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A partial analysis of the fruit and vegetable sector in Austria

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Summary

With respect to the new Common Market Organisation (CMO) for fruit and vegetables, the present paper focuses on societal developments that influence the demand for fruits and vegetables, provides some basic information on fruit and vegetable production in Austria and, finally, describes the roles of Producer Organisations (PO) and retailers in Austria. The study is based on a literature review as well as on interviews with representatives of the POs. The results reveal that six Austrian POs face an increasing concentration process in the Austrian retail industry, which is important since roughly 90% of all fruits and vegetables are distributed in retail and discount outlets. Furthermore, during the last ten years the overall consumption of fruits and vegetables per capita has increased to 94 kg and 106 kg, respectively, whereas regional and organic produce have gained increasing importance.

Keywords

Fresh fruit and vegetable market, Austria, Common Market Organisation, Producer Organisations, Q13

1. Introduction

EU policies for fruit and vegetables have been adopted several times since the first introduction of a market regime in 1962. In January 2008, a new common market organisation (CMO) for fruit and vegetables came into force which placed an emphasis on "operational programmes" of producer organisations (POs). In line with the amendments to the CMO, EU member countries had to prepare national strategies representing the framework for these operational programmes. In order to provide a comprehensive background for the debate on the Austrian strategy, an analysis of the fresh fruit and vegetable market was performed. The present paper thus provides a brief summary of important data concerning production, distribution channels, foreign trade and socio-demographic factors which determine the consumption of fruit and vegetables. Providing fundamental information on the fresh fruit and vegetable market, these results may help farmers and POs to map out strategies for the future in order to remain competitive. Furthermore, the results may support policy decision makers in the elaboration and implementation of new programmes.

2. Data and Methods

The data were obtained from various sources. In addition to an extensive literature review comprising a number of surveys conducted by Statistics Austria, interviews conducted with representatives of six POs provided basic information on fruit and vegetable production in Austria and also outlined the role of POs. Based on the presented data, an assessment of strengths, weaknesses, opportunities and threats (SWOT) was conducted by an expert group that included representatives from retail, government, POs and consultancies. This SWOT analysis reflects the current situation of the fresh fruit and vegetable market in Austria, and furthermore provides a basis for identifying future strategies to keep pace with the developments in the sector.

3. General Framework

In addition to natural production conditions and the agro-political framework, ongoing structural changes in society also influence the demand for fruits and vegetables. One aspect in this discussion deals with globalisation and migration. According to data of Statistics Austria (2007a), Austria has become a country of immigration during the last decades. In this context, several studies (e.g. Klamt, 2004) show that immigrants retain their traditional food patterns and hence may influence the demand for specific fruit and vegetable varieties to a certain extent. Another aspect relates to the changing age structure within the Austrian population. As in other industrialised countries, there is evidence that an increasing average expectancy of life also affects dietary patterns. According to Elmadfa and Freisling (2003) there is a negative correlation between the age of elderly people and the daily intake of fruits and vegetables. Not only the absolute consumption of fruits and vegetables is affected, but also the ratio between varieties. For instance, with advancing age the preference for smoother fruits – such as bananas – increases as problems with the teeth and digestion become more common.

Today's society promotes new patterns of private and social life, and these also impact nutrition. For instance, traditional families are losing importance in favour of single households. As a result, the demand for convenience products in general and healthy convenience products in particular, is increasing. People also spend more time abroad, thus getting exposed to exotic flavours and dishes that become part of their daily diet. Time spent on preparing meals has been decreasing during the last decades, amongst

others as a result of new working time models. Furthermore, a new consumer awareness for social, environmental and economic processes is leading to new nutrition trends. “Sensual food,” “authentic food” and “ethno food” are only some of the keywords that fit these new trends (see Rützler, 2005). All of these developments are examples of the shifting demand for food – in general terms, but also for fruits and vegetables in detail. The introduction of convenience products, the adoption of packaging sizes for smaller households and the cultivation of new vegetable and fruit species and varieties are only some responses to the societal changes (Palme, 2005).

According to the Austrian Frozen Food Institute (2007), total sales of frozen food and ice cream increased to 212,000 tonnes (t) in 2006, equivalent to a per capita consumption of 25 kg. With a share of roughly 25%, fruit and vegetables was the most important group. And, within this group, sorted fruit and vegetable packages, intermixtures and preparations held a roughly 30% share each. In particular, the demand for preparations showed an increasing pattern, with a total sales quantity of 17,300 t in 2006 (+25% within the last five years).

In general among Austrian consumers, increased health awareness leads to a stronger preference for high quality products, such as organically produced foods. With almost 11% of all farms being organic in 2006 (BMLFUW, 2007), Austria has one of the highest ratios in the European Union. At the same time, the demand for organically produced fruits and vegetables has increased, with about 7% of total expenditures for fresh fruits and vegetables spent on organic products in 2007. The average price premium for organically produced fruits and vegetables was 65% and 21%, respectively (AMA, 2008a). As a result of this trend, some large supermarket chains started to promote their own private labels for organic products. Additionally, the aspect of regional production has gained increasing importance.

4. The Vegetable Market

The Austrian vegetable market is quite heterogeneous. On the one hand, production can be differentiated into fresh produce for direct consumption and produce for processing. On the other, there are differences between horticultural vegetable production and field vegetable cultivation, whereas the latter comprises production within the crop rotation on agricultural farms. According to the last survey conducted by Statistics Austria in 2004, roughly 2,400 producers cultivated some 10,500 hectares (ha). With almost 85% of all growers and 94% of the cultivated area, field vegetable production prevailed by far (Statistics Austria, 2005). Between 1998 and 2004, the production of most vegetables increased despite a decline in the number of producers and cultivated area by 25% and 1.2%, respectively. This development indicates a growth in productivity per ha; and, especially, vegetables cultivated under glass showed growing yields per ha as a result of improved cultivation techniques.

In 2007, the production of field and horticultural vegetables totalled 548,600 t (Statistics Austria, 2007b). With some 56% share, legumes and root vegetables were the most important sub-group; while cabbage, leaf and stem vegetables contributed 32% and “fruit vegetables” another 12% to total production. A comparison of the cultivated area and total yields of the most important varieties is provided in Table 1.

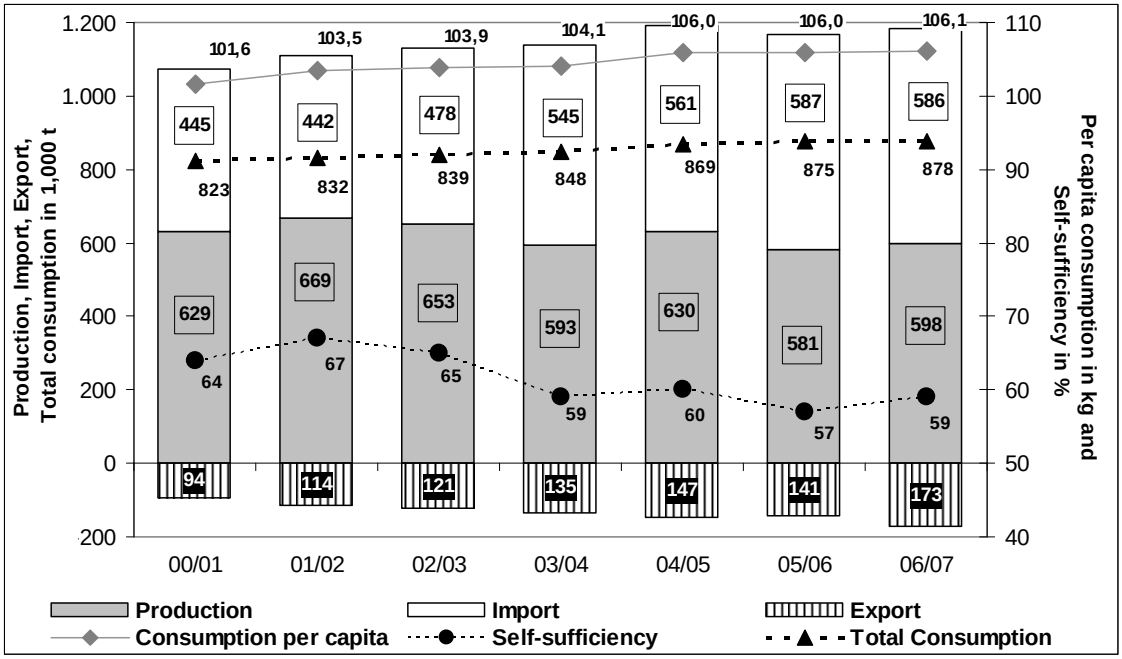
Table 1: Cultivated area (in ha) and total yield (in t) of selected vegetable varieties in Austria (including multiple harvests of field and horticultural vegetable production)

Vegetable	Cultivated area in ha			Total yield in t		
	1996	2005	2007	1996	2005	2007
Onions	1,719	2,374	2,624	70,097	102,990	97,620
Carrots	986	1,371	1,485	34,271	79,445	74,246
Lettuce	-	1,532	1,635	-	56,594	62,487
Cabbage	1,093	924	938	53,055	55,827	59,280
Tomatoes	180	184	198	18,985	35,321	44,922
Cucumbers	596	427	405	35,592	38,195	38,721
Chinese cabbage	715	545	508	30,442	24,452	28,415
Peppers	225	133	148	5,875	9,048	14,410
Celery	283	270	297	11,222	11,659	13,183
Spinach	522	437	537	7,027	9,903	12,148
Beetroots	203	182	207	6,775	8,673	10,364
Marrow	-	231	247	-	10,802	10,913
Corn, sweet	163	286	607	2,672	5,296	11,040

Source: Bader, 2007 and Statistics Austria 2007b

In general, supply balance sheets provide detailed information on the pattern of a country's food supply and utilisation during a specified reference period. Figure 1 shows a simplified summary of the vegetable supply balance in Austria. The total quantity of vegetables produced in one year added to the quantity imported and adjusted to any changes in stocks results in the supply available in one year. The utilisation side in Figure 1 is differentiated between exports and consumption. Losses during storage, transportation and processing are included. Based on these figures the consumption per capita and the level of self-sufficiency are calculated and displayed on the right axis. The balance is calculated for a single financial year (1st July - 30th June) and includes fresh produce, processed products measured in fresh weight equivalents, as well as estimates for vegetables grown in private gardens.

Figure 1: Supply balance of vegetables in Austria over several years



Source: Statistics Austria, 2007c

Fluctuations of the national production level, often caused by unfavourable weather conditions, were compensated by imports. However, rising demand for seasonal fruit and vegetable varieties throughout an entire year (e.g. strawberries, tomatoes) contributed to increased imports and resulted in a self-sufficiency rate of roughly 60%. Balancing national production, imports and exports, and taking into account losses of some 15%, this resulted in a total national consumption of 878,000 t in 2006/2007 (Statistics Austria, 2007c).

According to household surveys conducted by AMA (2008b), the trends for the volume and value of fresh vegetable purchases by households showed different patterns during the last years. Since 2004, sales value increased by 11%, reaching some € 452 million in 2007, while the volume decreased by 9% to 234,000 t. As a result, the unit value of fresh vegetable purchases rose from 1.57 €/kg to 1.93 €/kg. The most important fresh vegetables in terms of purchased quantities were tomatoes (18%), onions (16%) and carrots (13%). Other important vegetables are cucumbers, sweet peppers and iceberg lettuce, with less than a 10% share of expenditures. Compared to the development of vegetable consumption per capita derived from the supply balance, the figures seem to be contradictory. But, when taking into account that the supply balance also includes processed vegetable products (e.g. frozen vegetables), these figures indicate and verify the trend towards an increasing demand for processed vegetable products.

5. The Fruit Market

Fruit plants have been cultivated commercially in Austria for centuries. Especially in favoured areas of eastern and south-eastern Austria, orcharding contributes significantly to the value added of agricultural production. Within the last years, fruit consumption has increased to some 94 kg per capita (Statistics Austria, 2007c), but only roughly two-thirds is covered by national production. As a result of the increasing demand for citrus and exotic fruits, imports have risen, and have influenced the trade balance. In 2007, total fruit imports amounted to some € 580 million, or almost four times the value of exports.

Fruits are produced either in commercial plantations or in less extensive orchards that are often attached to agricultural farms. In some regions the latter gained importance for the production of cider and apple juice, but market production originates predominantly from commercial plantations. Hence, the following figures concentrate on these plantations (see Table 2). The figures were derived from the survey of commercial fruit plantations, which Statistics Austria conducts every five years.

Table 2: Number of farms and area of commercial fruit plantations in Austria, 2002 and 2007

Fruit plantation	2002		2007	
	Number of farms	Area in ha	Number of farms	Area in ha
Apple	2,755	6,952	2,391	7,229
Pear	1,320	470	1,191	506
Cherry	579	171	594	241
Sour cherry	283	51	265	37
Plum	1,311	402	1,113	355
Peach	1,061	280	933	211
Apricot	1,123	470	1,207	594
Strawberry	436	1,087	429	1,296
Black currant	271	213	196	156
Raspberry	287	143	264	157

Source: Statistics Austria 2003 and 2008

Comparisons with the previous survey (2002) reveal concentration processes in effect, as the number of farms decreased and the number of trees per unit area increased. In 2007, roughly 4,200 enterprises (-8%) ran commercial fruit plantations on an area of 11,600 ha (-3%), while the number of fruit trees rose by 14% to 24.7 million. Most farms cultivate plantations between 0.5 and 1 ha. The figures in Table 2 underline the importance of pome fruits within commercial fruit production in Austria.

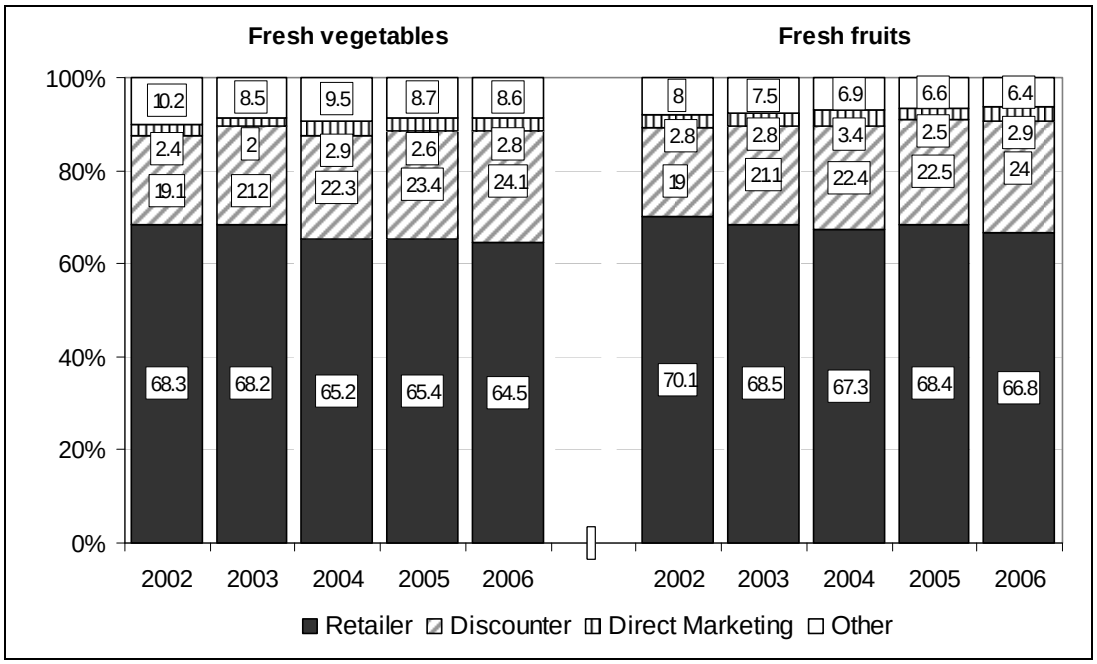
In 2007, household consumption of fresh fruits amounted to 331,000 t, equivalent to a value of € 507 million. Similar to the vegetable sector, the consumption of fruits has declined in volume but increased in value. Since 2004, the sales value of fruit increased by 7% while the volume decreased by 10%. As a result, the average unit price (per kg) of household expenditures rose from 1.28 €/kg to 1.53 €/kg. Considering the quantities consumed by Austrian households (see AMA, 2008b), the most important fruits were apples (24%), bananas (22%) and oranges (10%). The consumption of exotic fruits apart from bananas is limited. Pineapples – the only exotic mentioned – accounted for 2.3% of total fruit consumption, but the quantities are growing slightly every year. Household purchases also reflect the preference of Austrian consumers for regionally grown products.

6. Distribution channels for fruits and vegetables in Austria

Austrian retail is dominated by leading German retailer groups and a few Austrian companies that are in a position to compete with these foreign companies. With a share of almost 90% of total fruit and vegetable sales, retail (including discounters) represents the most important distribution channel in Austria. According to AMA data (2007, see Figure 2), 24% of all fruits and vegetables were distributed by discounters in 2006. About 3% were directly marketed at the farm gate and another 8.6% of vegetables and 6.4% of fruits were sold at local markets or through similar distribution channels. Considering the

high degree of concentration in Austrian retail, one objective of the CMO reform was to strengthen the position of fruit and vegetable producers.

Figure 2: Distribution channels for fresh fruits and vegetables in Austria (% of distributed quantity), 2002 - 2006



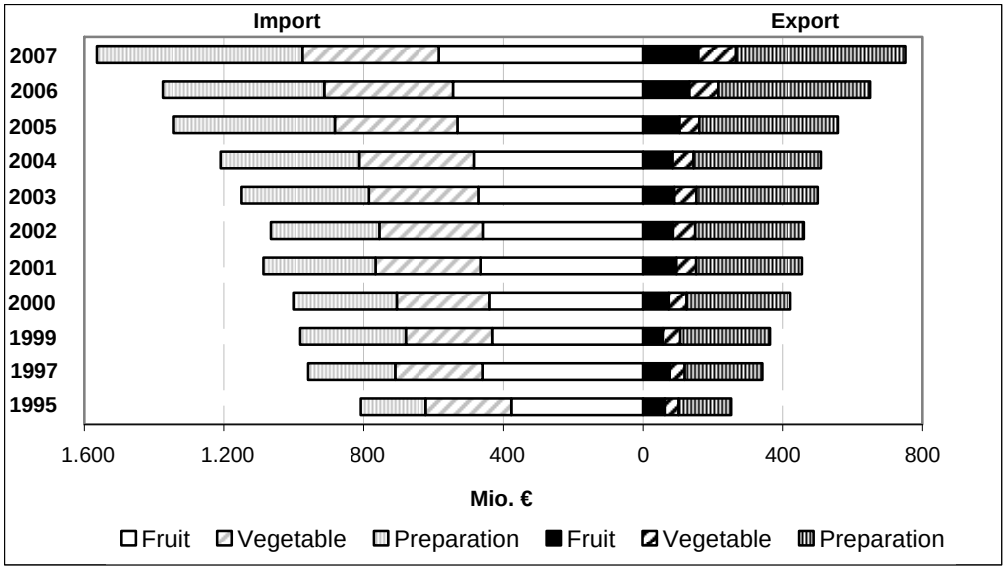
Source: AMA, 2007

For the future, Sutor (2007) expects an increasing importance of discounters as distributors of fruits and vegetables. On the other hand, the willingness of individual consumer groups to pay even higher prices for fruits and vegetables with specific characteristics or additional benefits (e.g. production standards, organic production, regional origin) provides the basis for future niche production and direct marketing.

7. Foreign Trade with Fruit and Vegetables

Worldwide trade with fruit exceeds trade with vegetables by far, the latter being limited mostly to the regional level. Since accession to the EU in 1995, agricultural trade experienced a boost in Austria. Total exports and imports of agricultural products grew by more than 300% and 100%, respectively, resulting in an almost equal balance of agricultural trade (AMA, 2009). Including preparations, fruit and vegetables contribute roughly 10% to total agricultural exports and some 20% to imports. Figure 3 shows the development of imports and exports differentiated by product groups. Taking into account the natural production conditions in Austria (e.g. seasonality of production, no production of exotic varieties), imports of fresh fruit and vegetables are a multiple of exports. On the other hand, the export values of fruit and vegetable preparations account for roughly 80% of import values. Fruit juices and concentrates were most important and accounted for 54% of the import value in 2007. Vegetable preparations followed with about 21% and nut mixtures with some 8%. Almost one fourth of all exports originated from apple juices and concentrates. Other important export products were potato and strawberry preparations. The most important trade partners were EU countries, in particular Spain, Italy and Germany.

Figure 3: Austrian imports and exports of fresh fruit, fresh vegetables and preparations (selected years)



Source: AMA, 2009

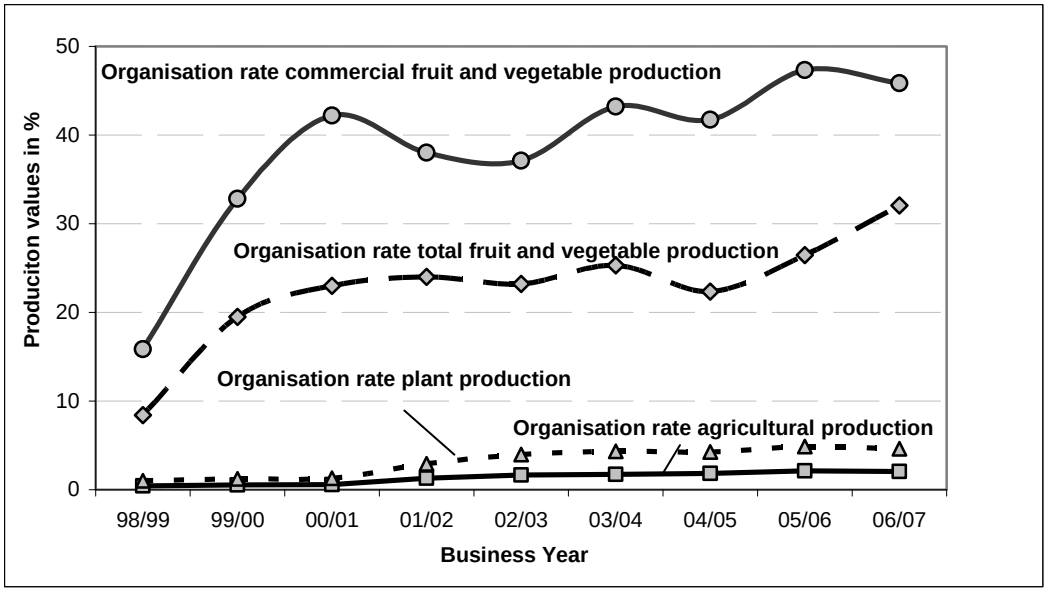
8. Producer Organisations

The first voluntary associations of fruit and vegetable producers in Austria date back to the middle of the last century. By 2007, six POs had been approved according to the CMO and comprised some 1,510 fruit and vegetable producers. According to the Council of the European Union (2007), POs should be supported in order to bundle and to adjust production according to market demands, to promote an environmentally friendly production, to improve quality, and to reduce costs. On average, each member managed an area of 4.70 ha, which equates to a roughly 77% increase compared to 2001/2002. 93% of all PO members cultivated their areas according to the integrated production guidelines and another 2% managed their enterprises organically. These proportions may well have resulted from the introduction of quality standards, such as EurepGAP or the AMA label, within the past years. Depending on the product, distribution channels vary between POs. Fruit POs market their produce almost exclusively to wholesalers, as only 10% were directly marketed to gastronomy or consumers. However, the distribution of vegetables shows a different pattern, with roughly half of the produce sold to wholesalers and retailers.

The rate of organisation serves as a benchmark for the relative importance of fruit and vegetable POs within the Austrian market. The value of the marketed produce of POs compared to the total production value of fruit and vegetables in Austria fluctuated during the last years between 20% and 30%. However, taking into account only total production values of commercial plantations, the ratio increases to almost 50%. In comparison to the Netherlands and Belgium, the countries with the highest organisation rates (more than 70%) within the EU, the Austrian rate appears to be quite low but shows

an increasing trend during the last few years. Figure 4 summarises the organisation ratios of Austrian POs based on production values and different production levels.

Figure 4: Organisation rates of Austrian producer organisations on different production levels and over several years (based on production values)



Source: Own survey and Statistics Austria (2007d)

9 Results of the SWOT Analysis

An assessment of strengths, weaknesses, opportunities and threats in the Austrian fresh fruit and vegetable sector provides an overview of the status quo and a basis for the elaboration of future strategies. The following summary was derived from several meetings and discussions with representatives from politics, consultancies, producer organisations and retail in 2007 and 2008.

Strengths:

- Good vertical integration of producers within the value-added chain
- Reputation of high product quality – quality management systems
- Well established advisory structures
- High participation rate in agro-environmental programmes and quality management systems
- High standard of technical equipment (e.g. irrigation, protected production – greenhouses)
- Planning and coordination of annual production within POs
- Improved representation of interests
- Constructive cooperation with NGOs

Weaknesses:

- Availability of labour forces (bureaucracy, increasing labour costs, political uncertainty)
- Structural change (constraints of family farming; step to foreign labour forces) and international competition
- Availability of pesticides for special cultures (authorisation gaps)
- Discrepancy in the term “quality” between producers, retailers and consumers – increasing importance of optical appearance and storage life at the expense of flavour
- Lack of knowledge among consumers, as well as to a certain extent among sales staff, in the retail of fruit and vegetables
- Continuing competition for agricultural land within agriculture, but also increasingly between agriculture and non-agricultural users
- Still insufficient bundling of production (organisation rates could be improved)
- Unsatisfactory coordination between producers who are not organised in POs

Opportunities:

- Increasing demand for locally and organically produced products
- Closer cooperation between producers and retailers
- Malnutrition (obesity) and nutrition trends – a chance for fruit and vegetables
- Export markets in new EU member states
- Better training of sales staff
- Consideration of societal trends (e.g. convenience products – like ready-to-eat meals, adoption of package sizes)
- Niche markets (revival of old, traditional varieties)

Threats:

- General decline of expenditures for food
- Globalisation of markets (e.g. increasing imports)
- Future of agricultural policy (support level)
- General debate on greenhouse emissions
- Increasing prices for land tenancy
- Input price trends (e.g. energy, technology)
- Free-riding – less effective coordination of production

9. Summary and Discussion

The paper has highlighted important developments and trends in the Austrian fruit and vegetable sector. Among other factors, societal developments have influenced the demand for fruit and vegetables during the last years. In this context, the shifting of the age pyramid and migration are two important driving forces. Commercial fruit and vegetable production takes place in favoured regions predominantly located in the eastern parts of Austria. The survey results indicate increasing productivity per ha in both the vegetable and fruit producing segments, presumably because of improved production techniques. Characterised by a seasonally limited production, imports of fruit and vegetables play an important role especially during the winter months.

It has been proven that food retail is the most important distribution channel for fruit and vegetables. The high concentration level in Austrian food retail, together with the increasing market shares of discounters exacerbates the market position of Austrian fruit and vegetable producers. Hence, in addition to bundling production, positioning their products in the premium sector may also represent an adequate strategy for the future. Especially against the background of increasing price competition on the global scale,

Poschacher (1999) suggested the creation of brands as an important measure. But also a better coordination of production within, and especially without, POs could improve the ability to react to changing consumer demand.

In 2007, six POs were approved according to the regulations of the CMO. Corresponding to the commercial fruit and vegetable production, the organisation rate of POs grew to more than 40% during the last years. Since the policy reform of 1996 and modifications in 2000, the CMO for fruit and vegetables has been increasingly adapted for POs. By offering a wider range of measures and tools within the last CMO reform, fruit and vegetable producers should be encouraged to join POs in order to improve competitiveness and market orientation, and this also applies to Austria.

Considering the results of the SWOT analysis, the following can be summarised: Located in Central Europe, Austrian producers should take advantage of a marketing area that comprises some 13 million consumers (economic triangle of Vienna-Prague-Munich). Furthermore, the high share of quality production (subject to quality standards) has led to a high reputation amongst consumers. To ensure a high level of consumer confidence, ongoing management activities such as consumer information and market segmentation are indispensable. Fruit and vegetable markets are subject to continuously changing consumption patterns. Driving forces are often developments within society (increasing number of single households, nutrition trends, decreasing time for cooking). Producers and processors are challenged to be responsive to these developments. The provision of convenience products – like ready-to-eat meals, frozen fruit or vegetable products, or different package sizes – are only a few examples of possible adaptations. Other potential innovations range from assorting varieties (e.g. exotic fruit and vegetable varieties), processing (e.g. fruit smoothies) and packaging (e.g. fruit baskets), to services such as open days, “self-picking” orchards, tastings and cooking events. Finally, with respect to the reorganisation of the CMO and the high concentration level in Austrian retail, it is advisable to promote membership in POs in order to increase organisation rates of POs within the fruit and vegetable sector.

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