The market for organic products: issues and prospects

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Goals and outline

Goal:
- To present facts and issues concerning organic products on the production side
- To discuss some related policy issues

Outline:
- Some facts about organic production in the EU
- Characteristics of organic farms
- Determinants of the choice of going organic
- Policy issues
Organic farming definitions

- “a form of agriculture that excludes the use of synthetic fertilizers and pesticides, plant growth regulators, livestock feed additives, and genetically modified organisms. As far as possible, organic farmers rely on crop rotation, green manure, compost, biological pest control, and mechanical cultivation to maintain soil productivity and control pests” (Wikipedia)

- “Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved.” (IFOAM)
Organic farming definitions

- “Organic farming differs from other farming systems in a number of ways. It favours renewable resources and recycling, returning to the soil the nutrients found in waste products. Where livestock is concerned, meat and poultry production is regulated with particular concern for animal welfare and by using natural foodstuffs. Organic farming respects the environment's own systems for controlling pests and disease in raising crops and livestock and avoids the use of synthetic pesticides, herbicides, chemical fertilisers, growth hormones, antibiotics or gene manipulation. Instead, organic farmers use a range of techniques that help sustain ecosystems and reduce pollution.” (EU Commission website)

- “organic agriculture is an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain and enhance ecological harmony” (NOSB, USDA 1995)
Some facts about organic agriculture

The organic agriculture surface area in the World (2006)
Some facts about organic agriculture

- almost 30.4 mio ha, 0.65% of agricultural land (2006)
- 700,000 farms
- countries with largest organic areas:
  - Australia (12.3 mio ha)
  - China (2.3 mio ha)
  - Argentina (2.2 mio ha)
  - USA (1.6 mio ha)
- highest proportion of organic area in Europe
- permanent grassland about two thirds, cropland one third

- total sales of organic products evaluated at 38.6 billion dollars in 2006 (18 billion in 2000)
- North America and Europe cover 97% of consumer demand

Organic agriculture in Europe

- Organic farming is still a minor share of agriculture:

- In 2005, in the EU-25, 6.1 mio ha (4% of the UAA, 3.7% in 2003)

- Largest share of organic over total UAA in Austria and Italy

Figure 1: Organic area against total Utilised Agricultural Area in %, 2003/2005

Sources: Eurostat Organic Farming Statistics; Farm Structure Surveys
Share of organic area even more different at a regional level

Source: European Commission Organic farming: facts and figures, 2005
Most important shares out of total EU organic area are:

- Italy
- Spain
- Germany
- UK
An increasing trend in total organic area in the EU
- 158,000 producers in 2005 (EU-25)
- 1.6% of agricultural holdings
- Austria, Denmark, Finland with the largest shares
Turnover of organic products on the European market evaluated at 13-14 billion Euro in 2005 (+10% relative to 2004)

- most important markets:
  - Germany (3.9 bill.)
  - Italy (2.4 bill.)
  - UK (2.3 bill.)
  - France (2.2 bill.)

- per capita expenditure different across countries

- highest in:
  - Denmark (€ 51/year)
  - Sweden (€ 47/year)
  - Germany (€ 42/year)
  - Finland (€ 38/year)

Source: Fibl-IFOAM
Characteristics of organic agriculture

- average size larger than conventional farms

Source: European Commission Organic farming: facts and figures, 2005
Characteristics of organic agriculture

-labour employed per area lower than conventional agriculture in most EU countries

Source: European Commission Organic farming: facts and figures, 2005
Characteristics of organic agriculture

- large average size and low labour input mostly depend on crop types
- grassland and fodder account for a large part of organic area

Source: European Commission Organic farming: facts and figures, 2005
Characteristics of organic agriculture

- few general data on organic farm characteristics
- specific investigations required
- a total survey of organic farms in Piedmont 2006
- information included general farm characteristics, prices and marketing channels, intentions and opinions
Characteristics of organic agriculture

- organic farms 1.4% of total regional number

- total UAA of organic farms 3.4% of total regional UAA

- much processing on the farm (31%) and other activities (17%)

- different allocation of land compared to overall region
Allocation of land

Among organic farms, compared to overall region:
- more pasture and meadows
- more permanent crops
- less cereals, industrial crops, forage crops

Shares on total UAA of organic farms
Piedmont

- Pasture and meadows, 42.6
- Cereals, 31.6
- Industrial crops, 4.6
- Permanen crops, 13.6
- Forage crops, 6.1

Shares on total UAA of overall Piedmont

- Cereals, 39.0
- Pasture and meadows, 37.9
- Industrial crops, 5.0
- Permanen crops, 9.3
- Forage crops, 7.4
Farm size: organic vs. overall
- high share of small size farms, but average size higher than the regional one (22.3 vs. 8.8 ha)
- organic farming no more based on small, committed farmers
Farm economic size

Breakdown of # of organic farms by sales classes (%)

- 0.5k: 41.0%
- 5k-10k: 16.9%
- 10k-20k: 13.5%
- 20k-50k: 13.2%
- 50k-100k: 6%
- 100k-200k: 5.2%
- >200k: 4.1%
Farm economic size

Breakdown of total sales of organic farms by sales classes (%)

<table>
<thead>
<tr>
<th>Sales Class</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5,000</td>
<td>2.1</td>
</tr>
<tr>
<td>5,000-10,000</td>
<td>3.5</td>
</tr>
<tr>
<td>10,000-20,000</td>
<td>5.6</td>
</tr>
<tr>
<td>20,000-50,000</td>
<td>11.8</td>
</tr>
<tr>
<td>50,000-100,000</td>
<td>12</td>
</tr>
<tr>
<td>100,000-200,000</td>
<td>21.8</td>
</tr>
<tr>
<td>&gt;200,000</td>
<td>43.1</td>
</tr>
</tbody>
</table>
### Types of farming and specialization

<table>
<thead>
<tr>
<th>Category</th>
<th>Organic</th>
<th>Piedmont</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialized</td>
<td>76.8</td>
<td>83.2</td>
</tr>
<tr>
<td>Permanent crops</td>
<td>32.7</td>
<td>36.6</td>
</tr>
<tr>
<td>Annual crops</td>
<td>12.9</td>
<td>24.6</td>
</tr>
<tr>
<td>Vegetables</td>
<td>5.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Herbivores</td>
<td>6.4</td>
<td>19.4</td>
</tr>
<tr>
<td>Processed products</td>
<td>13.2</td>
<td>-</td>
</tr>
<tr>
<td>Mixed</td>
<td>23.2</td>
<td>16.8</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Breakdown of value of production

- crops and processed products most important
- permanent crops the largest part of crop sales (39%), then cereals (33%)
- wine the largest part of processed products (58%)

 Shares over total sales

- Crops 55%
- Processed products 25%
- Animal products 20%
Value of production

- among single categories, the most important are permanent crops (21%), cereals (18%), wine (15%)

- overall, production of organic farms is 1.5-2% of regional value of production

- organic production sold as such is 1-1.6% of regional value of production

- lower share for animal production
Marketing chains

Outlet of organic production:

- sold as conventional
Marketing chains

Outlet of organic production:
- sold as conventional
- sold as organic:
  - on the farm
  - on farmers’ markets
  - on the Internet
  - home delivery
  - wholesale
  - co-operatives
  - large-scale distribution
  - specialized shops
  - restaurants

short chain

“traditional chains”

specialized chain
Sales as organic product

- % organic sold as organic different across products
- overall, 77% of the value of organic plant production sold as such
- low share for permanent crops (wine grapes)
Sales as organic product

-Lower share for animal prod. (73%), specially due to pork.
Sales as organic product

- largest shares among processed products (but overall 74%, due to processed meats, dairy and dry fruit prod.)

<table>
<thead>
<tr>
<th>PROCESSED PRODUCTS</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products from herbs</td>
<td>74%</td>
</tr>
<tr>
<td>Vegetal preserves</td>
<td>99%</td>
</tr>
<tr>
<td>Processed cereals</td>
<td>99%</td>
</tr>
<tr>
<td>Altri</td>
<td>96%</td>
</tr>
<tr>
<td>Wine</td>
<td>85%</td>
</tr>
<tr>
<td>Processed meats</td>
<td>73%</td>
</tr>
<tr>
<td>Dairy products</td>
<td>51%</td>
</tr>
<tr>
<td>Dry fruit products</td>
<td>44%</td>
</tr>
</tbody>
</table>

![Bar chart showing sales as organic product by type of product.](chart.png)
Marketing chains

-Distribution by marketing chain differentiated by categories and products

- Differences among outlet in short, specialized or “traditional” chains mostly depend on the nature of the product, but may also depend on marketing skills and market structures
Marketing chains: shares of sales

Cereals
- 98% Traditional
- 2% Short
- 0% Specialized

Potato and vegetables
- 56% Traditional
- 39% Short
- 5% Specialized

Permanent crops
- 90% Traditional
- 9% Short
- 1% Specialized
Marketing chains: shares of sales

**Plant products**
- Traditional: 89%
- Specialized: 9%
- Short: 2%

**Animal products**
- Traditional: 82%
- Specialized: 11%
- Short: 7%

**Processed products**
- Traditional: 39%
- Specialized: 34%
- Short: 27%
Main issues for future prospects of organic farming: the choice to go organic

- farmers’ choice to go organic depends on:
  - personal beliefs
  - economic considerations:
    - change in revenues vs. change in costs

- revenues:
  - yields -> technical problems
  - prices -> premium price & outlet
  - subsidies

- costs:
  - production costs -> technical problems
  - certification costs
What organic farmers perceive

Main **critical issues** stated by organic farmers:

- outlet problem predominant (28%), and consequently, low prices (25%)

- technical difficulties (15%) and high costs (13%) less important

- bureaucratic burden for certification (16%) also non determinant
What organic farmers do: why do they sell organic as conventional?

Reasons for selling organic as conventional:

- outlet problem predominant (84%)
- conversion stage (3%)
- low profitability (7.5%), both for low prices and for certification costs
Producer price premium

• Prices are an obvious determinant for going organic
• What is the price premium for organic products?
• An hedonic price estimation of producer price of organic wine
• hedonic price equations for organic and conventional wine starting from the production side, i.e., from the characteristics of the farms and of the wines
Producer price premium

- Organic wine producers also grow conventional grapes
- Average prices, based on descriptive statistics, of organic and conventional wine are not significantly different
- Explanatory variables in the hedonic price equation include appellations, grape variety, organic grapes, operator and farm characteristics
• the results would suggest a 23% premium
• but separate estimation of price eqns. shows that the variables differently affect conventional and organic wine prices
• this suggests that there may be different farm and operator characteristics that make more or less profitable to go organic
• important for predicting future development of organic farming
• Remark: farm specialization positively affects price
Main issues for future prospects of organic farming: **outlets and subsidies**

**Reasons for intention of quitting organic**
(18% of surveyed farmers)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No more subsidies:</td>
<td>31%</td>
</tr>
<tr>
<td>Low profitability:</td>
<td>24%</td>
</tr>
<tr>
<td>Lack of outlets:</td>
<td>17%</td>
</tr>
<tr>
<td>Technical difficulties:</td>
<td>10%</td>
</tr>
<tr>
<td>Bureaucratic burden:</td>
<td>11%</td>
</tr>
<tr>
<td>Other:</td>
<td>3%</td>
</tr>
</tbody>
</table>
Main issues for future prospects of organic farming: outlets and subsidies

Reasons for having quit organic
(11% of surveyed farms)

- No more subsidies: 57%
- Lack of outlets: 14%
- Certification costs: 9%
- Technical difficulties: 5%
- Bureaucratic burden: 3%
- Personal reasons & other: 12%

(54% would come back if conditions change, specially those indicating end of subsidies)
Future prospects of organic farming and policy issues

- These results suggest
  - turnover and structural change of the industry
  - strong effect of subsidies

- subsidies to organic farming have the effect of dividing farmers’ choice into two issues:
  - going organic -> process certification -> affected by subsidies, revenues and costs
  - selling organic -> product certification -> affected by certification costs, by premium on organic certified product, and by outlets
Future prospects of organic farming and policy issues

- Research should try and disentangle these different choices (not relevant for countries where organic is not subsidized)
- this draws in
  - certification and relevant costs
  - policies
Future prospects of organic farming and policy issues

- Product certification copes with information asymmetry, but different possibilities:

  • Public branding (EU, member states, regional authorities)
  
  • Collective branding (associations, consortia)
  
  • Private branding
    • Retailer’s brand
    • Producer’s brand
    • Certification body’s brand
Future prospects of organic farming and policy issues

- Certification by private associations and by firms came first
- Increasing trend in creating private labels by large retail
- EU Standard for Organic food: Reg. EC 2092/91 (general) and Reg. EC 1804/1999 (main domestic animal production)
- New regulation EC 834/2007 to be enforced as from 2009
- Research on the effects of labels and certification scarce in Europe
Future prospects of organic farming and policy issues

Why should public bodies intervene on organic?

- From a public decision-maker perspective, organic farming is relevant because of positive externalities (decrease of negative externalities)
- this effect is partly paid by consumers, partly (where subsidies exist) by taxpayers
Future prospects of organic farming and policy issues

Public decision-makers have two interests:

- to match as much as possible consumers’ willingness to pay with producers’ willingness to sell (let the market produce the externality as much as possible!)

- to subsidy farmers for the real externality produced, for the remaining market failure
Future prospects of organic farming and policy issues

To help matching demand and supply:

- regulations and labels

- help to organize and concentrate supply
Future prospects of organic farming and policy issues

Remarks:
- public regulation can create inconsistencies with environmental goals
  - tendency towards commercial organic farms
  - organic = just complying with established rules?
  - specialization vs. the “spirit” of organic
  - new EU regulation insists on the “spirit”
Future prospects of organic farming and policy issues

Remarks:
- short chain and food miles as new frontiers?
  - problems with the geographical mismatch between demand and supply
- subsidies to organic farming can over- or under-compensate externalities
  - common to many environmental policies, but particularly in agro-environmental policies
Research issues:

- effects of regulations and labels on production practices

- determinants of farmers’ choice:
  - to adopt organic
    - effects of subsidies
  - to certify
    - price premium at the production level
    - effects of outlet constraints
    - certification costs

- environmental effects of organic farming
Thanks for your attention!