

## **Economic Impacts of the Adoption of the Common Agricultural Policy on Typical Organic Farms in Selected New Member States**

Auswirkungen der Übernahme der Gemeinsamen Agrarpolitik auf die Wirtschaftlichkeit ökologischer Betriebe in ausgewählten neuen Mitgliedsländern

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### **Zusammenfassung**

Die Übernahme der Gemeinsamen Agrarpolitik in den neuen Mitgliedsländern im Jahr 2004 geht auch für ökologische Betriebe mit weit reichenden Änderungen der einzelbetrieblichen Förderung einher. Die Modellrechnungen zeigen, dass sich aufgrund deutlich steigender Förderprämien die wirtschaftliche Situation ökologischer Betriebe in ausgewählten Mittel- und Osteuropäischen Ländern bis 2013 erheblich verbessern wird. Dies kann neue und verbesserte Absatzmöglichkeiten auf europäischen Märkten eröffnen. Eine nachhaltige Entwicklung des ökologischen Landbaus in diesen Ländern erfordert jedoch dringend die Entwicklung von Verarbeitungs- und Vermarktungsstrukturen sowie einheimischer Märkte für ökologische Produkte.

**Schlagnote:** EU-Osterweiterung, Agrarpolitik, ökologischer Landbau

### **Summary**

The adoption of European agricultural policy in most of the new member states began in 2004 and is associated with significant changes in financial support at farm level. Typical farm modelling shows that with accession to the EU and due to increased payments, the economic performance of organic farms in selected Eastern European study countries will largely improve up to 2013. This improvement will give

farmers the opportunity to catch up with their Western colleagues with respect to quality standards and factor productivity, thus becoming important competitors on European markets. However, the sustainable economic success of organic farms will require the development of processing and market facilities as well as of domestic markets.

**Keywords:** EU Eastern Enlargement, agricultural policy, organic farming

### 1. Introduction

EU accession and the adoption of the Common Agricultural Policy (CAP) in 2004 are associated with far-reaching changes in the support schemes for farmers in the new member states (NMS). Farmers had access to CAP market measures from the first year of accession but much more important was the introduction/increase of direct payments. While 1<sup>st</sup> pillar payments were introduced with increasing rates, there were already large increases in 2<sup>nd</sup> pillar payments during 2004 (see GAY et al., 2005; POPP, 2005; FOEE, 2004). Rural Development Plans for 2007-2013 are still under discussion. However, in the face of limited budgets, it is rather unlikely that 2<sup>nd</sup> pillar payments will be further augmented. Organic farming payments, as part of the agri-environmental schemes, were also raised by about 100% and even more, depending on country and on land use (HRABALOVA et al., 2005). Thus, for organic farmers in the new member countries studied, the adoption of the CAP implied a marked increase in payments. On the other hand, EU accession is likely to lead to increasing costs, partly because of the common market and partly because of the shift-over effects that higher farm subsidies may have on input prices (i.e. land, feed etc.).

During the negotiations preceding EU enlargement, limited financial resources and the eligibility of the accession countries for CAP instruments were major issues (JENSEN and FRANSEN, 2003). Several authors analysed the effects of EU accession on agriculture in the new member states (see e.g., POPP, 2005; HEINRICH, 2004; JANSKY, 2004; SEDIK, 2004; ZMIJA and TYRAN, 2004). However, almost no information is available on the economic performance and impacts of policy changes on organic farms in these countries.

Against this background, it is the aim of this contribution to analyse the economic consequences of the adoption of the CAP for typical

organic farms in selected new member states until 2013. The countries under investigation are the Czech Republic, Estonia, Hungary, Poland and Slovenia.

## **2. Policy modelling for typical organic farms in the new member states**

National databases like FADN are still lacking for organic farms in most of the NMS. This is why the typical farm approach has been chosen for the analysis of the economic performance of organic farms (methodology see HÄRING, 2003; NIEBERG et al., 2007; AGRIBENCHMARK, 2007). Typical farm models represent the most frequent farm types within countries, so that it becomes possible to draw a picture of the economic situation for a large share of farms in the countries selected.

Selection criteria for the definition of organic farms were the regional distribution of organic farming, the size of farm, its main products/activities and production system, and its legal structure and marketing channel. The database for the identification of typical farms consisted of statistical data and expert knowledge. Depending on the structure of organic farming, two to six typical organic farm models were set up in each study country.

Key characteristics of typical organic farms in the study countries are summarised in Table 1. For the definition of typical farms in the **Czech Republic**, data from the Czech control body for organics farms (KEZ) were used. Organic farming is mainly grassland-based, so the majority of typical farms in the Czech Republic are cow-calf farms. One farm finishes its own animals for slaughter and all others sell live animals at conventional markets due to the restricted market for organic beef. In **Estonia** a mixed type of farm, with income from arable farming plus sheep, and a dairy farm were selected as typical farms, based on data from the register of organic farms of the Estonian Plant Production Inspectorate. In **Hungary**, 60 - 70% of organic land is arable land, with cereals, oilseed and vegetable production being the most important activities. A large share of organic grassland is used for conventional animal husbandry and the number of organically-kept animals is therefore low (ZANDER and BROSIG, 2005). Thus, all four selected typical farms have cereals and two of them produce vegetables as well. Out of the four typical farms, two combine cereal production with grassland and dairy cattle. Sixty-four percent of organic land area in **Poland** is arable land and only 28% is permanent grassland (METERA, 2005). Milk

production is the most important activity in animal husbandry. It is based only partly on permanent grassland – more important is feedstuff production, including hay on arable land.

Tab. 1: Characteristics of typical organic farms in selected NMS (2003)

		Total UAA ha	Permanent grassland ha	Arable land ha	Suckler cows No.	Dairy cows No.	Labour AWU / 100 ha	Main products / activities	Legal form	Marke- ting	Off- farm income
<b>Czech Republic</b>											
Arable farm	large	200	30	170	0	0	1.0	cereals	Joint stock Co.	organic	no
Dairy farm	small	64	10	54	0	16	4.2	milk / beef	Family farm	conven- tional	yes
Cow-calf farm	small	100	100	0	11	0	1.5	breeding	Family farm	conven- tional	no
Cow-calf farm	medium	140	140	0	70	0	1.3	weaned calves	Family farm	conven- tional	yes
Cow-calf farm	large (1)	551	551	0	145	0	0.5	weaned calves	Family farm	conven- tional	yes
Cow-calf farm	large (2)	500	430	70	160	0	2.3	beef	Limited Co.	organic / conven.	no
<b>Estonia</b>											
Arable farm	large	89	4	85	0	0	3.0	cereals / sheep	Family farm	organic / conven.	yes
Dairy farm	large	230	171	59	0	56	2.3	milk / beef / calves	Family farm	conven- tional	yes
<b>Hungary</b>											
Arable farm	small	9	0	9	0	0	12.5	vegetables / green forage	Family farm	organic	yes
Arable farm	medium	374	0	374	0	0	4.0	vegetables / cereals	Limited Co.	organic	no
Dairy farm	medium	290	45	245	0	60	3.3	milk / cereals / processing	Coope- rative	organic / conven.	no
Dairy farm	large	1 850	400	1 450	80	500	2.9	milk / cereals	Limited Co.	organic / conven.	no
<b>Poland</b>											
Arable farm	small	17	2.5	14.5	0	2	17.6	vegetables	Family farm	organic	no
Arable farm	large	100	12	88	0	10	5.0	cereals	Family farm	organic	no
Dairy farm	small	17	4	13	0	7	11.8	milk / vegetables / agrotourism	Family farm	partly organic	no
Dairy farm	medium (1)	18	5	13	0	18	11.1	milk	Family farm	conven- tional	no
Dairy farm	medium (2)	48	35	13	0	30	6.3	milk / processing	Family farm	partly organic	no
<b>Slovenia</b>											
Arable farm	small	13	3	10	2	0	19.2	vegetables	Family farm	organic	no
Dairy farm	small	13	13	0	0	7	10.8	milk	Family farm	conven- tional	yes
Cow-calf farm	small	9	9	0	6	0	13.3	beef	Family farm	organic	yes

Source: own compilation

Due to a lack of statistical data on organic farming, the definition and selection of typical farms in **Slovenia** is exclusively based on expert

knowledge. Grazing livestock (2/3 suckler cows and 1/3 dairy cows) on grassland prevails, although the majority of all organic farms (approximately 65%) also has some (if only minor) crop production. The three typical farms selected are a suckler cow farm, a dairy farm and an intensively-producing vegetable farm. It becomes clear that, regarding farm size, the dualistic structure which is mentioned repeatedly for the agricultural sector in the new member states (e.g. NETWORK OF INDEPENDENT AGRICULTURAL EXPERTS IN THE CEE CANDIDATE COUNTRIES, 2004) also holds true for organic farms (Table 1). The data collection for each typical farm model took place on a real farm, similar to the defined typical farm, through a so-called “small panel process”. Small panels are meetings between farmer, local expert (e.g., advisor) and agronomist. The role of the local expert mainly consisted of adjusting farm-specific data in such a way as to represent the situation for a group of farms. Thus farmers and advisors were firmly involved in the process of setting up typical farm models. This assures “reality-based” results, close to the true situation of organic farming. Farm models were set up using the TIPICAL model (AGRIBENCHMARK, 2007). This model covers a ten-year horizon so that the modelling of farm developments between 2003 and 2013 became possible. This time period includes the last year of national pre-accession policies and the first year with full implementation of the CAP in the new member states. The changes in the payment systems were modelled according to the information available for each study country in 2005. Main issues were the “phasing-in” of 1<sup>st</sup> pillar payments<sup>1</sup> and the introduction or, respectively, the increase of 2<sup>nd</sup> pillar payments including organic farming payments.<sup>2</sup> While variations

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<sup>1</sup> There was no final decision on the implementation of the Single Farm Payments in Slovenia beginning in 2007, at the time of this research. For detailed information on the relevant assumptions see NIEBERG et al., 2007.

<sup>2</sup> Agri-environmental payments, as part of the Rural Development Plans for the period 2007 to 2013, were still under discussion when conducting these analyses, so the assumption was that they would remain constant until 2013 compared to 2005. Only for the Czech Republic were payments for organic farming on arable land assumed to increase, beginning in 2007, according to the policy discussion in late 2005. However, marked changes in these assumptions might occur. This holds true also for many other details of the implementation of the CAP in the new member states which are still under discussion and which might be

in organic market conditions (prices as well as the share of organic products sold as organic) were explicitly excluded from the analyses, changes in general economic indicators like wages and the prices for land and other inputs were included as follows: wages were assumed to increase in line with national historical trends (3.5 - 5.9% p.a.); prices for land were taken as observed in 2004/2005 and extrapolated by the general inflation rate, from 2004/2005, for future years. This latter procedure was also implemented to simulate the increase of prices for other means of production.

Farmers were expected to react to these marked changes in the political and economic environment by adjusting the production patterns of their farms. To capture these reactions, "large/full panel" meetings were realised in all of the new member study countries. Participants included at least four to eight interested farmers, one advisor/expert, the partner as moderator, the scientist and a translator. The farm structures of the participating farmers came close to the selected typical farms. The workshops took place at the end of 2005. They consisted of three main parts: a discussion round on the perception of the impacts of EU accession at farm level, the presentation of farm-level economic impacts of the adoption of the CAP and in-depth discussion of likely adjustment reactions to the policy changes for every typical farm. The adjustment reactions finally entered into the model were thus the result of an extensive exchange of ideas between farmers and advisors, taking many different aspects and considerations into account.

### **3. Payments and income of typical organic farms**

The aim of this section is to evaluate the effect that policy changes will have on the economic performance of typical organic farms in the long run. While payments increased immediately after accession, costs will increase at lower annual rates.

The sum of payments that typical organic farmers received in 2003 and 2005, and will receive in 2013, is presented in Table 2. The payments are recalculated on a per hectare basis.

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adjusted during the coming years, so that the information on agricultural policy given here must, in some respects, be seen as provisional.

Tab. 2: Payments per hectare UAA in 2003, 2005 and 2013 on typical organic farms in the new member states

		1st pillar			2nd pillar			Total		
		2003	2005	2013	2003	2005	2013	2003	2005	2013
<b>Czech Republic</b>										
Arable farm	large	0	146	246	57	99	133	57	245	378
Dairy farm	small	4	160	246	49	103	118	53	263	364
Cow-calf farm	small	16	93	246	126	336	358	142	429	604
Cow-calf farm	medium	62	128	246	122	237	226	184	365	471
Cow-calf farm	large (1)	46	107	246	156	301	301	202	408	547
Cow-calf farm	large (2)	42	122	246	170	204	204	213	326	450
<b>Estonia</b>										
Arable farm	large	12	46	108	31	96	96	70	142	204
Dairy farm	large	20	62	114	36	79	79	63	142	193
<b>Hungary</b>										
Arable farm	small	9	113	290	54	128	144	63	241	435
Arable farm	medium	8	156	290	80	135	152	88	291	443
Dairy farm	medium	19	136	290	65	61	69	209	326	488
Dairy farm	large	13	162	290	67	69	78	100	251	389
<b>Poland</b>										
Arable farm	small	0	87	180	86	265	247	86	352	426
Arable farm	large	0	108	180	56	142	142	56	250	322
Dairy farm	small	0	102	180	73	146	146	73	248	325
Dairy farm	medium (1)	0	108	180	66	154	154	66	262	334
Dairy farm	medium (2)	0	109	180	35	94	94	35	203	273
<b>Slovenia</b>										
Arable farm	small	114	154	211	283	437	503	397	591	714
Dairy farm	small	0	33	154	264	407	407	264	440	560
Cow-calf farm	small	110	267	243	254	411	411	363	678	655

Source: own calculations based on typical farm modelling

It becomes apparent that the most important changes occurred between 2003 and 2005 as an immediate consequence of accession, with the introduction/increase of 1<sup>st</sup> and 2<sup>nd</sup> pillar payments. With the exception of Czech farms with arable land, the increase in payments per hectare between 2005 and 2013 is caused exclusively by the increase of 1<sup>st</sup> pillar payments, as 2<sup>nd</sup> pillar payments were assumed to remain constant between 2005 and 2013. It is most likely that payments for organic arable land will increase in 2007, so that Czech organic farms with arable land will gain. Other differences in 2<sup>nd</sup> pillar payments between 2005 and 2013 are caused by changes in land use at farm level. With large differences between countries, 2<sup>nd</sup> pillar payments are about as important as 1<sup>st</sup> pillar payments. This holds true particularly for 2005, when the 1<sup>st</sup> pillar payments were still at a rather

low level (maximum 60% of EU reference level including national top-ups). Generally, the level of total payments will, at least, double by 2013 although, again, there are large differences between countries and even between farms within a country.

Asked about their first experiences with the “new” Common Agricultural Policy during the “full panel” workshops, farmers stated that they had little confidence in agricultural policy, particularly as regards the receipt of promised payments. Another point of concern was the delayed transfer of payments which in many cases hinders spending. Various standards (hygiene, animal welfare and agri-environmental) were increased due to EU accession, making additional investments necessary. The increase of bureaucracy is perceived to be very time-consuming. However, there were also farmers with a rather positive perception of accession due to increased payments and the enlarged market.

With regard to the spending of additional financial resources, during the workshops farmers stated that they would invest to comply with increased production standards after EU accession, or to replace machines or renovate buildings. Another option was to buy land that was formerly rented. Spending for private purposes such as the education of children was also reported. Far-reaching adjustments of farm structure, accompanied by larger investments, were rarely mentioned. Frequently, farmers had not fully considered even the most immediate consequences resulting from policy changes after accession, so that adjustments may be lagged and decided upon in later years. Thus, essential changes in the policy framework will actually have little impact on the farms’ production structures.

For the analysis of the impact of policy changes on the economic performance of typical organic farms, it was decided to use the indicator “Family Farm Income plus Wages per Agricultural Work Unit” (FFI + W/AWU). FFI + W/AWU may thus serve as an indicator for the return for labour. This indicator allows a comparison of incomes on farms with different legal structures, which is of relevance particularly when family farms stand side by side with limited or joint-stock companies. However, this indicator has the disadvantage of underestimating income when low wage, seasonal work is relatively important, as is the case, e.g., for intensive fruit and vegetable production. The results presented here are shown before taxes. When



discussing the results, it should be borne in mind that unchanged income over the ten-year horizon would mean a decrease in real income, as income has not been deflated.

The results show that there were large differences in farm income between typical organic farms in 2003 (Table 3). No general conclusions can be drawn regarding the economic superiority of one farm type or the other in cross-country comparisons.

*Tab. 3: Development of family farm income plus wages (FFI+W/AWU) on typical organic farms in the new member states*

		2003	2005	2013
		EUR / AWU	increase by ...	% compared to 2003
<b>Czech Republic</b>				
Arable farm	large	8 476	+ 164	+ 386
Dairy farm	small	1 324	+ 303	+ 330
Cow-calf farm	small	2 867	+ 221	+ 335
Cow-calf farm	medium	27 491	+ 62	+ 76
Cow-calf farm	large (1)	17 813	+ 181	+ 280
Cow-calf farm	large (2)	10 425	+ 5	+ 113
<b>Estonia</b>				
Arable farm	large	2 891	+ 58	+ 224
Dairy farm	large	2 519	+ 58	+ 137
<b>Hungary</b>				
Arable farm	small	2 136	+ 25	+ 50
Arable farm	medium	9 433	+ 53	+ 95
Dairy farm	medium	12 980	+ 67	+ 239
Dairy farm	large	10 167	+ 48	+ 140
<b>Poland</b>				
Arable farm	small	2 553	+ 29	+ 42
Arable farm	large	6 557	+ 51	+ 57
Dairy farm	small	2 400	+ 35	+ 48
Dairy farm	medium (1)	4 490	+ 34	+ 32
Dairy farm	medium (2)	5 717	+ 83	+ 84
<b>Slovenia</b>				
Arable farm	small	4 867	+ 33	+ 152
Dairy farm	small	2 280	+ 27	+ 40
Cow-calf farm	small	956	+ 174	- 3

Source: own calculations based on typical farm modelling

Hungarian dairy farms and most of the Czech cow-calf farms perform relatively well. However, the overall level of income is much lower compared to that of Western Europe (NIEBERG et al., 2007).

With accession to the EU and the introduction of the CAP, the income of typical organic farms experienced a strong boost in all of the new member study countries (Table 3). The increase in family farm income between 2005 and 2013 is mostly due to the increase of 1<sup>st</sup> pillar payments. Compared with their colleagues in other new member states, typical organic farmers in the Czech Republic gain the most through accession in relative terms. According to these results, EU accession and the adoption of the CAP have lowest impacts on the economic performance of typical Polish and Slovenian farms.

As the increase in income is almost exclusively caused by higher subsidies, the issue of policy dependency arises. Additional calculations showed that the share of payments in gross output, in some cases, might amount to 80% or more. For most of the typical farms, it will account for between 20% and 40% of gross output in 2013 (see NIEBERG et al., 2007). Compared with the situation before accession (5 - 25%), this points to a severe increase in policy dependency for all of the study countries.

#### **4. Conclusions**

The analyses show that, due to higher subsidies, the income of typical organic farms increased markedly with accession to the EU and will increase further in the coming years. However, far-reaching changes in production structures are infrequent as farmers are very uncertain about payments and payment systems. Additional financial resources will be used mainly for re-investments in buildings and technology, but also for compliance with increased standards. The improvement of the economic situation for organic farms in the NMS will give farmers the opportunity to catch up with their Western colleagues with respect to quality standards and factor productivity, thus becoming important competitors on European markets. However, the improvement of the economic situation is associated with growing policy dependency and a high risk of policy changes.

Due to important changes in the policy system, modelling the economic performance of organic farms must remain provisional. During the modelling process, costs were assumed to increase at overall inflation rates until 2013, but costs for agricultural inputs might increase at even higher rates if agricultural subventions were to be

shifted over to the input sector. However, organic farms would be affected less than conventional farms as they are not as dependent on external inputs. Another issue is ongoing discussions about the future of the CAP payment system. These discussions may serve as proof of the potentially high policy risk for farmers. A third factor is the future development of organic markets. The results presented have been obtained under the assumption that organic markets will remain largely unchanged yet, in the face of growing support for organic farming, increasing conversion rates are likely, thus enhancing supply. The questions are (1), whether policy makers will be successful in creating the institutional framework for prospective development of the market side and (2), whether the organic sector will succeed in improving processing and marketing facilities, as well as domestic demand, thus creating a counterweight on the demand side.

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