

EVALUATION OF DIRECT SUBSIDIES GRANTED TO AGRICULTURAL PRODUCERS IN HAJDÚBÖSZÖRMÉNY

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ABSTRACT

The accession of Hungary to the EU can be considered a milestone in the life of domestic agriculture, as currently 70% of the income of agricultural producers is funded by agricultural and rural development subsidies. Besides the timeliness of the topic, it is to be highlighted that agriculture has great traditions in Hajdúböszörmény. As a general objective of the study, the relationship of agricultural producers in Hajdúböszörmény with direct subsidies was determined. In the first part of the research, agricultural subsidisation systems of the European Union and Hungary were processed. Subsequently, with regard to Hajdúböszörmény and based on the subsidy-related data available for the period of 2008-2017, subsidies paid during the last 10 years were demonstrated in various breakdowns (resources, funds, settlements and subsidy type). In addition to the above, measurement of the concentration of direct subsidies was realised by means of three concentration indexes (Lorenz curve, CR concentration, Hirschman-Herfindahl index).

Keywords: Hajdúböszörmény, direct payments, farmers, concentration

INTRODUCTION

Direct subsidies in the European Union were introduced in the scope of the CAP reform of 1992, which, as a result of the Fischler reform of 2003, was separated from production by 90% (JÁMBOR & MIZIK, 2014).

Hungary became a member of the European Union on 1st May 2004. As a result of the membership, a diverse range of financial resources and subsidies became accessible to our country, including agricultural and rural development subsidies which have a decisive financial role.

As of 2007, these subsidies are funded from the European Agricultural Guarantee Fund (EAGF) established for the support of direct subsidies relevant for research and the European Agricultural Fund for Rural Development (EAFRD), which serves the support of funding rural development subsidies (HALMAI, 2007).

Justification of these subsidies is well demonstrated by the fact that at present approximately 70% of the annual income of Hungarian agricultural producers is based on subsidies, which represents the actuality of the topic, not to mention its importance (GÖNCZI, 2018).

As a general objective of the study, a comprehensive insight is sought with regard to the relationship of agricultural producers in Hajdúböszörmény with direct subsidies. The obtained information might provide an answer – among others – related to the concentration of direct subsidies between 2008 and 2017 and the distribution of these subventions by source, fund and subsidy type.

In the 2014-2020 budget period, the total amount of funding available for Hungary in the scope of the CAP is € 12.3 billion; € 9.3675 billion (~ 1.34 billion € / year) of that amount can be spent on direct subsidies. In terms of direct payments, Hungary decided on a voluntary basis to introduce production-based subsidies and the simplified subsidisation

system of small farms (PALAKOVICS et al., 2016), in addition to the three compulsory elements (SAPS, greening, support of young farmers).

MATERIAL AND METHOD

The study primarily presents results based on secondary data collections. In the first part of the research, the current and future agricultural subsidisation system of the EU was processed along with the subsidisation of the budget periods of Hungary in particular, before and after its EU accession. In the course of the examination of the concentration of subsidies in Hajdúböszörmény, subsidisation data available for the period 2008-2017 in the public database of the Hungarian State Treasury have been utilised, since these subsidisation-related information have been openly accessible since 2008. It is important to note that the scope of the survey involved inhabitants living in the suburbs of Hajdúböszörmény (Bodaszőlő, Hajdúvid, Nagypród). Although all three settlements have their own independent postal codes, a comprehensive view of the entire settlement can be obtained that way. In the course of the subsidisation data-related surveys, paid subsidies for all of the 10 years were broken down by funding sources, funds, settlements and direct subsidy types. In addition to the above, measurement of the concentration of direct subsidies was realised by means of 3 concentration indexes (Lorenz curve, CR concentration, Hirschman-Herfindahl index).

RESULTS

In the scope of the results and their evaluation, *Table 1* shows the distribution of paid subsidies by settlement, based on which it can be established that a total of 35.7 billion HUF of agricultural and rural development subsidies have been paid in Hajdúböszörmény between 2008 and 2017. It can also be concluded that approximately 80% (28.5 billion HUF) of the above subsidies came from EU funds, while nearly 20% of the total amount was paid from national funds. Approximately 97% of the subsidies was paid in Hajdúböszörmény, while 3% for farmers living in the surrounding settlements. During the analysed period, subsidies were called in by an average of 1745 farmers annually, 1,650 of which are based in Hajdúböszörmény, 27 in Bodaszőlő, 31 in Hajdúvid and 38 in Nagypród. The annual amount of subsidy per farmer exceeds 2 million HUF in the average of the years 2008-2017 and it is clearly visible that this means 2.11 million HUF/person in Hajdúböszörmény, 1.16 million HUF/person in Bodaszőlő, 838 thousand HUF/person in Hajdúvid, while in the case of Nagypród, the total amount was 1.52 million HUF/person. According to the most recent (2016) settlement-based population data, the number of inhabitants of Hajdúböszörmény is 30,717 (about 31,000 people), of which ~28,000 live in the inner city, while 3,000 live in the outskirts (KSH, 2018).

Table 1: **Distribution of paid subsidies by settlements**

Settlements	Paid subsidies (million HUF)	Proportion (%)	Average number of farmers (people)	Subsidy per farmer (HUF/farmer)	Population (people)
HB	34 557.14	96.73	1 650	2 116 013	~28 000
Bodaszőlő	318.11	0.89	27	1 167 043	~1 850
Hajdúvid	264.36	0.74	31	838 118	~900

Nagypród	584.59	1.64	38	1 525 332	~250
Total	35 724.20	100.00	1 745	2 066 196	~31.000

Table 2 shows the distribution of paid subsidies by funds. It is noticeable that EAGF payments have been dominant in every analysed year since 2008, which is on the one hand due to its considerably larger amount of financial resources compared to the other two funds, and on the other hand due to the simpler process (grant application). As a result of the annual shares of 47-75%, the payment of more than 21 billion HUF was realised, which is 60.4% of total subsidy. However, in contrast the share of subsidies from the EAFRD and the National Fund proved to be considerably lower during the analysed period, as in the case of the EAFRD, proportions between 8% and 40% were recorded and 9 billion HUF (~ 25%) was paid from the fund. The proportion of subsidies funded by the National Fund varied between 4% and 25% over the years. In total, the payment of more than 5 billion HUF was realised from this fund, which amounts to approximately 15% of the total subvention. Overall, owing to the three funds, 2-5 billion HUF of agricultural and rural development subsidies have been paid annually to farmers located in Hajdúböszörmény with regard to the analysed years.

Table 2: Distribution of paid subsidies by funds

HB	National Fund		EAFRD		EAGF		Total	
	million HUF	%	million HUF	%	million HUF	%	million HUF	%
• 2008	525.99	25.17	352.12	16.85	1 211.31	57.97	2 089.42	100.00
• 2009	711.25	22.93	871.36	28.09	1 519.03	48.98	3 101.64	100.00
• 2010	132.45	3.99	1 315.06	39.66	1 868.21	56.34	3 315.72	100.00
• 2011	361.65	13.69	848.03	32.11	1 431.24	54.19	2 640.91	100.00
• 2012	490.09	14.93	423.51	12.90	2 369.80	72.18	3 283.41	100.00
• 2013	447.34	11.50	1 147.57	29.51	2 293.62	58.98	3 888.53	100.00
• 2014	416.05	10.10	1 174.56	28.52	2 527.10	61.37	4 117.72	100.00
• 2015	702.78	13.96	1 931.73	38.36	2 401.06	47.68	5 035.58	100.00
• 2016	781.97	16.52	387.44	8.19	3 562.69	75.29	4 732.10	100.00
• 2017	587.99	16.71	544.36	15.47	2 386.82	67.82	3 519.18	100.00
Total	5 157.56	14.44	8 995.75	25.18	21 570.88	60.38	35 724.20	100.00

During the period 2008-2017, 33 agricultural subsidy types have been applied for from the EAGF funds (21.5 billion HUF) in Hajdúböszörmény; percentile distribution of the eight direct subsidy types with the largest proportion is presented in *Figure 1*. It can be established that the most popular subsidy type for each year were single area payments (~ 61%), which was followed (with a significant lag behind) by separated sugar subsidies coupled to area payments with a 14% share. The third row of the table represents greening (7.5%), which is a part of single area payments since 2015. These three subsidy types constitute ~82% of the total amount of direct subsidies. Analysing the rest of the subsidy types, it can be stated that all of them have a share of less than 5% and it can be seen that the five subsidy types having the largest proportion constitute ~90% of the total amount of direct subsidies, while the first eight subsidy types represent ~93 %. It should also be noted

that – with the exception of the area payment scheme – none of the subsidy types were included in every year of the analysed period.

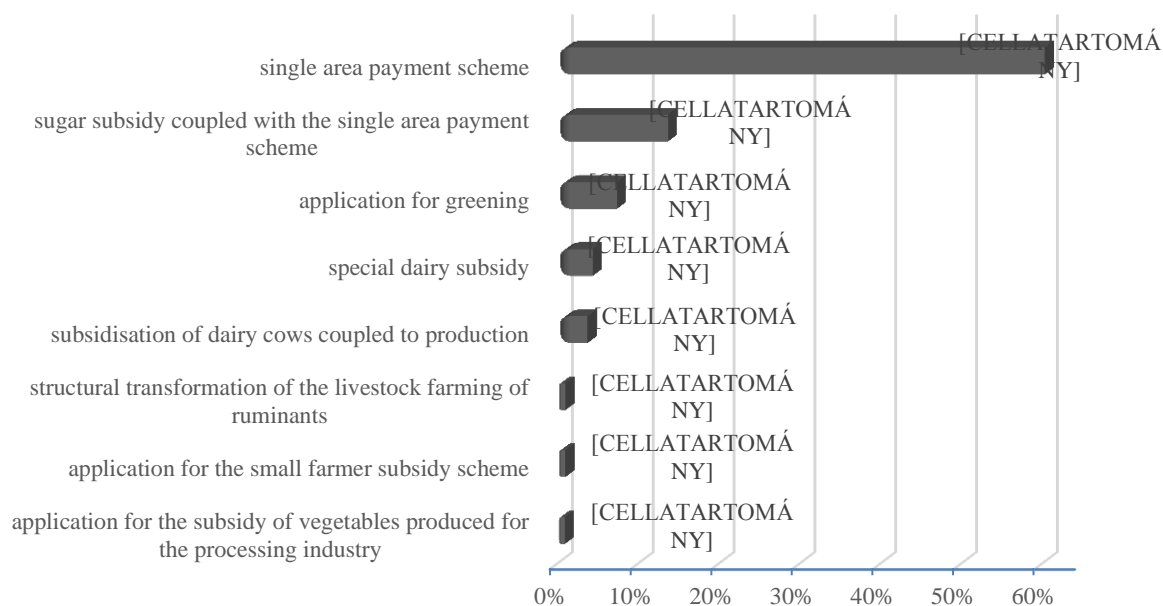


Figure 1: Distribution of the eight direct subsidy types with the largest share in Hajdúböszörmény between 2008 and 2017

Development of the concentration of total paid direct subsidies for the period of 2008-2017 has been illustrated on a Lorenz-curve. Based on *Figure 2*, it can be established that the level of concentration of subsidies was high in all of the analysed years and the highest concentration was recorded in 2011.

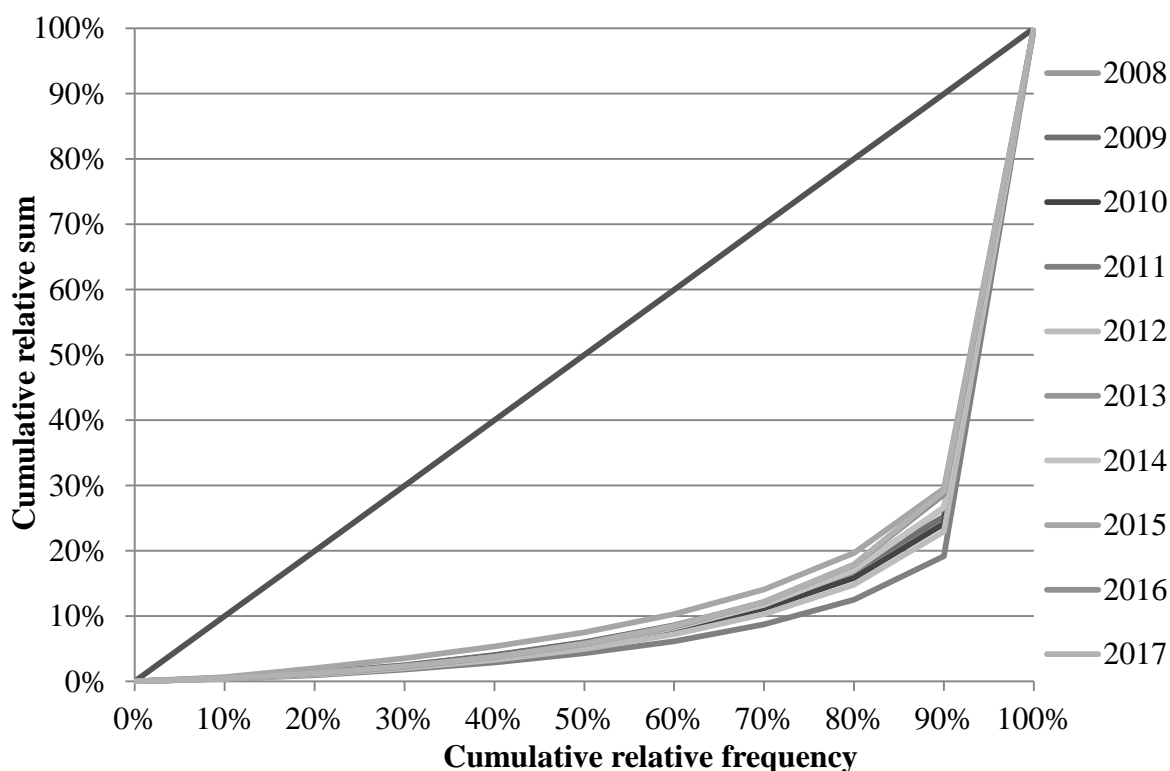


Figure 2: **Lorenz-curve**

Based on the shape of the curves belonging to each year it can be stated that distribution of subsidies between 2008 and 2017 was balanced, since a relatively small amount of beneficiaries received the majority of the subsidies. Consequently, it was found that in the most concentrated year (2011) the upper 10% of beneficiaries received 81% of the direct subsidies, while in further years the upper 10% of beneficiaries received “only” 70-80% of the subsidies.

Following the analysis by means of Lorenz curve, concentration was measured with CR concentration and Hirschman-Herfindahl index. It should be pointed out that the CR concentration in this case shows the share of the three largest beneficiaries of direct subsidies from the total amount of paid direct subvention. Analysis of the data in *Table 3*, suggests the conclusion that the three largest beneficiaries received the highest proportion of the total amount of subsidies in 2011, with a share of almost 50%, whereas in 2010 the share of the largest beneficiary (CR1) was the highest in 2010. It can also be said that there has been a declining tendency since 2010 in terms of CR1 and since 2011 in terms of the values of concentration index numbers, the combined effect of which resulted in the fact that in 2017 the combined share from direct subsidies of the three largest beneficiaries was only 21.60%.

The Hirschman-Herfindahl index represents the sum of squares of the proportions of beneficiaries from the total amount of direct subsidies each year. The analysis clearly showed that the value of the indexes is considerably determined by the share of the CR1 concentration, which can be confirmed by the observation that the annual change in the CR1 concentration also had an effect on the annual development of HH indexes. The index that is characterised by values between 0 and 1, had its smallest value (0.0221) in 2017, while the highest (0.093) in 2011, which confirms the shape of the Lorenz curve referring to the most concentrated year (2011).

Table 3: Development of the CR concentration and the Hirschman-Herfindahl index in Hajdúböszörmény between 2008 and 2017

Year	CR concentration				HH-index	
	CR1 (%)	CR2 (%)	CR3 (%)	Total (%)	HH-index	Change (%)
• 2008	15.65	15.61	9.97	41.23	0.0604	100.00
• 2009	19.66	10.05	7.34	37.06	0.0565	93.52
• 2010	24.41	9.96	7.84	42.21	0.0771	127.64
• 2011	23.00	14.12	12.32	49.45	0.0903	149.53
• 2012	21.13	10.01	9.52	40.66	0.0655	108.41
• 2013	18.59	8.64	6.60	33.84	0.0482	79.75
• 2014	17.24	10.30	6.08	33.62	0.0458	75.81
• 2015	12.58	7.48	6.19	26.25	0.0274	45.29
• 2016	14.86	7.05	4.37	26.28	0.0311	51.53
• 2017	12.22	5.81	3.57	21.60	0.0221	36.58

CONCLUSIONS

In summary, it can be stated that between 2008 and 2017, agricultural producers in Hajdúböszörmény received 35.7 billion HUF of subsidies for agricultural and rural development, of which 21.6 billion HUF was paid from the EAGF funds (relevant for present study) through 33 different subsidy types. Not surprisingly, area payments dominated in every analysed year, since their own 60% share combined with greening and the small farmer scheme represents a 70% share of the surveyed period. Analysis of the individual settlements revealed that Nagypród, which has the lowest number of inhabitants had a very high proportion of beneficiaries within its population, which implies a very strong agricultural attachment in the case of this settlement. Concerning the examination of the concentration of subsidies, it can be stated that on the basis of the Lorenz curve, concentration of subsidies was equally high in the involved settlements in each of the analysed years. The distribution of subsidies between 2008 and 2017 showed a balanced image, since only a few applicants received large amounts of subsidies in every analysed year.

Decisions concerning the next EU budget for the post-2020 programming period, including the new CAP budget are expected to be made in May 2018, where presumably the questions about the frequently mentioned decrease of CAP resources will be answered. It can be stated – partially due to the future decrease of the CAP resources – that it would be reasonable for every agricultural producer to carry out a farming practice, which could secure a safe subsistence even without the payment of subsidies. It is an undeniable fact that grants can really provide a meaningful contribution, however farmers should not be satisfied with these seemingly secure subsidies, but in order to secure their own future, it would be necessary for them to increase the level of their production and – through investments and developments – the standards of their farm.

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REFERENCES

- GÖNCZI, K. (2018): A fiatalok finanszírozási igénye kiugróan magas. Agrárszektor. <https://www.agrarszektor.hu/agrarpenzek/a-fiatalok-finanszirozasi-igenye-kiugroan-magas.10398.html>
- HALMAI P. (2007): Az Európai Unió agrárrendszere. Mezőgazda Kiadó, Budapest, 402 p. ISBN 978-963-286-370-2
- JÁMBOR A., MIZIK T. (2014): Bevezetés a Közös Agrárpolitikába. Akadémia Kiadó, Budapest, 268 p. ISBN 978 963 05 9533 9
- KSH (2018): Tájékoztatási adatbázis. Éves településstatisztikai adatok 2016-os településszerkezetben. <http://statinfo.ksh.hu/Statinfo/themeSelector.jsp?page=2&szst=T>
- MÁK (2018): Támogatási adatok a Bizottság 908/2014/EU Végrehajtási Rendelete alapján (Publication of data according to Commission Implementing Regulation No 908/2014). Magyar Államkincstár.
- PALAKOVICS SZ., FODOR Z., TAKÁCS A. (2016): Közvetlen támogatások gazdálkodói kézikönyv. Nemzeti Agrárgazdasági Kamara, Budapest, 56 p.