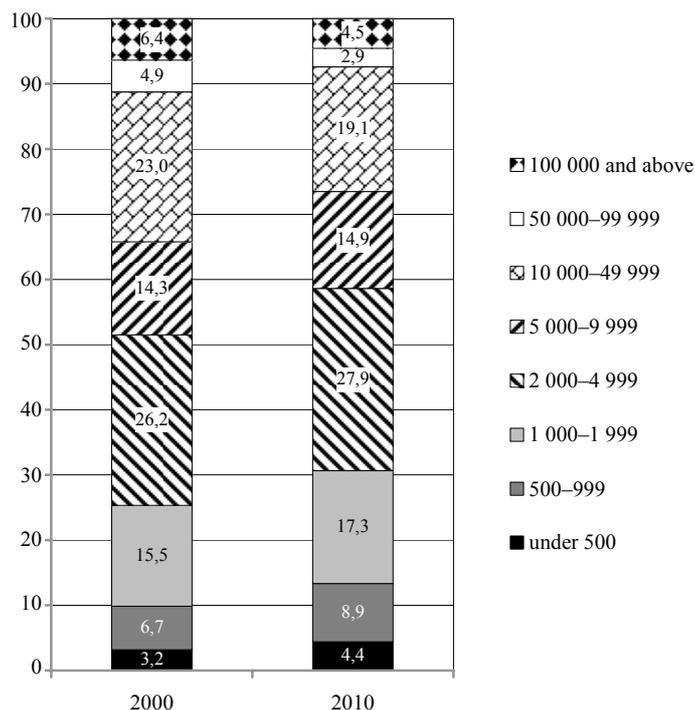
Examination of the production for sale by settlement size shows that the smallest villages have the lowest proportion of farmers producing mainly for the market, and the ratio increases in line with the number of inhabitants up to the category of the largest cities. (See Figure 2.) This could partly be explained by the previously mentioned disadvantageous location, negative agricultural capability and general characteristics of small settlements, for instance, by the education level (see later) or social situation of their inhabitants. The relatively high share of towns, large cities could be firstly the consequence of the smaller possibility of production in gardens for own consumption because of extensive building covered areas, secondly, of the difficul-

ties experienced during the survey in finding producers in these places, if they exist there.<sup>4</sup> Therefore, those who perform commercial, marketing activity, have a relatively high share within the small number of the total observed in these categories.

On the whole, the share of private farms producing mainly for the market was 2.5 times higher in 2010 than in 2000, however, it changed differently in the eight categories. For example, it was 3.5, 1.4, and almost 2 times higher in the smallest settlements, in the category of 50 000–99 999 inhabitants, and in the largest cities, respectively. These values can be explained, on the one hand, by the overall reduction in the production for household consumption and, on the other hand, by the fact that where the level of production for sale was previously high, the degree of growth was lower than in other categories.

In addition, marketing producers became more concentrated by size category.

Figure 3. The distribution of private farms producing mainly for the market by settlement size (percent)



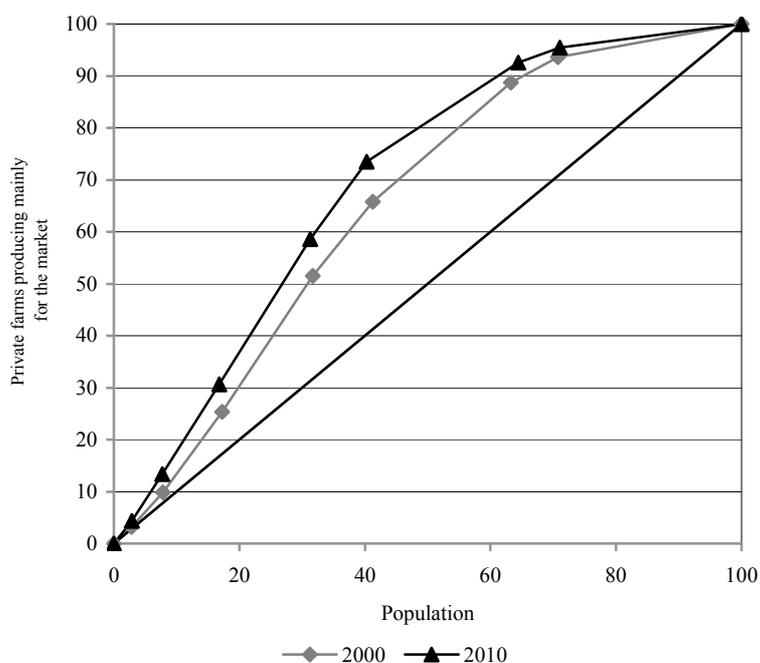
In categories under 10 000 inhabitants, the share of farms operating for the purpose of marketing has increased, above that, it has fallen. (See Figure 3.) In 2000,

<sup>4</sup> Farms in inner part of the cities were designated by address; in other areas every household was surveyed.

two-thirds, while in 2010, 73 percent of such private farms were located in settlements with less than 10 000 inhabitants. Presumably, it is in connection with the change of family farm labour experienced in the last ten years, with the lack of young holders in large settlements that is explained in Section 4.

The former trend can be also examined for the total population. (See Figure 4.) In the last ten years, the farms producing mainly for the market were more concentrated in certain settlement categories; and marketing activity was extending to smaller settlements.

Figure 4. The distribution of private farms producing mainly for the market in relation to the total population by settlement size (percent)



### 3. The family labour force of private farms

According to the Labour Force Survey conducted in 2010, over 3.8 million people were employed throughout the country. In agriculture, hunting, forestry, and fish-

ing (by the renewed Standard Industrial Classification of All Economic Activities (TEÁOR 08 /NACE Rev. 2/)) 172 thousand persons, 4.5 percent of the workforce were employed. However, institutional labour statistics data shows that 77 thousand people, 2.8 percent of the employees worked in these areas. The labour force survey has the speciality that observes labour in private farms partially, furthermore, the institutional statistics not at all;<sup>5</sup> therefore the annual working unit (AWU) is a more precise indicator.<sup>6</sup> Accordingly, in 2010 agricultural activity in Hungary was as much as if 437 thousand employees would have worked in full-time job for enterprises and on private farms. This contains both salaried and non-salaried work. With reference to private farms, non-salaried work is equal to the work of family members. Therefore, the latter<sup>7</sup> could be expressed in 332 thousand AWU in 2010. This is in accordance with the approximately 1.1 million family members – surveyed by ÁMÖ – who did more or less agricultural work on farms. The nearly 2 million family labours fell nearly by 46 percent since the last survey in parallel to the decrease in the number of farms. However, their work – expressed in AWU – has not declined by such a large rate (38%), which means the concentration of agricultural work: less labour worked more in 2010.

The distribution of farms and their labour force by settlement size is very similar. (See Section 2.) The average number of the family labour force per a farm in each category has a value around 2, therefore, it is needless to repeat the data of Table 1. The share of the family labour force in the working-age population was 24 percent ten years ago and nearly 13 percent in 2010. Concerning settlement size, this indicator decreases in direct proportion to the growing number of inhabitants. (See Figure 5.) Consequently, a smaller settlement means a bigger role in agricultural activity.

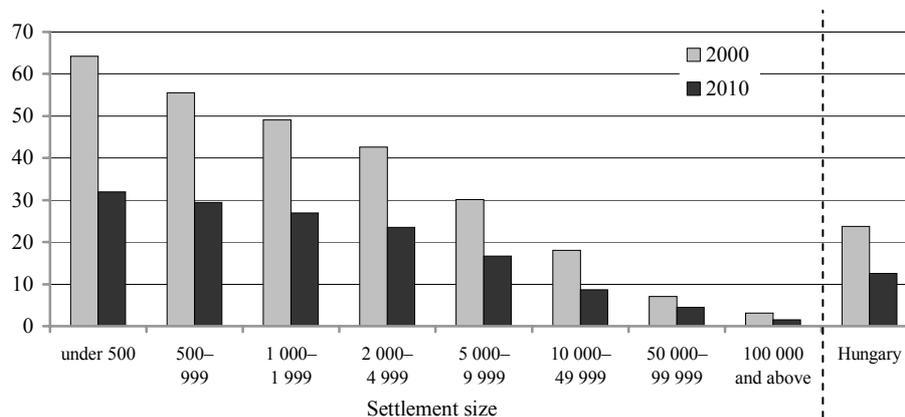
In municipalities with less than 1 000 inhabitants, the labour force engaged in agricultural activity was in majority within the total population in 2000, while in 2010 its share did not reach 50 percent (even in the smallest villages, where it was only 32 percent, half of the value in 2000). The categories with 2 000–4 999 and 5 000–10 000 inhabitants had the ratios of 24 and 17 percent in 2010, respectively. The level of decrease was almost the same in each category, regardless of the settlement size; thus, the weight of the categories has not changed significantly over the past ten years.

<sup>5</sup> The labour force survey observes employees of enterprises and workers of private farms whose main income is from activity in agriculture, forestry and fishing. Institutional labour statistics represents enterprises with more than 4 employees and the full scope of budgetary institutions, observes agriculture, forestry and fishing branches.

<sup>6</sup> One annual work unit corresponds to the work performed by one person who is occupied on an agricultural holding on a full-time basis. According to the Hungarian methodology, full-time means 1800 working hours, 225 working days of eight hours per day.

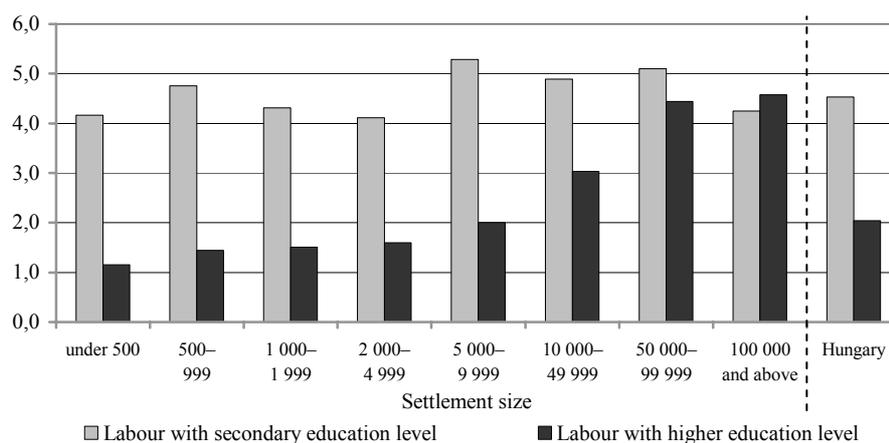
<sup>7</sup> Family labour force: a private holder (farmer) and his/her family members, who carried out agricultural work on a private farm during 12 months prior to the survey and did not get paid for it.

Figure 5. The share of family labour in total population (14+) by settlement size (percent)



Beyond size and its change, the structural aspects of the labour force (for example education, age) are also important to study. Data only on the labour force with secondary and higher agricultural education were available for comparison as the methodology of data collection has changed. Risen from 1.2 percent of 2000, 2.0 percent of the 1.1 million family labourers have completed higher agricultural education by 2010. The ratio of farmers (holders of farms) who graduated from agricultural colleges/universities has increased from 1.8 to 2.8 percent. The bigger the settlements are, the greater these proportions.

Figure 6. The share of family farm labour with secondary and higher agricultural education by settlement size, 2010 (percent)



The data analyzed show a stable structure between 2000 and 2010, ten years ago the relations were the same, just the values were lower (in most cases). For example, the ratio of those family farm labourers who have completed secondary education was 4.5 percent in both years, no significant change occurred. In the case of secondary-level qualifications, no growing trend could be observed either at the time of the former or the latest census. Nevertheless, the comparison of the education levels and the purpose of production (see Section 2) confirms that the marketing activity presumes a higher level of qualifications and appropriate expertise, which is also proven by the settlement-level analysis.

Beyond education, the gainful activity and the source of income also can be analysed. The survey has the following categories: the family labour force 1. has no income from gainful activity<sup>8</sup> outside the farm; 2. has other gainful activity in full-time job; 3. has other gainful activity in part-time job; 4. mixed.<sup>9</sup>

In 2010, 57 percent of the family labourers did not have any other gainful activities outside the farm; however 40 percent had other full-time jobs. This has not changed in ten years notably. On the basis of settlement size, the complete equalization of the family labour that has no income from outside the farm can be seen. Previously, their proportion was higher in smaller villages and lower in bigger towns and cities. The changes were particularly due to the growth in upper categories.

Table 2

*The share of family labour that has no income from outside of the farm*  
(percent)

Year	Settlement size category								Hungary
	under 500	500–999	1 000–1 999	2 000–4 999	5 000–9 999	10 000–49 999	50 000–99 999	100 000 and above	
2000	61.5	59.3	58.1	58.0	55.6	51.8	49.2	51.9	56.7
2010	58.1	58.4	57.6	57.2	56.0	55.8	58.1	56.6	57.1

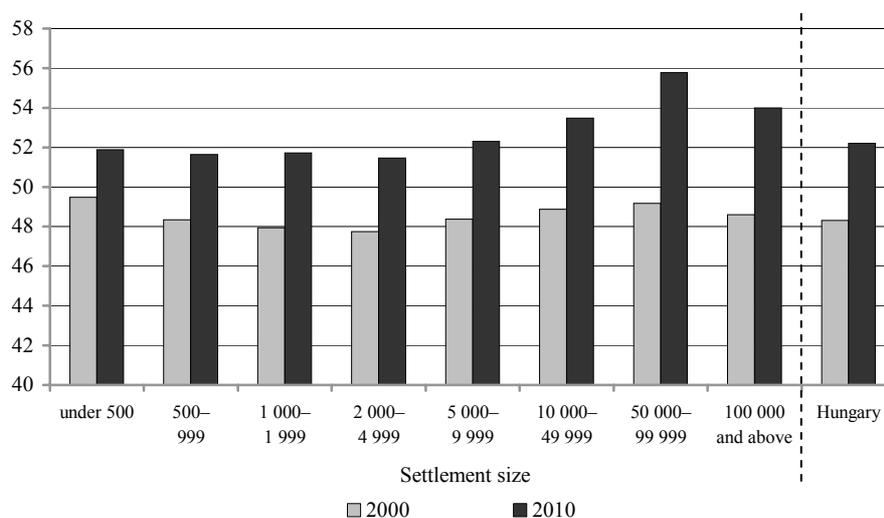
It can partly be explained by the ongoing flow of labour from agriculture to other sectors in villages, partly by the increased ageing of the family labour force in cities. The average age of family farm labourers and farmers was 52.2 and 56.2, respec-

<sup>8</sup> Retired persons' pension and other social allowances are not considered as income from gainful activities.

<sup>9</sup> The original categories of ÁMÖ in 2010 were as follows: the family labour force 1. has no income from outside the farm; 2. has other gainful activity in full-time job which has direct relation to the farm; 3. has other gainful activity in full-time job which has no direct relation to the farm; 4. has other gainful activity in part-time job which has direct relation to the farm; 5. has other gainful activity in part-time job which has no direct relation to the farm, 6. mixed.

tively in 2010.<sup>10</sup> The former figure has risen by 3.9 years, the latter by 1.6 years in ten years. In 2000, there were no significant differences among settlement sizes by either the average age of the family labour force or that of farmers; only the small villages had higher-than-average figures. By 2010, the dissimilarities have increased due to the higher level of ageing in larger cities.

Figure 7. The average age of family labour force by settlement size



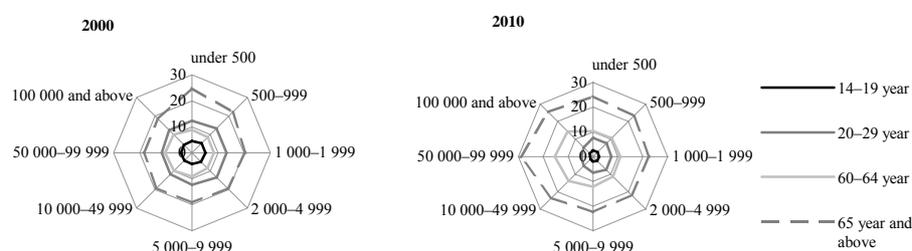
Significantly greater increase in the average age of labourers could be observed in settlements with more than 10 000 inhabitants than in other categories, and they have the highest values, too. This can be explained by the specific features of the Hungarian political and economic transformation of the 1990s, which played also part in the privatisation and land reform. In that period, plenty of the owners who had had land before nationalization were recompensed and got arable land(s) in rural areas and/or in cities. One part of them became agricultural entrepreneurs, while their other part rented their land(s) (KSH [2008]). In 2000 the average age had showed a balanced picture within settlement groups, which, however, in ten years later became different as generation change did not occur in cities, younger holders did not take the lead on farms which had started up by a kind of necessity.

This theory is confirmed by the examination of the concentration of certain age-groups in the eight settlement categories. Four age-groups (14–19, 20–29, 60–64, 65+) of the family labour force were chosen for the analysis. The shares of the two

<sup>10</sup> The mean age was counted by date, based on age-groups, as in the survey the exact age of persons was not questioned.

which contain young labourers became smaller within the family labour force in each settlement group from 2000 to 2010, while those of the groups of the elder increased significantly. In 2000, all four groups showed a balanced picture by settlement category; only in the smallest villages can be seen a higher rate of the elderly labour force. (See Figure 8.) In 2010, as it was mentioned, the proportions of the groups of people aged 14–19 and 20–29 decreased, especially in the bigger towns and cities. In contrast, those of the other two age-groups were significantly higher in large cities, urban areas, which confirm the phenomenon of the lack of young farmers in cities.

Figure 8. The share of the selected age-groups in family labour force by settlement size (percent)



#### 4. Conclusion

The present study demonstrates several disparities of the Hungarian private farms and family farm labour force, based on settlement size. The role of agricultural activity is continuously decreasing in both urban and rural areas, which is also shown by the number of farms and their labour force. The structures of production and the features of farm workforce have become different, too. Over the last ten years, the farms have changed their profile towards product selling, while their activity for own consumption has decreased. The smallest villages have the lowest share of private farms producing mainly for the market, and this ratio is increasing in line with number of inhabitants, in addition to the growing concentration of marketing producers. The proportion of the family farm labour force has decreased significantly in every group. However, a smaller settlement means a higher role in the agricultural activity of the population. The educational level of the farm labour force also shows disparities by settlement group: in settlements having greater number of inhabitants, the proportion of those who completed tertiary education is higher. Furthermore, stronger ageing can be experienced in large cities.

This analysis revealed several disparities, however, it does not mean that the settlement sizes and the observed differences are causes and effects at the same time. Other dimensions (for instance regional disparities) should be also integrated into the analysis to discover a wider and deeper coherence.

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