

Reversion from organic to conventional agriculture in Germany

SANNA HEINZE¹, ALEXANDER VOGEL²

Key words: Abandonment, Germany, organic agriculture, reversion

Abstract

Organic farming has become increasingly important in Germany in recent years. This is reflected in the positive trend shown by the total number of organic farms. Analyses which are based on official agricultural statistics show, however, that there is an underlying counter-trend of farms that leave the organic sector by reverting back to conventional methods. Between 2007 and 2010 1,258 German organic farms returned to conventional agriculture.

Introduction

The number of organic farms in Germany nearly doubled within the last decade. What is not shown by official statistics is the dynamic hidden behind this pure net increase. In practice an underlying counter-trend can be recognized: farms leave the organic sector and turn back to conventional methods.

But literature shows only few studies concerning the abandonment of organic farming (e.g., Schneeberger et al. 2002, Sauer and Park 2009, Läßle 2010). Heinze and Vogel (2012) examined reversion behavior of German organic farms between 2007 and 2010. Latest results for Germany are provided by Kuhnert et al. (2013).

This paper aims to offer an overview on how many and what types of farms actually abandon organic farming in Germany. Probit-estimations are used to identify indications for determinants of reversion from organic to conventional agriculture.

Material and methods

Analyses are based on micro data of the official statistics on German agriculture, which are available for scientific research in the Research Data Centres of the Federal Statistical Office and the statistical offices of the Länder. Data of the farm structure surveys 2003 and 2007, as well as the agricultural censuses 1999 and 2010, have been linked over the years, so that farms can be tracked over the entire period at an individual operational level. Hence, the panel allows detailed longitudinal analysis of the agricultural sector and provides comprehensive information concerning land use, livestock and structural conditions of German farms.

Descriptive statistics are used to give an overview of farms abandoning organic production methods. Moreover, probit-estimations reveal first determinants for the reversion from organic to conventional agriculture. For this purpose farm characteristics and regional factors of 2007 serve as independent variables to explain production methods applied in 2010.

Results

According to publications of official statistics, the number of organic farms in Germany rose from 13,838 in 2007 to 16,532 farms in 2010. This corresponds to an increase of 19 percent. While standard publications do not disclose any information on the underlying gross trends, micro data analyses of Heinze and Vogel (2012) show that 1,258 farms which were operating organically in 2007 had returned to conventional methods by 2010. This means that between 2007 and 2010 an annual average of 419 organic farms gave up organic methods in order to become conventional. Moreover, 792 farms were not in the data set anymore in 2010 for several reasons (farm left the market, farm dropped beneath the threshold of coverage, farm merged with another one, farm transferred its headquarters to another state).

Regional analyses of reversion reveal that there are widespread differences across Germany: the highest share can be found in the administrative region of Cologne, where almost every fifth organic farmer returned to conventional agriculture between 2007 and 2010. But also in Thuringia, the eastern parts of Bavaria, Saxony and Hesse as well as the western regions of Rhineland-Palatinate and Baden-Wuerttemberg, more

¹ Thuenen Institute of Farm Economics, Germany, www.ti.bund.de, e-Mail: sanna.heinze@ti.bund.de

² Statistikamt Nord, Germany, www.statistik-nord.de, e-Mail: alexander.vogel@statistik-nord.de

than one out of ten organic farms became conventional by 2010. In absolute terms most reverting farms could be found in the administrative regions of Oberbayern (196 farms), Freiburg (100 farms) and Kassel (71 farms). Exceptionally low reversion rates prevail in the city states (0%) and in the former administrative region of Dessau in Saxony-Anhalt (1.9%), where, however, the total number of organic farms is rather small.

Probit-estimations of the data set were carried out separately for eastern and western Germany, as there are still differences in farm structure between the regions more than 20 years after the German reunification. The results show that experience gathered in organic farming and a higher share of organically cultivated land on the farm negatively impacted reversion to conventional farming. The existence of organically reared livestock shows a negative influence on abandoning organic farming methods, too. A higher share of grassland, however, increases the likelihood of reversion. In western Germany, additionally, a higher number of people employed on the farm, as well as the fact that the farm is run on a subsidiary basis, positively impacts reversion. In eastern Germany a higher share of organic farms in the district has a negative influence on reversion (for detailed results see Heinze and Vogel, 2012).

Discussion

In conclusion it can be stated that despite of the growing organic sector in Germany, there does exist an underlying counter-trend of organic farms reverting to conventional methods. For the organic sector it is relevant to know the differences between farms that continue organic farming and farms that leave the organic sector. In this regard probit estimations reveal first indications: Experience gathered in organic farming positively impacts on the continuation of organic farming. A larger share of fully converted land and the existence of organically-reared livestock also decrease the likelihood of reversion to conventional methods, while a higher proportion of permanent grassland shows a negative impact on the continuation of organic farming.

However, analyses could not consider economic factors due to a lack of data. In addition it remains unclear, if farmers revert permanently or if they get back to organic farming at some point in the future. Further research is required here.

Note

Previous analyses will be extended until the conference by including recent data of the farm structure survey 2013, which will be released in spring 2014. Hence, analyses cover a period from 1999 until 2013. Moreover, probabilities of occurrence and duration until reversion back to conventional agriculture will be estimated for German organic farms for the first time by using event history analysis (for methodological background information see, e.g., Blossfeld et al. 2007 and Läßle 2010).

References

- Blossfeld H-P, Golsch K & Rohwer G (2007): Event History Analysis with Stata. Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc.
- Heinze S & Vogel A (2012): Ökologischer Landbau in Deutschland – Zu den Bestimmungsgründen von Umstellung und Rückumstellung. *Berichte über Landwirtschaft* 90 (3), p. 467-489.
- Kuhnert H, Behrens G, Hamm U, Müller H, Nieberg H, Sanders J & Strohm R (2013): Ausstiege aus dem ökologischen Landbau: Umfang – Gründe – Handlungsoptionen. Braunschweig: Johann Heinrich von Thünen-Institut, Thünen Rep 3.
- Läßle D (2010): Adoption and Abandonment of Organic Farming: An Empirical Investigation of the Irish Drystock Sector. *Journal of Agricultural Economics*, Vol. 61, No.3, p. 697-714.
- Sauer J & Park T (2009): Organic Farming in Scandinavia – Productivity and Market Exit. *Ecological Economics* 68 (2009), p. 2243-2254.
- Schneeberger W, Schachner M & Kirner L (2002): Gründe für die Aufgabe der biologischen Wirtschaftsweise in Österreich. *Die Bodenkultur* 53 (2), p. 127-132.

