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# IMPACT OF THE 2003 CAP REFORM ON ORGANIC FARMING IN GERMANY

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## **Abstract**

The financial performance of organic and conventional farming is highly influenced by the EU direct payment policy. While organic farms receive considerable support from agri-environmental programmes, the design of the first pillar put organic farming at a disadvantage in the past. The 2003 CAP reform has changed this situation particularly by decoupling direct payments and reducing price support. This paper has therefore the aim to identify and assess the impact of the CAP reform on the relative profitability and production structure of organic farms in Germany. The statistical analysis of FADN data from the years 2003/04 and 2006/07 suggests that differences in payments from the first pillar decreased, affecting positively the relative profitability of organic farms. A survey among German organic farmers revealed however that only a minority attributes substantial changes in profits to the CAP reform and decoupling, respectively. The outcomes of this investigation suggest that organic farmers still require more specific information and advice in order to use the new possibilities given through decoupling.

**Key words:** organic farming, decoupling, relative profitability, CAP Health Check

**JEL Classification:** Q18

## **Introduction**

The financial performance of organic and conventional farming is highly influenced by the direct payment policy of the EU Common Agricultural Policy (Häring and Offermann, 2005). While organic farms receive considerable support from agri-environmental programmes, the design of the first pillar put organic farming at a disadvantage in the past. The 2003 CAP reform has changed this situation by decoupling direct payments and reducing price support. In Germany, a transitional decoupling scheme has been implemented in 2005 which will be transferred stepwise into a regional Single Farm Payment (SFP) model by the year 2013. In the last years, a number of studies estimated that the CAP reform could reduce some of the unfavourable elements of the CAP depending on the national implementation of the reform (Offermann, 2002; Offermann and Nieberg, 2006; Schmid and Sinabell, 2007). Against this background, this paper aims to identify and assess quantitatively the present impact of the reform on the relative profitability and production structure of organic farms in Germany using book-keeping records from the German Farm Accountancy Data Network (FADN) as well as results from an extensive farm survey as empirical base.

## **CAP reform in Germany**

In 2003, the EU decided to fundamentally reform the CAP. Key elements of the reform were the decoupling of direct payments via a Single Farm Payment, the linkage of this payment to agricultural and environmental standards and the revisions of the market policy of the CAP. The reform provided a variety of options for the national implementation, especially with respect to the design of the single payment scheme (SPS) and the degree of decoupling. In Germany, all payments were fully decoupled in 2005, with only a few exceptions (tobacco and starch potatoes). For the single payment scheme, a dynamic hybrid model was implemented in 2005. The initial values of the farm individual payment entitlements are partly based on historic receipts and partly based on regional flat rates for arable land and grassland. In Germany, 13 different regions were established for the SPS. Table 1 provides an overview of the allocation of the formerly coupled first pillar payments to the level of these entitlements. The values of these entitlements increased between 2005-2007 and will further increase in the coming years due to the inclusion of payments for the sugar market reform, the incremental payments for the third step of the dairy market reform, and the further decoupling of payments for tobacco. From 2010 to 2013, the values of the entitlements will then dynamically be transformed into pure regional flat rates. It is expected that by 2013 the regional flat rate payments for all eligible area will range from 258 to 359 €/ha, depending on the region.

**Table 1 - Decoupling scheme in Germany**

	Level of		Decoupled payments included in the	
	decoupling	coupling in percent	farm individual amount	regional amount
<i>Crop payments</i>				
Arable area premiums	100	0		X
Seed premium	100	0		X
Hops premium	75 <sup>1)</sup>	0		X
Legume crop premium	100	0		X
Tobacco premium	40	60	X	
Potato starch premium	40	60	X (25 %)	X (75 %)
Dried fodder premium	52	48	X	
Premiums for edible nuts	0	100		
Energy crops	0	100		
Protein crop premium	0	100		
<i>Livestock payments</i>				
Slaughter premium for beef	100	0		X
Slaughter premium for calves			X	
Special premium for beef	100	0	X	
Suckler cow premium	100	0	X	
Extensification premium for beef	100	0	X (50 %)	X (50 %)
Milk premium	100	0	X	
Ewe premium	100	0	X	

1) 25 % of the premium volume is given directly to hops producer associations.

Source: Own presentation based on BMVEL (2005)

The 2003 CAP reform included also a time schedule for a review of the agreed policy changes aiming to streamline and modernise the CAP. Based on the first experiences the EU Commission has proposed modifications of the direct aid system, market instruments and rural development policies. More specifically, the so-called Health Check (HC) of the CAP comprise of a simplification of the existing single payment schemes, further reduction of market intervention, phasing out of the milk quota regime and additional policy measures to address new challenges such as management of production risks, fighting against climate change, more efficient management of water and the use of bioenergy as well as the preservation of biodiversity.

## Methodology and data

In order to assess whether the relative financial performance of organic farms compared to conventional farming systems (i.e. the economic incentive to conversion) has already changed as a result of the implemented hybrid decoupling model, FADN data of 224 organic farms from the year 2003/04 and 2006/07 were analysed and compared with the corresponding data of conventional farms that were similarly structured. The selection of the conventional farms was carried out in accordance with a differentiated, internationally harmonised method (Nieberg *et al.*, 2007) using various natural and geographic factors, resource endowment (ha UAA, milk quotas) and general farm type as selection criteria. Family Farm Income plus wages per annual work unit

(FFI+W/AWU) were used as criteria to measure the profitability of organic and comparable conventional farms before and after the CAP reform. FFI+W/AWU is an indicator for the return for labour that allows a comparison of the incomes of farms with different legal forms. This is of relevance especially in the Eastern part of Germany, where a relatively high share of farms is managed as Limited or Joint stock companies.

To get a deeper understanding of the impact of the undertaken policy changes on farm profitability, 3000 organic farmers were surveyed. The farm sample was based on a random selection. In total, 915 returns were included in the analysis which corresponds to approximately 5% of all organic farms in Germany. Besides a financial assessment the survey asked also for possible changes on the farm in response to the CAP reform. A combination of closed questions (partly multiple choice and scale type questions) and open questions was used. In addition, respondent had the possibility to add comments and provide additional information.

## Results

### *Impact of decoupling*

As indicated in Table 3, first pillar direct payments increased on organic and comparable conventional farms between 2003/04 and 2006/07. This increase is mainly a result of the inclusion of the milk premium into the SFP as well as due to the larger farm size and the fact that more area is now eligible for direct payments. While organic farms and comparable conventional farms obtain similar receipts from the single payment scheme, the latter one are much more affected by the “reduction” of coupled direct payments. This results in a relative plus of 1000 EUR for organic farms.

An increase of first pillar direct payments can also be observed for different farm types (see Figure 1). Not surprisingly, the increase is particularly high for specialist dairying farms due to the introduction of dairy premiums and the eligibility of grassland for payment entitlements, while arable farms receive only slightly more direct payments. In the year 2003/04, differences in first pillar direct payments between organic and comparable conventional farm types varied between 2% (arable farms) and 35% (dairy farms). Two years after the introduction of the SFP, the difference decreased on organic arable, dairy and mixed farms. Organic mixed farms received on average even higher direct payments compared to their conventional counterparts, which is mainly due to the fact that these farms have substantially more clover leys in their rotation (that are now eligible under the single payment scheme). In absolute terms, the greatest differences exist between organic and comparable conventional dairy farms; i.e. for those farms that have an especially high share of the SFP determined on the basis of farm individual historical reference premiums. Under the “old CAP” this difference was mainly due to the fact that (comparable) conventional dairy farms received more headage premiums (larger number of beef cattle) and crop premiums (more crops that were eligible for direct payments) which is still mirrored in the current level of the

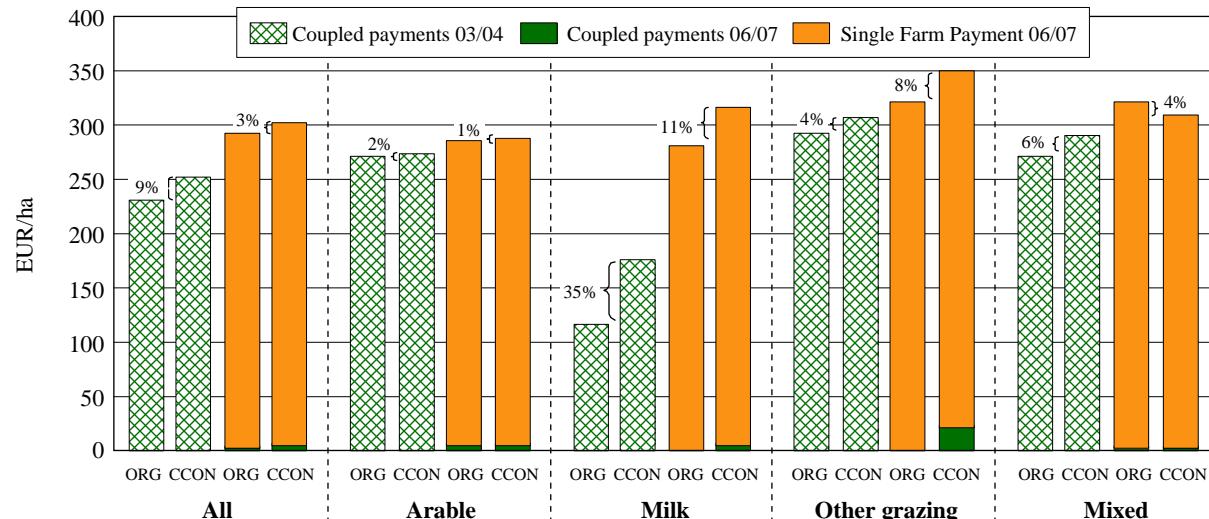
SFP. The existing difference will however decrease after the introduction of the regional flat rate. Since the main part of organically managed farms in Germany belong to this farm type, this fact is particularly relevant for the average profitability of organic farming. One may assume that, compared to (comparable) conventional farms, relatively more organic farms will experience an increase in value of their payment entitlements after the introduction of the regional flat rate.

**Table 3 - Comparison of farm accountancy data from organic and comparable conventional farms before and after the implementation of the CAP reform 2003**

		Organic farms			Comparable conv. farms		
		2003/04	2006/07	Difference	2003/04	2006/07	Difference
<b>Number of farms</b>	N	224	224	-	224	224	-
<b>Working Units</b>	AWU	2,0	2,0	0,0	1,8	1,8	0,0
<b>Land use</b>							
Total Utilised Agricultural Area	ha	77	79	2	76	78	2
Grassland	ha	27	28	1	20	20	0
Arable land	ha	50	51	1	55	57	2
<b>Revenues</b>							
Output from agr. production	EUR	88'024	109'011	20'987	89'866	101'925	12'059
Total direct payments	EUR	42'234	46'003	3'768	29'288	31'527	2'238
Organic area payments	EUR	10'016	12'883	2'867	0	0	0
Single Farm Payment (SFP)	EUR	0	22'803	22'803	0	23'170	23'170
Coupled payments (CP)	EUR	17'741	297	-17'444	19'333	509	-18'824
Net balance (SFP+CP)	EUR	-	-	5'359	-	-	4'346
<b>Prices</b>							
Cereals	EUR/kg	305	328	23	112	106	-6
Potatoes	EUR/kg	365	448	83	152	179	27
Milk	EUR/kg	0.34	0.36	0.02	0.30	0.30	0.00
Beef	EUR/Head	1018	1140	121	886	1033	147
Fattening pigs	EUR/Head	207	240	34	124	134	11
<b>Production costs</b>							
Total variable costs	EUR	45'451	55'396	9'945	55'163	62'066	6'903
Feeding costs	EUR	9'153	10'231	1'077	16'465	19'995	3'530
Personnel costs	EUR	14'868	17'594	2'726	9'212	9'683	471
<b>Income</b>							
Family Farm Income (FFI)	EUR	29'760	43'701	13'941	20'802	31'328	10'526
FFI plus wages per working unit	EUR/AWU	20'318	27'905	7'587	15'295	21'393	6'098

Source: Own calculations based on German FADN data

**Figure 1 - Changes in first pillar direct payments for different farm types<sup>1</sup>**



Source: Own calculation based on German FADN data.

As indicated in Table 1, the Family Farm Income plus wages per agricultural work unit increased on average by approximately 7500 EUR on organic farms and 6000 EUR on comparable conventional farms. As described above, the decoupling of direct payments contributed to this development – but it is not the only reason for higher average profits on organic farms. Absolute profits increased between 2003/04 and 2006/07 also due to higher producer prices (potatoes, cereals, milk, and pork meat) and higher organic area payments. The relative profitability of organic farms improved besides decoupling as a result of higher price premiums (potatoes, milk, and pork meat), higher organic area payments and a lower increase of fodder costs.

Furthermore, the calculation points out that neither organic nor comparable conventional farms have substantially changed their farm structure as a result of the decoupling of direct payments. The farm size increased on average by 2.0 ha (organic farms) and 1.8 ha (comparable conventional farms), respectively. Minor changes can also be observed with respect to the number of livestock kept on the farms and the labour input per farm. The only small changes are probably due to the fact that the CAP reform was implemented just two years ago.

### *Farmers' perspective*

While the comparison of FADN data from 2003/04 and 2006/07 revealed that decoupling had in general a positive impact on the profitability of organic farms in Germany, results of the farm survey suggest a different view. A direct comparison of the FADN data

<sup>1</sup> Sample size: All (n=448), Arable (n=122), Milk (n=194), Other Grazing (n=34), Mixed (n=72) – each with 50% organic and 50% comparable conventional farms. Farm groups with less than 15 farms were not included in the figure.

and the survey data is however difficult due to structural differences in both samples<sup>2</sup>. According to the survey results only 11% of the organic farmers think that decoupling has had a positive impact on their farm profits (see Table 5). Every second farmer stated that profits have not changed as a result of the single payment scheme. The share of farmers with constant profits is particularly high among organic arable (61%) and pig & poultry farmers (62%). According to the survey results, dairy farmers have experienced most frequently a positive effect (23%) of decoupling. This could be due to the fact that compensation payments for lower intervention prices for dairy commodities were included in the SFP as well as that dairy farms have a very high share of their SFP determined on the basis of historical receipts.

**Table 5 - Farmers' assessment of the impact of decoupling on farm profits**

	All	Arable	Dairy	Other Grazing	Granivores	Mixed	Others
Numer of farms	<b>850</b>	195	169	284	34	98	70
Percentage of farms							
Profit increased	<b>11</b>	8	23	9	6	8	4
Profit decreased	<b>27</b>	23	17	43	15	22	10
Profit did not change	<b>50</b>	61	47	42	62	56	40
Don't know	<b>12</b>	8	12	6	18	13	46

Though a concrete example was given the question on the financial impact of decoupling was certainly not easy to answer. In order to assess properly the decoupling effects, detailed economic farm data are needed. Since the number of part-time farmers is relatively high in the survey sample, this was probably not always the case. For this reason, one may assume that a number of farmers were not able to distinguish the decoupling effects from other policy or market changes.

As indicated in Table 6, 65% of the organic farmers surveyed stated that they have not yet changed their farm in response to the introduction of the single payment scheme. The share is particularly high for organic dairy farms (77%). Not surprisingly, the survey results suggest that particularly farms with more than 200 ha UAA changed their farm structure or farm organisation (57%), while the opposite is the case for farms with less than 10 ha UAA (25%). Consequently, it can be assumed that the adaptation pressure is particular high for large farms. Another explanation would be that farm managers of large farms have dealt more with the subject than others. The opposite is probably true for small holdings that are mainly managed as part-time farm. Furthermore, only 20% of all farms intend to adapt their farm in the coming years. Thus, the majority of farms (54%) do not see any need for changes as a consequence of CAP reform. On the other hand, one may critically question whether the majority farmers have already sufficiently identified the new possibilities given through decoupling. On the

<sup>2</sup> For example, 49% of the farmers who participated in the survey stated that they are part-time farmers. By contrast, the FADN sample comprise of only 9% part-time farmers.

other hand, technical constraints could also be a reason why the greater part of farmers is currently not intending to response to the changes in the direct payment system.

**Table 6 - Farmers' response whether changes were made on the farm following the decoupling of direct payments**

	All	Arable	Dairy	Other Grazing	Grani vores	Mixed	Others
Numer of farms	<b>883</b>	201	171	289	35	98	89
Percentage of farms							
Changes made	<b>35</b>	34	23	40	43	40	31
No changes made	<b>65</b>	66	77	60	57	60	69

Those farmers who stated that they adapted their farm in response to decoupling changed in most cases the level of individual production activities. Furthermore, a number of farmers stated that they increased their off-farm activities or are now more involved in direct marketing. In general, it is not possible to identify a general adaptation pattern. Instead, partly contrasting answers were given. For example, 17% of the farmers stated that they decreased the number of suckler cows while 12% did the opposite. A similar contrasting result concerns changes of cereal production. According to the survey results, 17% of the respondents increased and 11% of the respondents decreased their cereal production. Again, one may assume that a number of farmers stated what kind of changes they made in the last two years which however were not necessarily related to the decoupling of direct payment.

The survey contained also a number of questions that addressed issues of the current Health Check proposal. The EU Commission proposed for example a modification of the existing modulation scheme. According to the results of the survey the majority of the farmers surveyed would agree to a capping of single payments for large farms and a transfer of funds from the first to the second pillar. However, to sound a critical note, most of the farmers who agreed would probably not be affected by the proposal. In this connection, it is not a surprise when the lowest acceptance for this proposal can be observed among large farmers (21%, respectively), i.e. among those farmers who would mainly be affected.

## Conclusion

The 2003 CAP reform changed substantially the policy environment for organic and conventional farms. Farm accountancy data of the German FADN suggests that the decoupling of direct payments has generally been favourable for organic farms. As a result of the hybrid decoupling scheme, absolute and relative profitability of organic farms increased compared to comparable conventional farms. It is expected that the benefits for organic farms will even further increase when the existing hybrid decoupling model will be changed to a pure regional flat rate. The question whether organic farms are more profitable than (comparable) conventional farms will however also strongly depend on other factors such as

changes in farm-gate prices. In this connection, it would be interesting to monitor the effects of the current rise in prices for food and fibre on the relative profitability of organic farming in Germany.

Results from the farm survey suggest that farmers have probably not yet fully internalised the changes resulting from the reform and therefore are not always aware of the specific economic consequences. For this reason, one may assume that adjustments will be lagged and decided on within the coming years. Thus, the outcomes of this investigation suggest that organic farmers still require more specific information and advice in order to use the new possibilities given through decoupling. In doing so, it would be necessary to consider the technical constraints of organic farming systems and the large number of part-time farmers that have presumably less capital and time to adapt their farm.

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