



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

The social, economic and environmental impact from a hypothetical reduction in direct payments in Hungary

Dorgai, László
Udovecz, Gábor¹

Abstract

Within the context of CAP reform slated to begin in 2013, several Member States have already proposed a significant cutback in direct payments. This paper contends that such measures would have broad and harsh consequences not only for Hungarian agriculture, but also for the nation's rural employment and natural environment, ultimately leading to an increase in regional tensions.

Key words

Hungarian agriculture, direct payments, impacts in figures, farm result, employment

Introduction

Since the regular EU budget review, and in particular since the "Health Check" regarding the Common Agricultural Policy (CAP), discussions on agricultural subsidies have intensified. In the discussions involving post-2013 CAP reform, a possible drastic reduction in subsidies was proposed. A paper by the Research Institute for Agricultural Economics (AKI), based on 2006 data², analyses the social, economic, and environmental impact of a drastic 50 percent cut in subsidies.

Using various statistical estimates, the researchers endeavoured to calculate the expected consequences of cutbacks. In this research the basic assumption was that apart from the subsidy cutbacks, the other conditions related to agricultural production (economic, natural) do not change. The paper does not deal with other practical questions, such as the impact of direct payment reduction if the resources were allocated to rural development measures or to completely different fields such as education or infrastructure development. Given that in Hungary there are significant regional differences in terms of economic and agricultural performance, unemployment, and other indicators, a regional approach was important in the analysis.

The research results are significant as 2006 was a good year for agricultural production. The income indicators increased by 33-45 percent from the previous year (Keszthelyi, 2007); incomes in the main sectors improved; and there were no money-losing sectors among those affected by direct payments (Béládi – Kertész, 2007).

Despite Hungary's small area, there are **significant regional differences** in the role of agriculture in the national economy and also in the agricultural population:

- Agriculture's economic weight differs according to region. In the Great Plains and Transdanubian Region it is relatively high (8-15 percent); the highest is in Békés County (14.6 percent), however, in Central Hungary, it is below 1 percent (0.8 percent). Sometimes the enhanced role of agriculture is linked to subsistence farming as in Northern Hungary and, in general, to small communities.

¹ Research Institute of Agricultural Economics. dorgai.laszlo@aki.gov.hu, udovecz.gabor@aki.gov.hu

² The social, economic and environmental impacts of the hypothetical reduction of direct payments in Hungary (first approach). Agrárgazdasági Tanulmányok 2008/6

- Inverse proportionality exists between agricultural employment and the level of economic development. In the fast growth micro-regions, the rate of full-time agricultural employees is 3 percent, as opposed to 12.9 percent in those micro-regions which are lagging behind. While one-fifth of the Hungarian population are engaged in agricultural production for a range of economic purposes, this ratio is nearly 40 percent in backward regions and even reaches 52 to 55 percent in the backward areas of the Northern Great Plain Region. In poorly-developed micro-regions, agriculture represents a kind of last refuge against extreme poverty, and displaced agricultural workers will not be absorbed elsewhere.
- Agriculture's social/employment function is **of particular importance for small villages and for less educated groups**. In smaller villages devoid of employment opportunities, there is a steady population decline due to migration, a disadvantageous age structure, and mortality. While in many villages the population has not dwindled, a kind of 'restratification' has taken place, i.e. there is, thanks to a high birthrate, a growing ratio of youthful but poorly educated social groups who are idle and unemployed.
- Numerous groups are involved in **agriculture out of necessity**, since radical differences in property prices render relocation more difficult, almost impossible for poorer people, reducing the rural population's mobility. It is increasingly apparent that for small villages and farmsteads abandoning rural abodes entails property and environmental destruction. This type of decay has become a self-inducing process across wide geographical areas (e.g. scattered farms on the Great Plains and small villages in the Nyírség, Cserehát and Nógrád regions), foreboding a helpless and dependent local population.
- After small village inhabitants leave agricultural employment, commuting to work remains largely theoretical as travel is hindered by insufficient transport infrastructure, a lack of social services in small villages (a dearth of childcare and educational institutions) coupled with their own inadequate education.
- By international standards the Hungarian level of economic activity is low, particularly in the eastern part of the country. In Szabolcs-Szatmár-Bereg, Borsod-Abaúj-Zemplén and Békés counties, the active population ratio is below 55 percent. The dependency indicator is typically in an inverse relationship: In fact, in Szabolcs-Szatmár-Bereg and Borsod-Abaúj-Zemplén counties, there are over 230 inactive people for every 100 persons with a job!
- Subsistence aid is a well-known economic and moral burden. However, a substantial portion of Hungarian families rely on social allowances, especially welfare payments as their sole source of regular income. The welfare recipient rate is particularly high in North Hungary, especially in Borsod-Abaúj-Zemplén County, where almost as many people (33,785 persons) receive regular income support as in the whole of West Hungary (35,804). In Szabolcs-Szatmár-Bereg County the welfare recipient rate compared to the active-age population is also very high (12 percent).
- While agriculture is not a major employment factor for the Roma (gipsy) population, the Roma still manage to find **substantial temporary harvest work** at plantation farms and in labour-intensive sectors in general. Moreover, in the 90s the Roma employment rate was 75 percent compared to today's overall 30 percent (12 percent in Nógrád County).

The present situation

The rationale for agricultural subsidies

The arguments – as well as the counter-arguments – are widely discussed by economists and politicians. Here we do not wish to present ironclad reasoning but merely to illustrate various statements, which form part of the Hungarian rationale for subsidies.

- In 2006 the amount of agricultural subsidies was about equal to the agricultural income³ calculated on the basis of FADN data and equal to the employment costs of agricultural employees at minimal wages⁴, meaning the subsidies could “finance” the employment costs of agricultural employees.
- Currently Hungarian agriculture responds to expectations surrounding social benefits and may thus bank on some sort of compensation from society. Such tasks are, for example: safeguarding the scenery, employment of the uneducated population, part-time employment (periodic employment of students, retired and disabled persons) or social cohesion in the villages. Thus, we contend that agriculture is a multi-functional sector in the national economy. On the one hand, it has the function of producing food products and other raw material, but, on the other hand, it behoves us to emphasize its role in the production of public goods, perhaps also to safeguard, protect and provide services in the field of public goods, but the value of the aforementioned is difficult to define.⁵
- Some specific rules regarding the subsidy schemes encourage the production and/or the protection of the above-mentioned public goods. For example, the rules for the Good Agricultural and Environmental Condition (GAEC)⁶ and for the denitration directive⁷.
- This encouragement would intensify subsequent to the introduction of the SPS⁸, occurring probably in 2009 plus the application of the “cross compliance”⁹. The application of the latter will certainly revalue and enforce environment-friendly production. Hungarian agriculture’s environmental impact is relatively low.

³ The Hungarian Farm Accountancy Data Network (FADN) represents the holdings over 2 ESU (European size Unit).

⁴ In the calculation by taking into account HUF 1.1 million/person (EUR 4,314) (the minimal wage in 2006 was HUF 63,500 (EUR 249), 31 percent social security, 4.5 percent employer’ contribution, HUF 4,500 (EUR 18) health care contribution), the amount of the subsidy covers the costs of the wages of 164 thousand employees. The exchange rate applied here and also later is HUF 255/EUR.

⁵ Most often the role of agriculture in safeguarding the scenery is appraised (Halmai, 2007), since the majority of the area of Hungary is managed by agriculture and forestry, and the land can be considered as cultivated and managed regularly by economic activity. “Safeguarding the scenery, prevention of erosion, ensuring the coverage of the surface, eradication of weeds, observation of the various environmental regulations, safeguarding cultural heritage connected to the rural scenery – are all positive externalities In economic terms 5. these additional agricultural services are considered as public goods. Only little information is available on the real values and costs of these public goods. However, it is certain that these public goods are not free; that is, costs and losses are connected to these positive externalities; and these are the outputs of agricultural activity.

⁶ In Hungary this expression is known by the farmers as the condition of subsidies financed from the European Agricultural Orientation and Guarantee Fund This means the minimal economic and environmental requirements of EC regulations regulated by Ministerial Decree (FVM) No. 4/2004.

⁷ This Directive’s aim is to prevent nitrate contamination of agricultural origin in the waters of sensitive areas [Council Directive No. 91/676/EEC on the protection of waters against the nitrate contamination of agricultural origin, which was enforced in Hungary by the Governmental Decree No. 49/2001 (amended several times at present Government Decree No. 81/2007 is applicable)]. The directive covers both the surface and subsurface waters.

⁸ SPS = Single Payment Scheme. The Hungarian Parliament has already created a law on the introduction of SPS in Hungary.

⁹ Cross compliance means that agricultural producers have to observe some environmental, animal-health, registration, welfare and phytosanitary regulations. The simplified system led to the present relatively lax requirements, but the introduction of SPS will no longer be applicable; therefore from 2009 (or depending on the 2011 onward negotiations) Hungary will also have to apply cross compliance.

- Unprofitable production typically results in a halt in **cultivation**, and the abandonment of agricultural production; and this entails various risks. These risks are mainly phytosanitary in nature, linked to an onslaught of weeds and the frequent arrival of invasive, alien species. Unfortunately, there is limited scope for using the abandoned areas for touristic/recreational activities. In recent Hungarian history the above has become a well-known process since currently large parts of the so-called marginal areas are already fallow land. These are flood vulnerable areas, inland waters, plus eroded and infertile sandy areas. In fact, one fourth of the arable land in Nógrád County is uncultivated. One third of Hungarian grazing land is untended and changes in animal breeding mean it is wild and unattractive.

Questions concerning direct payments

Table 1 shows the amount of direct payments provided to Hungarian agriculture. In 2006 HUF 200 billion (EUR 784 million)¹⁰ was provided to about 2,000 thousand holdings.

Table 1

Summary table of direct payments

Legal form of holding	Unit	Total
Subsidized holdings	Number, pc	203,139
Individual holdings	Number, pc	196,702
	share, percent	96.8
Corporate holdings	Number, pc	6,437
	share, percent	3.2
Total of direct payments	M HUF	198,351
	M EUR	779.8
Share of individual holdings in total payments	M HUF	104,432
	M EUR	409.5
	percent	52.7
Share of corporate holdings in total payments	M HUF	93,919
	M EUR	368.3
	percent	47.3
Subsidy per holding	1000 HUF	976
	EUR	3,827
Average of individual holdings	1000 HUF	531
	EUR	2,082
Average of corporate holdings	1000 HUF	14,590
	EUR	57,216

Source: Agricultural and Rural Development Authority (ARDA) of 2006

62 percent of the subsidies originated from the EU (SAPS)¹¹ and 38 percent from additional national payments (top up). First of all, crop producers benefit from the payments since based on animal breeding entitlements only 2 percent of the eligible holdings received payments. On average

¹⁰ Based on financial statements on the results, meaning the payments of the entitlements independent of the fact that a part of that was paid by the Agricultural and Rural Development Authority in 2007.

¹¹ SAPS = Single Area Payment Scheme, the Hungarian SAPS is in fact an area payment, which is independent of production.

the subsidy per holding was HUF 976 thousand (EUR 3,827), and the average received by one company was HUF 14.6 million (EUR 57,216), while that of individual holdings was HUF 0.5 million (EUR 2,082). The lowest county average was paid in Szabolcs-Szatmár-Bereg (HUF 488 thousand, EUR 1,914), and the highest in Komárom-Esztergom County (HUF 1,512 thousand, EUR 5,929).

97 percent of the subsidized holdings (196,702 holdings) are individual holdings¹². A large part of the subsidized holdings (about 115,000, 56.6 percent) obtained only a small subsidy¹³. These are almost all individual holdings and received 5.1 percent of the direct payments (HUF 10 billion, EUR 39.2 million) based on the area in use, which accounts for 6 percent of total agricultural land. It might sound contradictory but these small subsidies are in fact important. Several hundred thousand rural families benefit from these subsidies and, if one considers their financial situation, HUF 18 thousand (EUR 71) is nothing to sneeze at!

Most subsidized individual holdings are owned by elderly farmers of which 62 percent are over 50, 33 percent over 60, and those under 30 only compose 6 percent (11 thousand). The elderly farmers tended to work small parcels of land, 60% of those over 60 cultivating an average “farm size” of 1.4 hectares¹⁴!

The amount of subsidy is closely related to the farm size; Figure 1 shows its development by size categories.

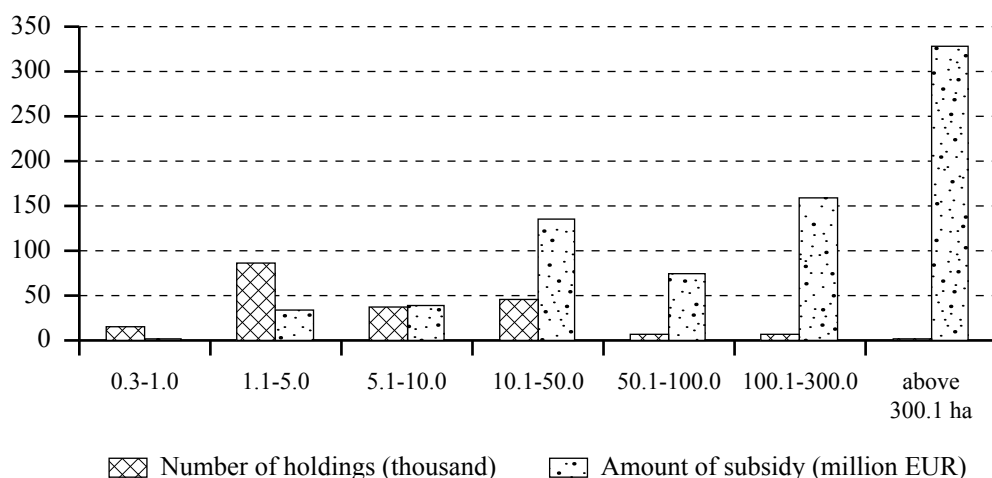


Figure 1: Number of subsidized holdings and the amount of subsidies by farm size

Source: Agricultural and Rural Development Authority (MVH) of 2006

The figure shows that the largest group of subsidized holdings are those between 1-5 hectares and that holdings over 300 hectares receive the most subsidies.

¹² In practice this means that based on Hungarian Central Statistical Office (HCSO) data from the household defined as holdings every third received payments. This is mainly due to the fact that two thirds of the holdings did not reach the threshold of entitlement, which is 1 hectare.

¹³ A payment less than HUF 210 thousand (EUR 824) can be considered as a minor payment, which equals the amount of subsidy paid for 6 hectares of land. On such an area approximately GM of 2 ESU can be produced on average.

¹⁴ Calculated on the basis of the area entitled.

Results and conclusions

Probable consequences of a potential reduction in subsidies

Based on FADN income and cost data the pre-tax profit of the holdings were calculated both for direct payments for reduced direct payments in terms of the legal forms of farming and the production lines; then the data were projected to the total of holdings. A 50 percent decrease in direct payments would decrease the pre-tax profit of the total of holdings (total of individual holdings and corporate holdings) by 58 percent! This is the balance of the profit of HUF 159 billion (EUR 624 million) and the loss of HUF 99 billion (EUR 388 million).

The pre-tax profit would decrease for all farm types, both in individual holdings and corporate holdings; as Figure 2 shows.

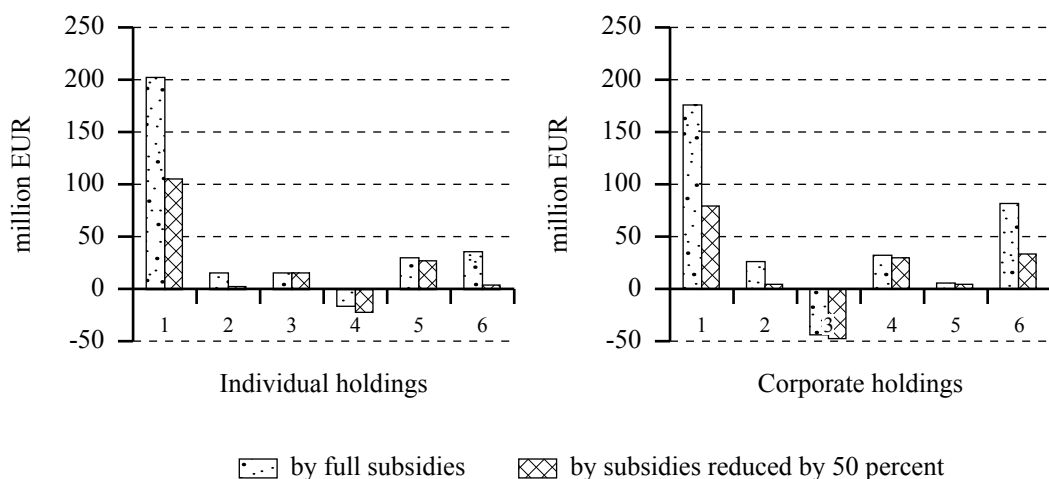


Figure 2: Profit before tax of agricultural holdings by production lines

Production line: 1. specialist field crop producers; 2. Livestock I (specialist grazing livestock); 3. Livestock II (specialist granivores); 4. specialist horticulture (Plantations); 5. specialist horticulture (vegetable); 6. Mixed agricultural production

The direct and indirect impacts of profit reduction to be expected are various; the potential consequences can be categorised as follows:

1. Consequences of finances and incomes

Compared to previous years, **2006 was a good year for agriculture**, and none of the sectors affected by direct payments suffered a financial loss. However, a 50-percent cut in direct payments would make financial results plummet, and not only cause a considerable increase in the number of holdings suffering a loss, but also increase the size of such losses for both individual and corporate holdings.

The data obtained are the following:

- 1.1 If the EU decided to curtail direct payments by 50 percent, **Hungarian agriculture would be forced to forego revenues to the extent of HUF 99.2 billion (EUR 389 million), while the country would lose an ‘external income’ of HUF 61.6 billion (EUR 242 million)** compared to 2006. That loss of income could be compensated for by increasing the average price of the two major grain crops (wheat and maize) by 28 percent or through an equivalent increase in the crops’ average yield. Of course these figures are hypothetical as Hungarian producers have little leverage over crop prices, while yield increases would only occur if there were a considerable increase in inputs.
- 1.2 The hardest hit regions would be the three least developed, meaning the Northern Great Plain Region (23.8 percent), Southern Great Plain Region (22.8 percent) and Northern Hungarian Region (10.0 percent).
- 1.3 Cutting back direct payments by 50 percent would reduce the pre-tax profit of holdings over 2 ESU by 58 percent so **nearly one in two holdings** (45 thousand individual holdings and almost 3 thousand partnerships) **would lose money**. This would mean 58 percent of the producers (more than 100 thousand families!) for whom the subsidy is vitally important.
- 1.4 Clearly the decline in profit would differ by farm type, i.e. Specialised field crops and mixed cropping/crops-livestock would be hurt the most. Specialised grazing livestock would be moderately hurt, while most specialised horticulture would cease to be profitable. The already critical situation of specialist granivores would also deteriorate. The cost-related profitability of each affected sector would certainly worsen.
- 1.5 While the cost-related profitability of each affected sector would decrease considerably,
 - the profitability rate of major arable land sectors, including wheat and sunflower, as well as grape and plum growing and beef cattle breeding would approach a critical level (would decrease to the level of 6 to 8 percent, i.e. lower than the interest rates for financing current assets),
 - virtually no income would be generated from secondary spiciferous cereals (autumn and spring barley and triticale),
 - rye and oat production and sheep breeding (lamb raising) would become money losing sectors.

2. Change in employment and its subsequent social consequences

The producers (owners) will probably discontinue money losing holdings and sectors. Under that scenario:

- 2.1. Withdrawal from money losing sectors would terminate approximately a full-time equivalent of (FTE) 45 thousand jobs with an overwhelming majority (about 96 percent) in crop farming. With the disappearance of money losing holdings, nearly 83,000 FTE labour force would lose their employment. However, **a lot more people would in fact be affected**, since agricultural employment is highly seasonal, largely met by workers from other sectors of the national economy and retirees.
- 2.2. Regarding individual holdings, 75% of the decline in the demand for labour would affect mixed agricultural holdings (32 percent), specialist horticulture holdings (28 percent) and specialist field crop producers (22 percent). Among corporate holdings, specialised granivore farms would be forced to lay off the highest number of workers.

- 2.3. Reducing the need for agricultural labour would **increase the rural labour surplus**, which would harm rural wages and especially agricultural wages. An even larger problem is that 80 percent of those laid off by agricultural organisations – due to age and educational reasons – will not be able to find any rural employment and will require various government social benefits (early retirement, unemployment benefits, social benefits, health-care benefits).
- 2.4. Due to their age and educational background, it seems unlikely that all workers leaving agriculture could find job opportunities outside agriculture. According to our calculations, the direct costs resulting from social benefits to be paid could amount to HUF 34 billion (EUR 133 million) a year (obviously decreasing over time), sometimes accompanied by additional costs or loss of revenues (unpaid social security taxes). During the first few years, the sum of the aggregated benefit costs and loss of income would thus approach HUF 40 billion (EUR 157 million), i.e. equivalent to almost half (44 percent) of the money *saved* on agricultural subsidies.

3. Critical regional impacts

- 3.1 Halving the amount of subsidy payments would result in a HUF 35 billion (EUR 137 million) loss of income and 35% of this would affect disadvantaged micro-regions where the economy is either stagnating or lagging behind every indicator. Therefore, one can expect differences in economic performance to increase among regions with differing levels of economic development.
- 3.2 Moreover, this is not simply an income loss for the producers since in half the farms this income **ensures a moderate living which all those concerned need to survive**. If the unprofitable holdings abandoned their activities, especially in stagnant or economically backward micro-regions, we contend that there would be **no alternative employment for displaced workers**. The demographic situation is unfortunate in terms of age, educational level, poverty and people living on social benefits, but deficient infrastructure means the business environment is not at all entrepreneur-friendly.
- 3.3 There are 54 micro-regions suffering economic stagnation and backwardness, and their flimsy economic foundation will further erode due to the decline of production. This in turn will cause a decline in their capacity to provide subsistence and the negative consequences of this particularly entail greater unemployment and social tensions, and a deteriorating demographic age structure with depopulation of villages.
- 3.4 Regional employment tensions would continue to increase as nearly 40 percent of the employment decline in money losing sectors would affect economically backward and stagnating micro-regions, this where the present unemployment rate is double the national average!
- 3.5 In these micro-regions, employment opportunities for **laid off agricultural workers** will certainly be well below the national average, due primarily to the scarcity of local job opportunities, the population's minimal mobility, and a higher proportion of disadvantaged social groups, which include unskilled and uneducated people.
- 3.6 Specialised horticulture farming with its specific labour requirements is traditionally found in the Northern and Southern Great Plain Regions, as well as Northern Hungary. If plantation farming's need for labour were to decline, it would amount to FTE of about 10 thousand workers, most affecting casual workers. This would further increase employment related tension in the Nyírség – an area of isolated farms between the Danube and the Tisza – and to a lesser extent the historical wine districts.

4. Impact on the natural environment

- 4.1 Reducing subsidies would **primarily affect regions with inferior quality land**, i.e. the region between the Danube and the Tisza and the Nyírség. According to income indicators based on FADN data, **agriculture production on arable land could halt on areas as large as 700 thousand to 900 thousand hectares**. Moreover, no rational alternative has been found for the utilisation of these areas.
- 4.2 It is difficult to precisely foretell what consequences such a spontaneous cessation of cultivation would have on the natural environment. It is almost always true that in the end nature *will have her way*, but hundreds of years are needed to create the plant communities similar to those preceding the agricultural use of the abandoned lands. For a long time, they may remain as “wild” areas, potential sources of phytosanitary contamination, causing the surrounding population to flee. On the other hand, tending them requires organisation and expenses.

5. Output of agriculture, effect on export

Radically cutting subsidies would have a disproportionate effect on producer prices, given that Europe's market share (and thus its influence on prices) is insignificant for most products, and this especially holds true for Hungary. Not only would it preserve the country's competitive disadvantage against existing EU competitors, but also significant market share would go to third countries.

Such cutbacks would engender a product supply decline of 22-38 percent and 58-76 percent for Hungarian horticulture and oil crops. A decline of about 50 percent and 42 percent could occur respectively for wheat and maize, Hungary's main cereal crops

In some of the sectors a fall in supply could decrease exports, increase imports, or even both. *It is certain that Hungarian producers would lose considerable market share.*

Therefore the final conclusion is that **preserving direct payments is fundamentally in the interest of Hungarian agriculture and the national economy**. Apart from worsening producers' income position, significantly reducing subsidies would also have deleterious collateral consequences on the environment and would greatly decrease employment in agricultural production. In every respect it would broadly hurt impoverished rural areas, in particular micro-regions where the economy is stagnant and inferior, meaning areas of considerable social and economic tension.

Prospective CAP reform means the proposed reduction of subsidies and/or in strengthening the modulation, meaning allocating resources for regional development measures. When doing this, one should consider two aspects. First, that the present subsidies have already been integrated into the current operating market mechanisms, meaning into cost, price and income relations. A drastic modification of these would lead to traumatic events in the regions and numerous micro-regions. Therefore, any prospective measures should be applied gradually! Second, any EU financial measures should adequately respect European diversity, and in Europe, Hungary's natural environment, food safety, and food security are fundamental values! This latter point is not only an important value at the European level but also at the regional level, and as a public good requires protection. These cannot be sacrificed on the altar of imprudent financial measures!

References

1. **Béládi, K. and Kertész, R. (2007):** A teszüzemek főbb ágazatainak költség- és jövedelemhelyzete 2006-ban. (The cost and income situation of the main FADN sectors). Agrárgazdasági Információk. 2007/7. Budapest: Agrárgazdasági Kutató Intézet
2. **Bihari, Zs. and Kovács, K. (2006):** Lejtők és csúszdák, avagy a foglalkoztatási esélyek térbeli egyenlőtlensége az ezredfordulón. (Slopes or the spatial differences of employment opportunities at the turn of the century). Tér és Társadalom. 20(4): 48-66..
3. **Faluvégi, A. (2003):** A leghátrányosabb helyzetű kistérségek. (The most disadvantaged micro-regions). Budapest: KSH
4. **Faluvégi, A. (2004):** Kistérségeink helyzete az EU küszöbén. (The situation of micro-regions prior to EU accession). Területi Statisztika. 7(5): 434-458.
5. **Halmi, P. (szerk.) (2007):** Átalakulóban az EU Közös Agrárpolitikája – hazai kihívások és válaszok. (CAP reform – Hungarian challenges and responses). Gödöllő: SZIE Gazdaság- és Társadalomtudományi Kar, Európai Tudományok Intézete
6. **Illés, I. (2006):** Regionális folyamatok az elmúlt évtizedben. (Regional processes in the past decade). Észak-Magyarországi Stratégiai Füzetek. 3(1): 100-117.
7. **Földművelésügyi és Vidékfejlesztési Minisztérium (2007):** Jelentés az agrárgazdaság 2006. évi helyzetéről. (Report on the situation of the 2006 agricultural economy). <http://www.fvm.hu/main.php?folderID=827>
8. **Jukka, K. and Tapani, Y. (2004):** Society's demand for multifunctional agriculture. 90th EAAE Seminar – Multifunctional agriculture, policies and markets: understanding the critical linkage. Rennes.
9. **Kósa, K. (2006):** A gazdasági versenyképesség területi különbségei Magyarországon. (Regional differences in Hungarian economic competitiveness). Területi Statisztika. 9(4): 428-434.
10. **Keszthelyi, Sz. (2006):** A teszüzemi információs rendszer 2006. évi eredményei. (Results of 2006 Farm Accountancy Data Network) Agrárgazdasági Információk. 2007/5. Budapest: Agrárgazdasági Kutató Intézet.
11. **KSH (2007):** Társadalmi ellátó rendszerek-2006. (Social systems-2006). 74 p. <http://www.ksh.hu/pls/ksh/docs/hun/xftp/idoszaki/pdf/tarsellatorendszer.pdf>
12. **Szociális és Munkaügyi Minisztérium (2005):** Jelentés a foglalkoztatás helyzetéről és a foglalkoztatás bővítését szolgáló lépésekről. (Report on employment and on the steps to be taken to increase employment). <http://www.szmm.gov.hu>
13. **Udovecz, G.; Popp, J. and Potori, N. (2007):** Alkalmazkodási kényszerben a magyar mezőgazdaság. (The forced adaptation process facing Hungarian agriculture). Agrárgazdasági Tanulmányok. 2007/7. Budapest: Agrárgazdasági Kutató Intézet.