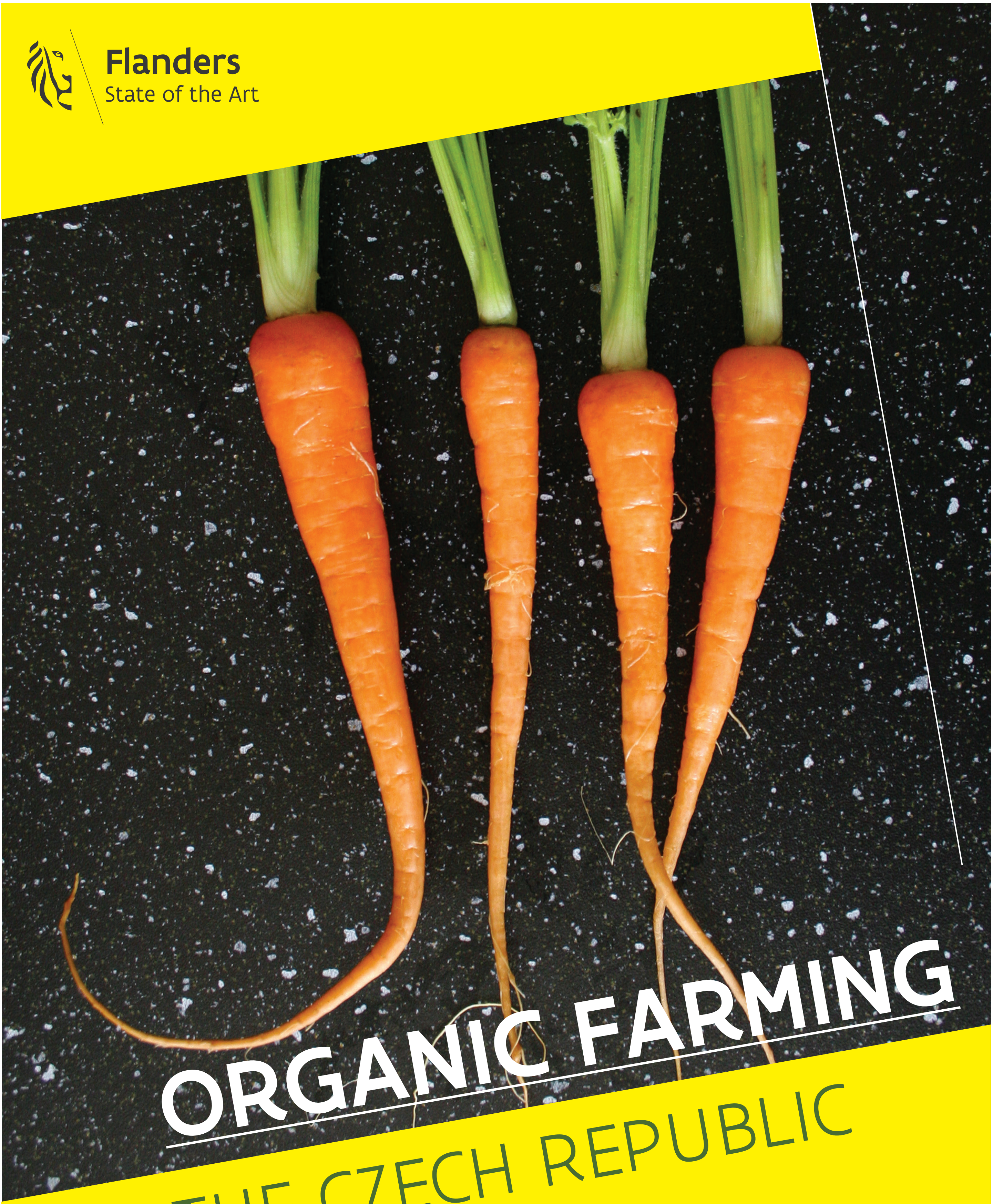
Flanders
State of the Art



ORGANIC FARMING
IN THE CZECH REPUBLIC

FLANDERS INVESTMENT & TRADE MARKET SURVEY

Organic Farming in the Czech Republic

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CONTENT

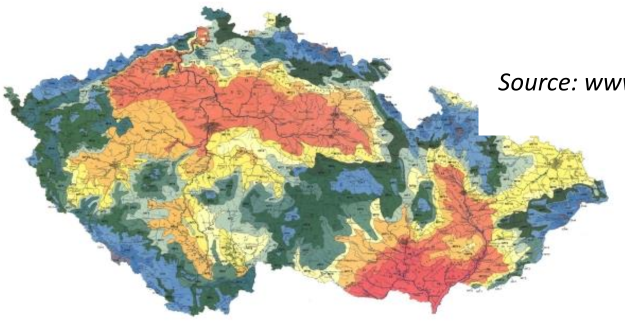
This study was compiled with the help of Jakub Grossmann, Mgr. and M.A. bij CERGE-EI (Center for Economic Research and Graduate Education - Economics Institute - is a joint workplace of Charles University in Prague and the Economics Institute of the Czech Academy of Sciences).

1. The overview of the Czech agriculture[1]

1.1. History of Czech agriculture

The evolution in the Czech agriculture began in the mid – 19th century and was supported by the creation of cooperative farms and credit unions, which allowed individuals to collect necessary resources for running their business. The first industrial revolution had not only influence on heavy industry but new technologies allowing for automation were implemented into agriculture production processes as well. This allowed for new concerns producing mainly sugar, beer etc. to be established.

The diverse situation in agriculture ended with the raise of communist dictatorship when the majority of the sector was collectivized. Small farmers were forced to join cooperative farms otherwise they were eliminated. A designed planned economy – usually based on 5 year plans - did not allow for diversity and thus the whole industry was rigid and unable to react to actual needs and exogenous shocks. The situation has changed with the Velvet revolution and the following privatization. The cooperative farms were dissolved in many cases and small farms started to be set up again, also due to the restitution. Regardless of the long period without market forces in the agriculture sector, the whole system relatively quickly adapted to an open market situation and it became in many aspects similar to other European countries. However, reduction of small farms happened when the Czech Republic entered the competitive European Union market in 2004.



Source: www.ovocnarska-unie.cz

[1] Unless otherwise stated, data from the statistical yearbook 2014 are presented [9].

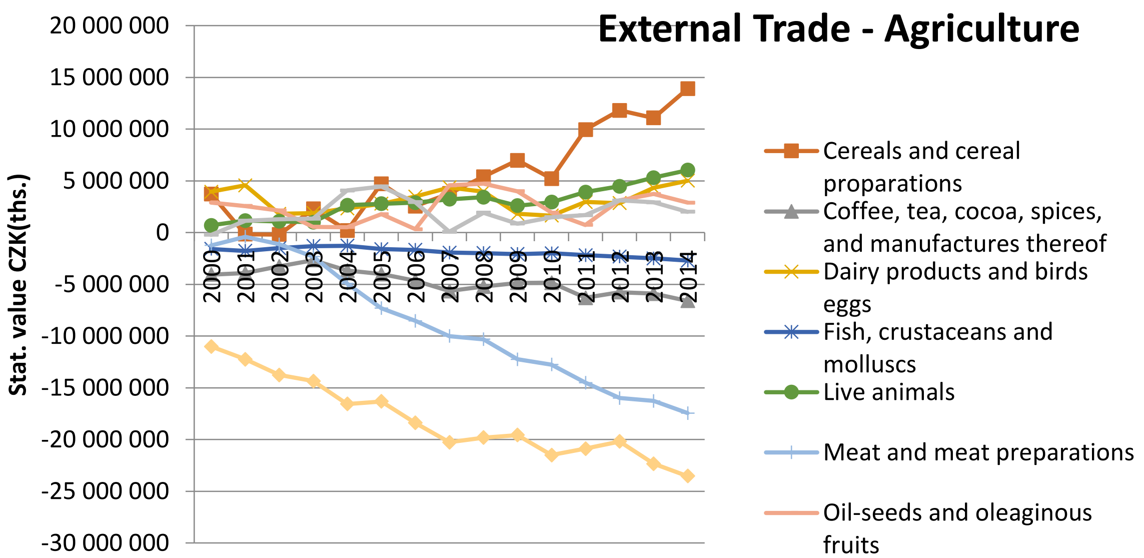
1.2. Structure of the market

The Czech Republic is situated in Central Europe. The 10.5 million inhabitants live in 14 administrative regions on a total surface area of 78 866 km[2]. The Capital City of Prague is also the biggest city of the Czech Republic, as such followed by Brno, Ostrava and Plzen.

The Czech Republic can be divided into three parts: Bohemia, Moravia and Silesia. The latter two are mainly influenced by a continental climate, while in Bohemia maritime effects can be observed. One of the most important factors affecting the local climate is the height above sea level. More than 66% of the land lies below 500 m, around 32% appears between 500 – 1000 m, and the resting 1% lies at an altitude above 1000 m. The climatic conditions highly influence the possibility to grow specific plants and domestic animals.

The agriculture production - GDP ratio is around 2.6%[3] which is similar to neighboring countries: Austria – 1.4%, Germany – 0.9%, Poland – 3.3%, Slovak Republic – 4%. Out of these figures it can be observed that the Czech Republic is placed somewhere in the middle between western countries, which focus mainly on the secondary and the third economical sector, and Poland and the Slovak Republic, which are still more relying on the primary sector.

The agriculture in the Czech Republic contributes to the gross domestic product (GDP) on relatively low levels. The trade balance of the Czech Republic as shown below gives back the net exports in agriculture. Both European and non-European countries are included. Joining the European Union and its open market in 2004 significantly influenced the structure of the domestic market. Especially small producers were forced to compete with stronger competitors and some of them did not manage to handle the new situation. Thus, on average, agricultural production has become more and more specialized in producing particular food in the course of time. Despite some volatility, long-term trends are clearly visible on the graph. The Czech Republic is a net exporter.



GRAPH 1, *SOURCE: CZECH STATISTICAL OFFICE, EXTERNAL TRADE DATABASE, ADJUSTED.*

[2] Word Bank source: http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS

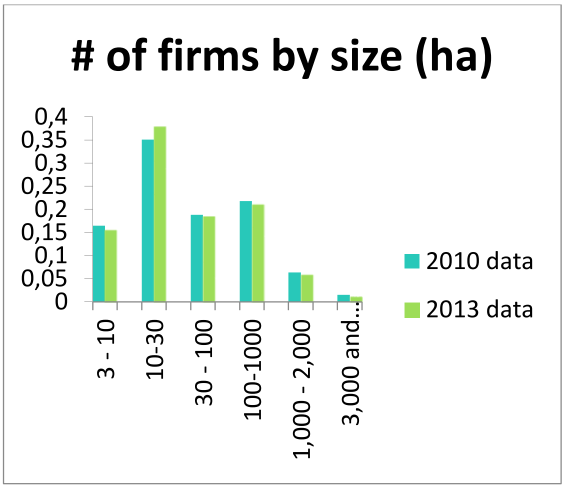
[3] Word Bank source: http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS

1.3. Market size

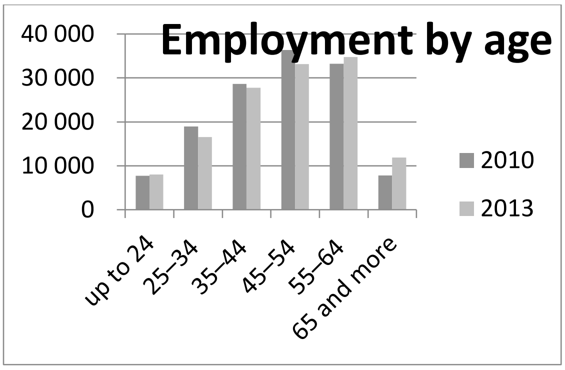
The total size of agricultural land in the Czech Republic is around 4.264 thousands of hectares large. According to the Czech Statistical office, the number of firms operating on the agricultural market, sorted by size, is distributed as shown on the graph bellow. On aggregate level, in 2013 there were almost 25 thousand firms, which was by two thousand more compared to 2010. The highest number of firms produce on a surface of 10-20 ha and about 75% of the firms operate on an area smaller than 100 ha. However, almost 70% of total agricultural land is held by subjects operating on the area larger than 1,000 ha. The graph also shows the dynamics across groups. In general, in 2013 there were more smaller firms compared to 2010.

Taking into account a two years survey, it is visible that the smaller firms have a higher weight in the latter year. The first explanation for this observation can be the delayed impact of the crisis which forced firms to reduce their activities. Second possible explanation can be found in the current trend of social thinking where especially small organic farming is becoming more and more popular and demanded.

Considering the labor topic in the Czech agriculture, the total employment in the agricultural sector was 132.130 people in 2013 which was a few hundred less than in 2010.



GRAPH 1_2 by size



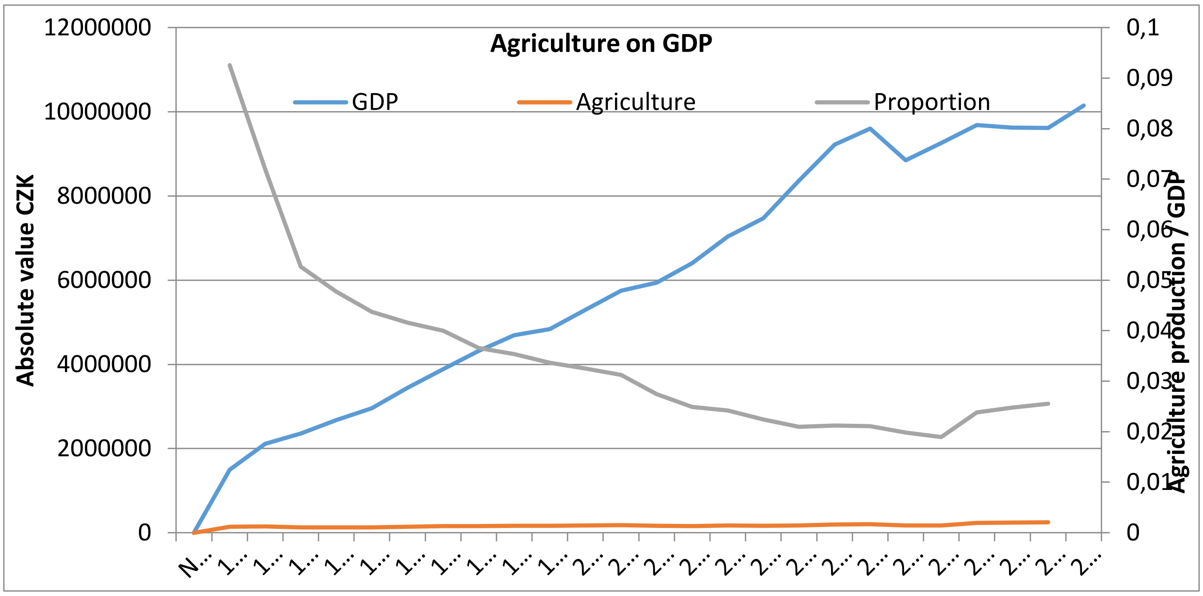
GRAPH 1_2 employees

1.4. Production

The agriculture production in the Czech Republic is composed of animal production and crop production. The latter contributed almost 75.957 million CZK to the GDP in 2013. The part of the animal production was 46.895 million CZK. The graphs bellow describe the composition of both contributions.

Cereals are the largest segment of crop growing followed by industrial crops and forage plants. The growing of fresh vegetable, fruits, grapes and potatoes has only a marginal effect on the total value created. This is probably determined by given demands on the growth process, which is much costly and does not exhibit the economy of scale.

Milk production forms almost one half of the total animal output. The highest portion of animal breeding represents pigs breeding, followed by the cattle which are approximately on the same level as poultry. The last class of products - eggs – stays at 5% of the total animal production.



GRAPH: Share of crop + animal output on GDP

1.5. Production by region

The climate of the Czech Republic influences the agriculture essentially and thus, regional production is presented on the following lines separately for each region. The map below shows the distribution of the agricultural production by region. It is worth noticing that each of the regions has different size and thus the map depicts comparative advantage within each region. The most common plant grew in the Czech Republic is wheat followed by industrial sugar, arable fodder crops, barley and oilseed rape.

Bohemia

(Regions: *Středočeský, Jihočeský, Plzeňský, Karlovarský, Ústecký, Liberecký, Královéhradecký, Pardubický*)
Bohemia is the largest area of the Czech Republic. Prague, the capital of the area, is surrounded by lowlands suitable for cereal planting. Bohemia is partly defined by national borders, especially

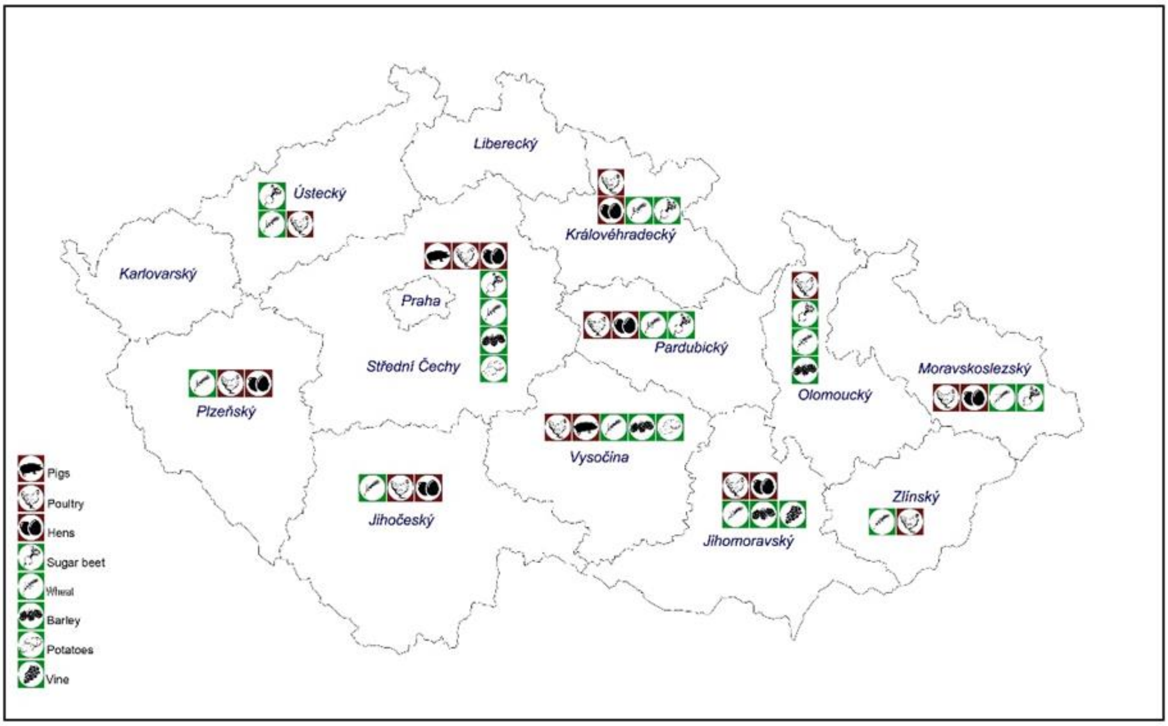
where the mountains are situated. The main crops of the region are: cereals, potatoes, industrial sugar beet, oilseed rape and arable fodder crops – hay. Common livestock consists of: cattle, pigs and poultry.

Moravia

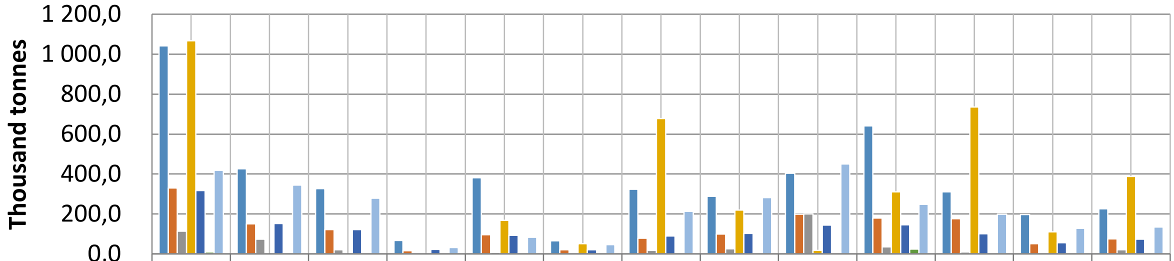
Moravia includes the *Olomoucký, Zlínský, Jihomoravský, Vysočina* regions. The most of the land here is flat allowing for easy accessibility. The south location ensures warm temperatures needed for growing various plants, especially grapes. Brno is the capital with easy access to Vienna, Prague, Bratislava, and to the south of Poland. The main crops are: cereals, industrial sugar beet, sunflower for seed, arable fodder crops – hay, potatoes. Common livestock: cattle, pigs and poultry.

Silesia

Silesia is located in the North-East of the Czech Republic where the *Moravskoslezský* region is currently placed. Around the biggest city of the region – Ostrava - mostly highlands are situated. This region focuses on heavy industry and coal mining. Therefore, agricultural possibilities are limited. The main crops are: industrial sugar beet, oilseed rape. Common livestock: cattle and poultry.

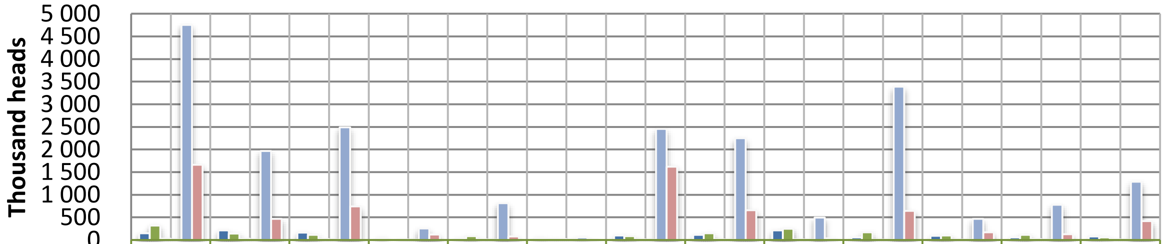


Plant production by region



	Prague + Středočeský	Jihočeský	Plzeňský	Karlovarský	Ústecký	Liberecký	Královéhradecký	Pardubický	Vysočina	Jihomoravský	Olomoucký	Zlínský	Moravskoslezský
Wheat	1 041,3	426,8	327,0	67,3	381,5	65,6	324,5	287,6	403,9	641,7	311,5	196,8	225,2
Barley	330,8	150,7	121,3	16,7	96,8	21,1	78,0	98,7	198,6	179,0	175,5	51,1	75,5
Potatoes, total	114,1	74,3	20,2	2,3	8,3	4,0	18,1	25,4	199,7	34,8	9,4	5,8	20,1
Industrial sugar beet	1 067,0	0,0	0,0	0,0	167,6	50,5	677,8	218,9	17,4	311,3	734,9	111,1	387,2
Rape	318,1	152,9	122,4	23,0	93,4	20,7	89,0	102,3	144,6	145,8	101,1	56,9	73,2
Sunflower for seed	9,5	0,3	1,0	0,0	5,6	0,1	0,8	3,1	0,1	24,7	0,3	1,2	0,0
Arable fodder crops – hay	417,5	344,2	278,8	32,4	83,7	46,0	213,3	282,5	450,5	247,6	199,0	127,9	133,9

Animal breeding by region



	Prague + Středočeský	Jihočeský	Plzeňský	Karlovarský	Ústecký	Liberecký	Královéhradecký	Pardubický	Vysočina	Jihomoravský	Olomoucký	Zlínský	Moravskoslezský
Cattle	149	213	165	42	39	46	101	115	213	60	92	60	77
Pigs	318	145	113	0	87	21	86	149	248	167	97	112	56
Sheep	25	29	20	14	16	18	17	13	15	10	10	22	16
Horses	7	4	2	2	2	2	2	2	1	2	2	2	3
Poultry	4 758	1 965	2 490	252	813	60	2 454	2 251	498	3 391	471	776	1 285
Hens	1 662	471	744	117	81	3	1 624	657	36	643	170	131	416

2. Organic farming in the Czech Republic

2.1 Factors behind the recent growth in popularity

The organic farming can be viewed as a part of a new industry targeting on healthy lifestyle. Nowadays many business activities are in line with this idea: cooking TV shows, sport equipment, bio products, etc.

Alongside, the net annual growth rate of household disposable income is on average higher than in many western European economies [4], which indicates that demand for luxury good, meaning not essentially necessary goods (organic products included), should - similarly to other post-communist countries - further rise in the future. These trends give an opportunity to set up or develop business activities in a healthy lifestyle industry, organic farming included.

2.2 The Czech Market[4]

In 2013 the sales of organic food on the Czech market was around 2,7 billion CZK[5], which was driven mainly by consumption (more than 70%). Consumption grew by almost 10% compared to 2012, however, average spending did not exceed the level of 200 CZK per year, per capita. In the same period, the total exports added up to 774 million. Regarding the point of sale, the products were particularly sold in retail chains, in value of 1.745 billion CZK. The highest demand was observed for milk and dairy products, and the fruits & vegetables category. Imported food represented around 46% of total retail sales.

The imported food consists mostly of ready-made products originating from the western and southern parts of Europe (Italy, Germany and Austria). Those are, amongst others, fruit, vegetables, juices, coffee, tea, chocolate. In 2013, distributors imported products for 335 million CZK, nevertheless, 30% was further re-exported. These numbers do not include retail chains, which imported products for another 484 million CZK. The main distributors (excluding the retail chains) are Hipp Czech s. r. o., SOLEX AGRO s. r. o., Country Life s. r. o., PRO-BIO s r. o., bio nebio s. r. o. a Lifefood Czech Republic s. r. o. The retail chains with the highest portion of organic products offered are Lidl (Biotrend), Dm drugstore (Alnatura) and Marks and Spencer.

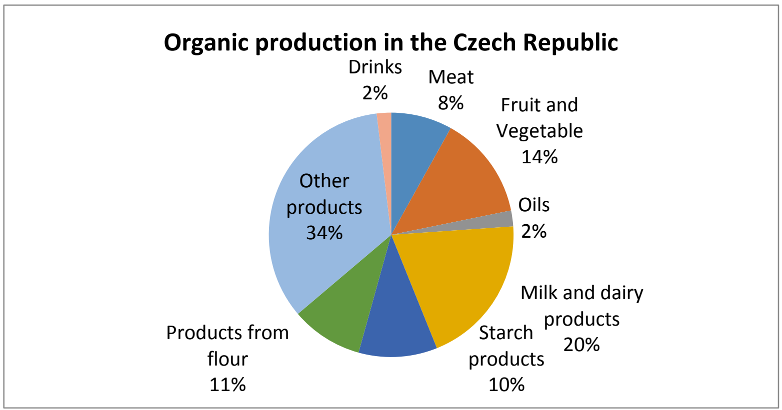
2.3 Supply & Demand

The demand side of organic products is driven by factors outlined in the first section of this chapter. Simultaneously, there is a pressure on the public to behave responsibly, initiated by government and NGO's: in a way that they support recycling, biodiversity, not wasting food, etc., which in fact indirectly stimulates demand for organic products. The supply side exists only if demand is present and it adjusts to current needs.

A total turnover of organic food (exports and imports included) reached 2,4 billion CZK in the Czech Republic in 2012. Counting for final goods, imports represented around 60%. At the same time, Czech inhabitants spent almost 1,8 billion CZK, which is the highest number since 2005 and expenditures were 169 CZK per capita on average.

[4] This subchapter is based on the source [10].
[5] Exchange rate in 2012: 1€ = 25,14 CZK, in 2015 1€ = 27,3 CZK

The demand structure for organic products in the Czech Republic is, according to the Ministry of Agriculture, relatively stable in time. The graph below characterizes the shares of different goods in the total organic production. The highest amount of products sold is in the group labeled as "other products", which contains various processed products e.g., baby food. The second is milk and dairy production, followed by fruits and vegetables including juices and ciders. These three groups represent almost 70% of the total production. Meat and baked goods respond for approximately a 10% share each.



Animal production

GRAPH: 2_1_organ_produc_CR + detail

Product	Measurement unit	# of organic farms 2013	Production 2013	year to year change
Meat				
Beef *	1 000 kg	1 499	9 459,58	207
Mutton *	1 000 kg	739	55 220	445
Goat	1 000 kg	169	1 956	2 294
Pork	1 000 kg	29	13 243	755
Poultry	1 000 kg	29	16 328	151
Rabbit	1 000 kg	5	69	1 941
Fish	1 000 kg	4	160	7 778
Dairy products				
Milk – cow	1 000 l	94	32 205,88	239
– sheep	1 000 l	9	2 950	*-7 525*
– goat	1 000 l	39	13 868	*-4 458*
Modified milk – cow	1 000 l	7	6 135	1 094
– sheep	1 000 l	4	178	*-1 946*
– goat	1 000 l	5	167	*-1 650*
Cheese – cow	1 000 kg	7	1 426	4 313

– sheep	1 000 kg	9	1 044	1 717
– goat	1 000 kg	23	4 476	*-52*
Other dairy production				
Sour milk products	1 000 kg	10	1 859	12 513
Cottage	1 000 kg	6	1 215	14 059
Butter	1 000 kg	4	135	9 286
Cream	1 000 l	3	410	2 424
Eggs	1 000 kg	44	22 008	1 581
Honey	1 000 kg	9	1 728	1 153

Organic plant production

Production	plant production 2012		
	# of organic farms	total production in tons	share in bio quality, in %
cereal	501	45 822	77
wheat	221	10 165	73
spelled	63	4 864	86
rye	66	4 709	89
barley	172	5 072	46
oat	287	11 051	76
triticale	132	6 736	72
legume	52	2 046	96
potatoes	161	1 656	48
oil plant	32	457	70
herbs / spices	43	691	87
seed stock	13	79	58
cabbage stalk	36	55	93
- cabbage	30	34	88
leafy vegetable	31	15	88
salacious	67	168	62
root vegetables	70	110	87
- carrot	54	37	86
- onion	49	29	72
apples	197	2 336	69
pears	107	347	82
stone fruit	175	473	15
grapes	52	1 510	47

2.4 Distribution channels

There are two possible ways of selling agriculture products: direct and indirect selling. Considering the direct selling, it is often possible to buy products straight at the farms where the goods are produced. The last few years, farmers' markets have become very popular across the whole country and it is possible to find these markets usually at some regular time in the city centers. The second, indirect, distribution channel is quantitatively more important and in many cases much more efficient for farmers. In general, farmers can supply their products to retail trades (small shops specialized on healthy products, greengrocery, Grunt and Sklizeno chains – chains selling organic products obtained from local farmers) or they can join trading organizations, which focus on joint sales. The table below summarizes sold products according to different points of sale since 2005.

Point of sale	2005	2006	2007	2008	2009	2010	2011	2012	2012
	Shares of sales in the Czech Republic (%)								billions of CZK
Supermarkets	57	67	67.5	74	69.2	70.4	67.8	67.9	1 201
Small shops focusing on organic product	37	28	22.5	18	17.7	19.4	19.8	19	338
Independent small shops	2	3	2.5	2	2.4	1.2	1.4	1.4	25
Direc selling	4	2	2	1.4	3.9	3.5	5.2	5.9	105
Drug stores	x	x	5	4	6	4.7	5.2	4.8	86
Gastronomy	x	x	0.5	0.6	0.6	0.8	0.6	1.1	20
Total	100	100	100	100	100	100	100	100	1 776

2.5 Financial support in agriculture

An organic farmer in the Czech Republic has the possibility to obtain financial support either from the EU agricultural programs or from specific national funds. The Common Agriculture Policy (CAP) (2014-2020) is designed to support more environmental friendly agriculture, with particular focus on biodiversity and sustainable agriculture. It is expected that more than EUR 100 billion will be redistributed in this period. Regarding the Czech Republic, it is approximately around 300 million, however, the amount of support varies each year. A table placed on the next page summarizes the value of eligible subventions for specific types of land.

Table: 2 2 EU subvention

Type of production	Level of payment (EUR/ha/year)
Grassland	80
Vegetables and special herbs	586
Arable land	178
Orchards I *	777
Orchards II*	408
Orchads supporting a landscape	170
Hop gardens, vineyards	871

*) Depending on which type of fruit is grown
Source: Program rozvoje venkova na obdobi 2014-2020

The financial support provided by the Ministry of Agriculture of the Czech Republic is rather extensive. Offered programs cover most of the products, plants, and animals.

2.6 Industry outlook

Organic farming is an industry with high potential, mainly due to two reasons. The first is the constantly increasing demand for healthy lifestyle, including organic and bio products. Secondly, policy makers reflect the need to support sustainable treatment of nature and thus, several financial incentives have been introduced recently.

The ministry of Agriculture wants organic fields to cover 15% of the total farming land. Under a plan approved in 2010, this share was to be reached by 2015 already, but that year's area of organic fields only reached 12%. The ministry also wants to increase the share of local organic products to 70% of all organic food products on the Czech market. Organic food would then account for 3% of the total food consumption. In 2013, that share was only 0,71%.

3. Useful links

More information about organic farming in the Czech Republic can be found on the websites of the following institutions:

Ministry of Agriculture of the Czech Republic: www.eagri.cz
Bioinstitute: http://www.bioinstitut.cz/english/index.html
Czech Technology Platform for Organic Agriculture: www.ctpez.cz/en/english
Pro-Bio: Association of Organic farmers: www.pro-bio.cz
Federation of the Food and Drink Industries: http://www.foodnet.cz

Bio-shop/chains:
Country Life: http://www.countrylife.cz/
Náš Grunt: http://www.nasgrunt.cz/
Sklizeno: http://www.sklizeno.cz/
Bio nebio: http://eshop.bionebio.cz/
Bio prodejny: http://bioprodejny.info
Probio: http://www.probio.cz/
Lifefood: http://www.lifefood.cz/
Solex Agro: http://www.solexagro.cz/cs/solex-agro/

Drogerie DM: https://www.dm-drogeriemarkt.cz/

Retail chains:

Tesco supermarkets, Tesco hypermarkets, Tesco Expres	http://www.itesco.cz/cs/
Albert hypermarkets en supermarkets	http://www.albert.cz/
Makro	http://www.makro.cz/
Kaufland	http://www.kaufland.cz/
Penny Market	http://www.penny.cz
Globus	https://www.globus.cz/
Lidl	http://www.lidl.cz/
Billa	https://www.billa.cz

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