

# WORLD CHICKEN MEAT MARKET – ITS DEVELOPMENT AND CURRENT STATUS

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## Abstract

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The global meat market and primarily the chicken meat market represents a very dynamically developing area. The objective of the present article is the analysis of the chicken meat market in the world in order to identify the basic development trends associated with the development of production of and trade in chicken meat, and also in order to identify the individual entities controlling the global chicken meat market. In methodological terms, the article analyzes the development of production of, consumption of and trade (export and import) in chicken meat in the years 1961–2009. The main sources of data necessary for the processing of the individual analyses are the FAOSTAT and UN COMTRADE databases. The results of the conducted analysis show the following findings. World production of poultry meat increased from 7.5 million tons to more than 86 million tons. The global market reacted in a flexible manner, in which there was an increase in volumes of executed trade from 271 thousand tons/year in the year 1961 to more than 10.7 million tons/year in the year 2010. Further, the value of world trade in chicken meat within the analyzed period increased from approximately USD 169 million to approximately USD 16 billion. If we analyze the global chicken meat market, it may be stated that it is very concentrated. The analysis of the global market further shows that Brazil, the USA and China represent, in terms of global production, consumption and trade, the main driving force on the chicken meat market. These three countries have a share in global production of approximately 46%, their share in global consumption ranges at a level of over 40%. The share of these countries in global export ranges at a level exceeding 50%.

meat, chicken, development, value, volume, production, trade, competitiveness, consumption, price

Meat and meat products represent a significant part of agricultural and food production in the world (Speedy, 2003). Meat represents an important source of animal proteins and fats, as well as a whole range of other organic as well as inorganic substances (Boskovic *et al.*, 2010, Suchý *et al.*, 2002). Meat, despite the fact that it does not comprise the most significant part of agricultural production (plant production dominates), constitutes a significant commodity – whose volume of production is continuously increasing in view of the constantly increasing demand (Steinfeld, 2003). The growth in the production of meat is primarily significantly affected by growth in population, as well as growth in its purchasing power (FAO, 2009). The growing demand for meat is also affected by

the lifestyle of the population (Fajardo-Zapata *et al.*, 2011). In the past, a large consumption of meat was actually a symbol of wealth in society (Svatoš, 2011). Currently, when the world population has reached more than 7 billion people and when the GDP of the planet has reached a value exceeding 60 billion US dollars, the global supply of meat and meat products has reached its historical peak – approximately 292 million tons of meat per year (FAO data for the year 2010). In view of the increasing number of inhabitants of the world and their gradually increasing purchasing power, the supply of meat in the world has increased very significantly. While in 1961 global production of meat ranged around a level of approximately 71 million tons, the supply is currently getting to a level of 300 million tons of

production. In the course of the last fifty decades or more, the production of meat has been increasing on average by close to 3% per year. The volume of production has increased in the course of the years by 310%. It is also important to mention the fact that besides meat constituting a significant article of production and consumption, it is also a significant trade commodity. Just the value of international trade in meat in the world currently reaches approximately USD 100 billion (this represents a substantial increase as compared to the beginning of the analyzed period, when, in 1961, the value of global trade in meat ranged around approximately the USD 2 billion level). If we focus on the growth in world production of and trade in meat, we can find a very strong correlation primarily in relation to the growth in the value of global production and in relation to growth in the global population (see Tab. I). Tab. II provides information regarding the value of elasticity characterizing the relationship between the development of the volume of world production of and trade in meat on the one hand and the development of world GDP and the world population on the other hand. In general, one can see that a one-percent increase in global product is transformed into a one-percent increase in the production of meat – and in relation to the development of the world population, a one-percent increase in the population is then transformed into an increase in production by approximately 1.2%. In

relation to global trade in meat, the flexibility values are even higher, approximately 1.4% in relation to the percentage growth of the global GDP and 3.3% in relation to the percentage growth in population.

Besides the general characteristics pertaining to production of and trade in meat in the world, it is also appropriate to mention that the global meat market is generally represented by several kinds of meats. These are primarily beef, pork and poultry (where the most significant share is achieved by chicken meat). The shares of individual kinds of meats in the total volume of the global market are in the range of the following proportions: beef approximately 21%, pork approximately 37% and poultry meat approximately 33.5% (the share of just chicken meat is approximately 29%) – for details, see Tab. III. The table shows that the production of all analyzed categories of meat in the world increased in the course of the past fifty years. It is poultry meat or chicken meat whose production volume in the course of the analyzed period increased the most dynamically (Windhorst, 2006; Mirzaei *et al.*, 2006; Magdelaine, 2008). Today, poultry meat has approximately a one third share in the total volume of the meat market, whereby the decisive share is held by chicken meat, which by itself has a share of more than 29% of the global meat market. In the course of the analyzed period, the production of chicken meat increased very significantly (Scanes, 2007; Senturk, Guler, 2012) and its share increased

I: Correlation between global meat production (according to individual categories) and development of world GDP and population

Variable	Individual correlations are significant: $p < ,05000$ , $N = 50$	
	World GDP in constant USD prices	World population
Global total meat production	0.998685	0.994442
Global total meat trade	0.980218	0.952173
Global chicken meat production	0.991983	0.973995
Global chicken meat trade	0.955985	0.922910

Source: FAO, WB, own processing

II: Sensitivity (percentage change) of meat production and trade to changes (by one percent) in the global GDP and world population

	Meat production	Trade in meat	Chicken meat production	Trade in chicken meat
GDP (constant 2000 US \$)	0.994025496	1.013773	1.015001	1.041073273
World population people	1.012465675	1.032579	1.033831	1.060386235

Source: FAO, WB, own processing

III: Development of global meat production

item	Production (tonnes)		Share in total production	
	1961	2010	1961	2010
World + (Total) Cattle meat	27 684 556	62 325 464	38,80%	21,28%
World + (Total) Chicken meat	7 555 907	86 205 014	10,59%	29,44%
World + (Total) Pig meat	24 748 624	109 215 302	34,68%	37,30%
World + (Total) Sheep meat	4 930 306	8 532 257	6,91%	2,91%
World + (Total) Poultry meat	8 952 178	98 089 870	12,55%	33,50%
World + (Total) Meat, Total	71 359 680	292 832 659	100,00%	100,00%

Source: FAO, own processing

primarily at the expense of the share of beef and mutton. In the course of the analyzed period, the volume of global production of chicken meat increased by more than 1040%, which represents a significant increase primarily in relation to pork (approximately 340%) and beef (approximately 125%). Global production of and trade in chicken meat in general show a high rate of correlation in relation to population growth and global product (Tab. I). In view of the fact that chicken meat is substantially cheaper in relation to other kinds of meats, the flexibility of demand for chicken meat in relation to growth in population and global product is very high (Tab. II).

On the basis of the facts set out above, characterizing the global meat market, the present article focuses on the very issue of world production of and trade in chicken meat, whose great growth dynamics overshadowed the growth in production of and trade in other kinds of meats within the past five decades.

## MATERIALS AND METHODS

The objective of the article is to identify the basic development trends associated with the development in the production of and trade in chicken meat, as well as to identify the individual entities controlling the global chicken meat market (production, consumption and trade). A secondary objective is to identify the comparative advantages that individual players on the global market have – in order to define the most significant entities determining the development of the chicken meat market. In methodological terms, the article analyzes the development of production of, consumption of and trade (export and import) in chicken meat in the years 1961–2009. The main sources of data necessary for the processing of the individual analyses are the FAOSTAT and UN COMTRADE databases. Data on development in global production of and trade in chicken meat are collected primarily in metric tons and in American dollars (if another unit is used – it is always mentioned in connection with the data being analyzed). The main analyzed categories in relation to the global chicken meat market are production, consumption, export, import, price and competitive advantage. The development of value and volume of production and trade is analyzed by way of a basic and chain index – the shares of individual entities in the global market and the rate of growth of their production, consumption and trade are also analyzed. Competitiveness, or comparative advantage (The concept of revealed comparative advantages in the given form was presented as soon as 1958 by Liesner, but it was Balassa (1965) who contributed to its popularization. For this reason, the RCA index is sometimes also called the “Balassa index” (Qineti, A., Rajcaniova, M., Matejkova, E., 2009), is calculated by way of the following RCA and RCA1 indexes:

### Revealed comparative advantage index prepared for the national level RCA (analysis of actual commodity structure of agricultural trade from the standpoint of the given country's own market)

$$RCA = \ln (X_{ij} / M_{ij}) / (X_{it} / M_{it}) \times 100, \quad [1]$$

where:

X ... represents export

M .. represents import

i ..... represents the analyzed country

j ..... represents the analyzed sector of the economy, branch of industry or commodity or group of commodities

t ..... represents the total sum of all sectors of the national economy or all analyzed commodities or the whole branch of the national economy.

In the case of the RCA index, the rule is that if its value is within the range of –1 to 0, then there is a comparative disadvantage in the case of the given commodity or group of commodities. However, if the value of the RCA index is within the range of 0 to 1, a comparative advantage has been shown (Utkulu, Seymen, 2004).

### Revealed comparative advantage index RCA1 (global / regional level)

$$RCA1 = (X_{ij} / X_{nj}) / (X_{it} / X_{ntf}), \quad [2]$$

where:

X ... represents export

I ..... represents the analyzed country

j ..... represents the analyzed sector of the economy (sector of industry or commodity)

n ..... represents a group of countries or the world

t ..... represents the sum of all of the sectors of the economy or the sum of all commodities or the sum of all branches of industry.

The RCA1 index analyzes the export of commodity “j” in the case of country “i” in proportion to the total export of the given country and to the total export of the analyzed group of countries or whole world corresponding to that. The comparative advantage is then shown in the event that the value of the RCA index is greater than 1 (e.g. Donges and Riedel, 1977; Bowen, 1983; and Vollrath, 1991). However, if the resulting value of the calculated index is less than 1, then it may be stated that the given country has a comparative disadvantage in the case of the given commodity or group of commodities (Burianová, 2011). The individual entities of the global market included in the analysis are individual states and regions as defined by way of the FAO methodology. In this regard, the article follows the development of the chicken meat market from the viewpoint of more than 200 entities (countries and regions) on the world market. The results obtained from the individual analyses are interpreted by way of tables and graphs enabling the comprehension of

IV: Selected characteristics of the global chicken meat market (with an emphasis on chicken meat)

country	item	1961	1981	1993	2001	2010	Geo mean 61–2010	Basic index 61/10	Geo mean 93–2010	Basic index 93/10
Production (tonnes)	Poultry Meat	8 952 179	27 514 965	48 103 685	71 015 743	98 089 871	1.050	10.957	1.043	2.039
Production (tonnes)	Chicken meat	7 555 907	24 312 099	41 309 988	60 854 735	86 205 014	1.051	11.409	1.044	2.087
Production (tonnes)	Meat, Total	71 410 137	139 389 625	192 921 807	236 902 016	292 832 659	1.029	4.101	1.025	1.518
Export Quantity (tonnes)	Chicken meat	271 481	1 718 534	3 198 444	7 443 424	10 732 576	1.078	39.533	1.074	3.356
Export Value (1 000 \$)	Chicken meat	168 755	2 298 870	4 205 802	7 594 691	15 995 092	1.097	94.783	1.082	3.803

Source: FAO, own processing

the territorial structure of the global chicken meat market.

## RESULTS AND DISCUSSION

As has been stated above, the global production of meat continuously increased in the last five decades – from the beginning of the 1960's until today. The most dynamic growth in production of meat was seen primarily in the case of poultry meat, with chicken meat being decisive – having a share at a stable level of 84–88% of the total production of poultry meat (Tab. IV provides an overview of the development of the production of chicken meat as seen in the light of the development of the production of poultry meat as a whole).

The data contained in the table shows that within the analyzed fifty year period, the production of chicken meat did not grow only by way of growth in the number of chickens raised, but also by way of growth in the slaughter weight of butchered chickens. In the years 1961–2010, the production of chicken meat increased from 7.5 million tons/year to more than 86 million tons/year. The number of raised chickens increased from approximately 3.9 billion chickens to almost 19.5 billion chickens. The average slaughter weight of one chicken also increased very significantly in the course of the years, from approximately 1.14 kg to 1.56 kg.

Just as the production of poultry or chicken meat developed very dynamically within the analyzed period, the value and volume of trade in chicken meat also increased. The actual volume of trade in live chickens increased in the world from approximately 83 million chickens/year in 1961 to more than 1.3 billion chickens/year in 2010. The value of executed contracts increased from approximately USD 24 million to more than USD 1.9 billion. As far as trade in actual chicken meat from slaughtered chickens is concerned, there we can see even slightly greater dynamics of development – primarily the value and volume of trade is significantly higher as compared to the value and volume of trade in live chickens. Within the analyzed period, the volume of trade in chicken meat increased from 271 thousand tons/year to more than 10.7 million tons/year. The value

of executed contracts then increased from more than USD 168 million/year in 1961 to almost USD 16 billion/year in 2010. In relation to the growth in the value of executed contracts, it is appropriate to further note that, in addition to the actual growth in the volume of traded meat, a contributing factor in the high dynamics of growth was also the growth in the actual unit prices of chicken meat. The fact is that just in the years 2000–2010, the prices of chicken meat grew very dynamically and the dynamics of their actual growth (78%) exceeded the dynamics of the growth of unit prices of pork (37%) and beef (62%).

### Global production of chicken meat – territorial structure

In terms of the territorial structure of global production of chicken meat (see Tab. V), it may be stated that global production is currently dominated by America and Asia.

These two regions currently generate approximately 78% of global production. The share of Europe ranges around approximately a 16% level. Africa has a share of global production of approximately 5%. From a detailed viewpoint in regard to development of global production, there is a distinct strengthening of shares in production in the case of Asia, at the expense of primarily Europe. The share of the American region in global production is, at first glance, stable on a long-term basis; in the past, global production was dominated by the northern part of America, and currently it is its southern part, on the contrary. In the course of the analyzed period, the share of northern America in global production of chicken meat decreased from 37% to approximately 21% and, on the other hand, the share of southern America grew from 4% to approximately 19%. If we focus on the individual most significant producers of chicken meat, it may be stated that the global market has always been and continues to remain significantly concentrated (there have been certain shifts within the territorial structure of production in the course of the years). In the 1960's, world production was dominated by European countries and northern America.



## V: Territorial structure of global chicken meat production

	1961	1981	1993	2001	2010	Share in 1961	Share in 2010
World + (Total)	7 555 907	24 312 099	41 309 988	60 854 735	86 205 014		
Asia + (Total)	1 211 824	4 760 125	12 151 147	19 066 691	28 641 620	16.0%	33.2%
--Northern America + (Total)	2 796 834	6 146 365	10 857 596	15 220 053	18 019 575	37.0%	20.9%
United States of America	2 607 690	5 715 000	10 219 000	14 267 000	16 971 000	34.5%	19.7%
--South America + (Total)	300 809	2 584 425	5 400 409	10 001 934	16 312 950	4.0%	18.9%
--Eastern Asia + (Total)	651 794	2 472 809	6 281 848	10 475 267	13 787 483	8.6%	16.0%
Europe + (Total)	2 679 496	8 632 318	8 796 428	9 901 402	13 765 705	35.5%	16.0%
China	487 094	1 223 035	4 571 943	8 850 869	11 840 603	6.4%	13.7%
Brazil	122 770	1 491 000	3 143 300	6 208 000	10 692 600	1.6%	12.4%
European Union + (Total)	1 765 956	5 932 739	6 844 371	8 532 902	9 687 909	23.4%	11.2%
--South-Eastern Asia + (Total)	295 351	1 135 557	2 892 515	4 004 645	6 338 315	3.9%	7.4%
--Eastern Europe + (Total)	1 098 572	3 611 889	2 844 460	2 823 587	5 826 218	14.5%	6.8%
--Southern Asia + (Total)	144 050	462 340	1 541 549	2 356 998	4 953 286	1.9%	5.7%
Africa + (Total)	315 962	1 065 495	1 899 548	2 976 677	4 369 439	4.2%	5.1%
--Central America + (Total)	133 293	534 033	1 340 439	2 443 172	3 451 301	1.8%	4.0%
--Western Asia + (Total)	120 630	689 419	1 269 035	2 167 806	3 405 803	1.6%	4.0%
--Western Europe + (Total)	764 862	2 010 969	2 425 063	2 947 843	3 316 004	10.1%	3.8%
Mexico	115 000	426 285	1 040 030	1 928 020	2 681 120	1.5%	3.1%
--Southern Europe + (Total)	407 335	2 187 132	2 149 960	2 312 931	2 572 025	5.4%	3.0%
Russian Federation			1 277 000	861 843	2 533 400	0.0%	2.9%
India	68 998	120 150	576 900	923 000	2 300 000	0.9%	2.7%

Source: FAO, own processing

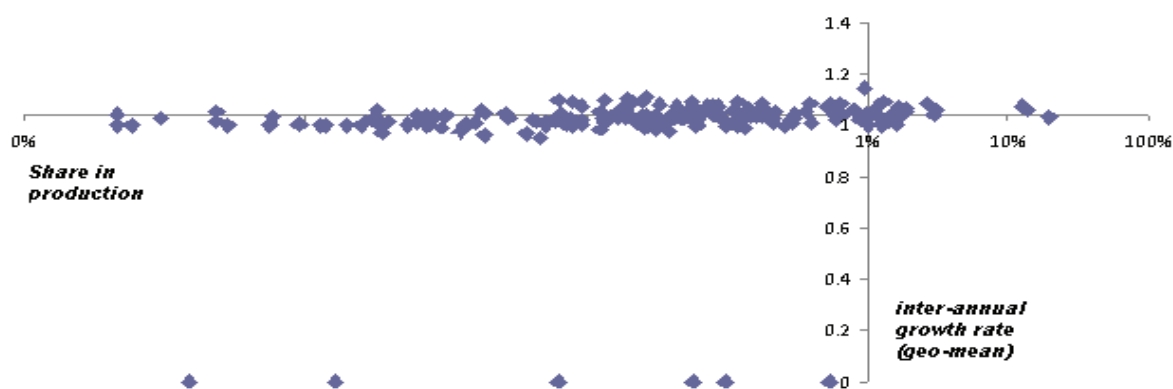
Currently, world production is dominated by the USA, China, Brazil, Mexico, Russia and India. These countries have approximately a 55% share of global production.

Based on the above, it may thus be stated that the global chicken meat market is controlled by several producers, who dominate this market not only in terms of the actual market share, but also in terms of the dynamics of growth of the actual production. The following Graph 1 provides an overview of the share and rate of growth of production in the case of individual countries (more than 230 countries and territories). The graph shows that a share of world production of more than one percent and, at the same time, a higher than average rate of growth (which ranged around a level of approximately 4.4% per year in the years 1993–2010), is achieved by only a limited number of states. If we use a division of the individual countries into four segments, according to the rate of growth and according to the market share, the individual countries of the world can be divided up into the following groups (see Tab. VI). In terms of the segmentation of individual countries, it shows that the global market is controlled by a group (yellow color) of countries with above-average dynamics of growth and a significant share (higher than 1%) of global production. The share of such countries in the production of chicken meat in 2010 reached circa 49%. The share of countries whose share is highly

above-average (brown color) (more than 1% of global production), but whose rate of growth of production is below 4.4% per year (which is the average rate of growth of global production in the years 1993–2010), ranges at a level of approximately 31.5%. The share of countries with high dynamics of growth in production, but with a share of production lower than one percent (green color) – currently ranges around a level of approximately 10.7%. And, finally the share of countries with an above-average rate of growth of production and with a minimum share in global production (white color) ranged around a level of approximately 8–9% in 2010. Thus, the above shows that world production is very distinctly concentrated.

### Global consumption of chicken meat

Global consumption of chicken meat is continually growing. The most significant share of such consumption is logically had by the regions that are the strongest in terms of producers. America has a share of approximately 38% of global consumption, Asia has approximately 37%, and Europe has a share of consumption of approximately 18%. If we analyze the dynamics of growth in consumption of chicken meat, it may be stated that the most marked growth can be found primarily in the case of certain developing regions (southern Africa, southern America, western Asia, Central America, eastern, southern and



1: Production of chicken meat in individual world countries (according to the rate of growth in consumption and share of global consumption)  
Source: own processing

VI: Segmentation of individual countries producing chicken meat according to rate of growth in production and share of global production (key to Graph 1)

Myanmar	Ghana	Cameroon	Estonia	Saint Lucia	Bolivia	Guinea-Bissau	China	Turkey
Guyana	Turkmenistan	Bosnia and Herz.	Panama	Sri Lanka	El Salvador	Central African R.	Brazil	UK
Albania	Ecuador	Norway	Finland	Lebanon	Slovakia	United Arab Emi.	Mexico	Malaysia
Namibia	Morocco	Guinea	Egypt	Fiji	Lesotho	Tunisia	India	Poland
Swaziland	Honduras	Lithuania	Mauritius	Cook Islands	Jamaica	Philippines	Iran	Peru
Iceland	Viet Nam	Senegal	Yemen	Syria	Kuwait	Lao	Indonesia	Colombia
Brunei	Togo	Azerbaijan	Mongolia	Dominican R.	Iraq	Germany	Argentina	Ukraine
Nicaragua	Zimbabwe	Israel	Pakistan	Liberia	Venezuela	Réunion	South Africa	
Belgium	Aruba	Gibraltar	Monaco	Serbia			USA	Italy
Serbia	Belgium	Greenland	Norfolk Island	Jan Mayen Is.			Russia	
Palestina	Virgin Islands	Holy See	Mariana Isl.	Turks, Caicos I.			Japan	
Montenegro	Cayman Islands	Isle of Man	Pacific Islands	Western Sahara			Thailand	
Micronesia	Channel Isls.	Liechtenstein	Palau				Spain	
Luxembourg	Djibouti	Maldives	Pitcairn Islands				France	
Andorra	Ethiopia PDR	Marshall Islands	Saint Helena				Canada	
Anguilla	Faroe Islands	Mayotte	San Marino				Australia	

Source: own processing

southeastern Asia, and central Africa). The details pertaining to the development of consumption of chicken meat in individual regions of the world are set out in the following Tab. VII.

If we analyze consumption of chicken meat in individual countries, we reach the finding that global consumption is territorially highly concentrated – where the decisive share of total consumption is in a relatively limited group of countries (Graph 2).

There exist very significant differences between the individual countries in regard to the consumption per one inhabitant, and also in regard to the dynamics of growth of consumption (Graph 3). Countries with a higher share of

consumption exceeding 1% and with a rate of growth of consumption exceeding 4.2%/year (brown color) have approximately a 42% share of global consumption. Countries whose share of global consumption is also higher than 1%, but whose rate of growth of consumption is lower than the above-mentioned 4.2% (which is the world average) have a share of global consumption (yellow color) of approximately 32%. Countries whose share in global consumption is lower than one percent, but whose rate of growth of consumption is above-average (green color) have a share of global consumption of approximately 18%. Other countries then have a share of global consumption of approximately 8%.

## VII: Territorial structure of chicken meat consumption in tons

	1961	1981	2001	2010	Basic index 07/61	Year-on-year growth rate (geo-mean) 1961–2010	Share in 2010
World + (Total)	8 826 695	26 966 917	69 059 050	84 208 588	9.540	1.050	
Africa + (Total)	362 780	1 219 105	3 385 568	4 323 689	11.918	1.055	5.13%
--Eastern Africa + (Total)	109 320	244 429	397 148	430 436	3.937	1.030	0.51%
--Middle Africa + (Total)	15 077	47 386	142 174	326 695	21.668	1.069	0.39%
--Northern Africa + (Total)	132 365	434 065	1 398 135	1 615 897	12.208	1.056	1.92%
--Southern Africa + (Total)	35 577	243 847	1 000 366	1 265 459	35.570	1.081	1.50%
--Western Africa + (Total)	70 441	249 378	447 744	685 202	9.727	1.051	0.81%
Americas + (Total)	3 918 061	10 298 571	17 210 944	32 565 972	8.312	1.047	38.67%
--Northern America + (Total)	3 386 341	7 028 679	14 882 209	16 962 399	5.009	1.036	20.14%
--Central America + (Total)	153 721	597 125	2 896 944	3 956 585	25.739	1.073	4.70%
--Caribbean + (Total)	61 336	295 329	605 274	839 835	13.692	1.059	1.00%
--South America + (Total)	316 663	2 377 438	8 970 554	10 807 154	34.128	1.080	12.83%
Asia + (Total)	1 479 402	5 831 352	24 328 422	31 201 299	21.090	1.069	37.05%
--Eastern Asia + (Total)	861 488	3 104 653	15 538 496	18 741 308	21.755	1.069	22.26%
--Southern Asia + (Total)	158 833	560 926	1 928 509	2 937 650	18.495	1.065	3.49%
--South-Eastern Asia + (Total)	326 749	1 179 599	3 949 764	5 341 695	16.348	1.063	6.34%
--Western Asia + (Total)	132 332	986 174	2 813 734	3 904 206	29.503	1.076	4.64%
Europe + (Total)	3 008 114	9 271 454	13 215 357	15 094 945	5.018	1.036	17.93%
--Eastern Europe + (Total)	1 126 344	3 805 614	4 417 878	6 201 207	5.506	1.038	7.36%
--Northern Europe + (Total)	414 024	938 477	2 332 070	2 514 823	6.074	1.040	2.99%
--Southern Europe + (Total)	443 785	2 470 215	2 865 839	2 898 633	6.532	1.042	3.44%
--Western Europe + (Total)	1 023 961	2 057 149	3 599 569	3 480 283	3.399	1.027	4.13%
Oceania + (Total)	58 338	346 434	774 722	1 022 682	17.530	1.064	1.21%

Source: FAO, own processing

Details of the inclusion of individual countries into the above-mentioned four groups are in Tab. VIII.

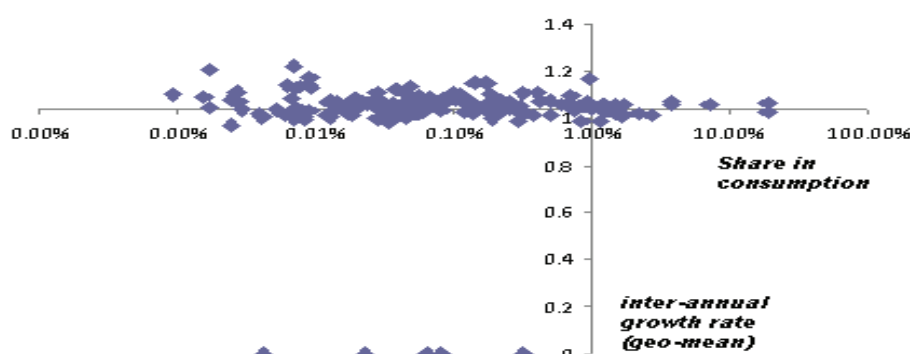
As has been stated above, there are significant differences among the individual countries pertaining to consumption per one inhabitant. A more detailed look at the range of such per capita consumption in individual countries is provided by Graph 3. The said results show that the differences are in the order of tens of kilograms (0.25 kg/capita and year – Rwanda vs. over 70 kg/capita and year Israel).

#### Global chicken meat trade – territorial structure

Trade in chicken meat has grown very significantly within the last five decades, not only in terms of value, but also in terms of the volume of traded goods. The value of world trade in chicken meat increased in the course of the analyzed period from approximately USD 169 million to almost USD 16 billion. A very dynamic share in such growth is had primarily by the following countries (Brazil, USA) and regions (America and Europe). In terms of analyzing the territorial structure of global export of chicken meat, it is evident that export is distinctly concentrated in the hands of only a few

countries and regions. The share of America and Europe in world export of chicken meat ranges around a level of approximately 92%. The most significant exporters are primarily Brazil, USA and the countries of the European Union headed by the Netherlands, France, Belgium, Germany, Poland, Great Britain and Denmark. The said countries control approximately 78% of the value of world export of chicken meat (Tab. IX).

If we then focus on the volume of the actual trade, we can once again state that despite different prices of chicken meat producers in individual world countries, world trade is, in terms of volume, concentrated in the hands of the above-mentioned entities (Tab. X). In terms of the volume of executed exports, we once again find that the greatest dynamics of growth can be seen in the case of America, primarily in the case of its southern part (Brazil and Argentina), but growth was also seen in the case of the USA and Canada. Europe also had a significant share in the growth of volume of exports (primarily EU countries – Netherlands, France, Belgium, Germany, Poland and Great Britain. Both of such said regions had a share in the volume of world export of approximately 92% (the share of the individual above-mentioned countries

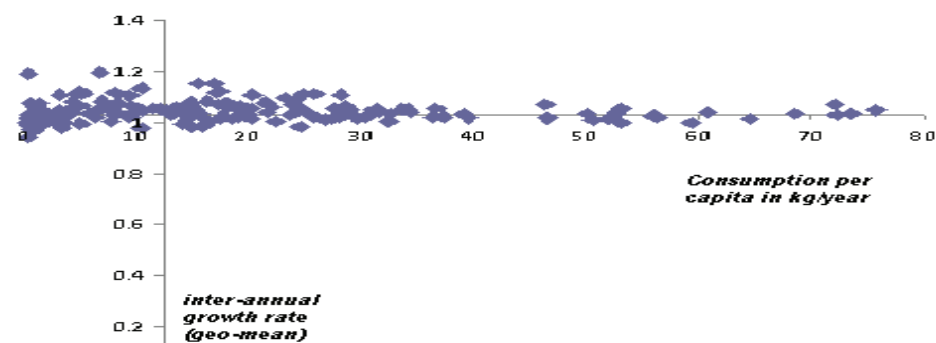


2: Consumption of chicken meat in individual world countries (according to the rate of growth in consumption and share of global consumption)  
Source: own processing

VIII: Segmentation of individual countries according to consumption of chicken meat according to rate of growth of consumption and share in global consumption (key to Graph 2)

Australia	Viet Nam	Czech Rep.	Honduras	Costa Ri.	Trinidad	Macedonia	Togo	China	Colombia
Ukraine	Chile	Yemen	Angola	Panama	DR Congo	Georgia	Bahamas	Brazil	
Myanmar	Pakistan	Guatemala	N. Zealand	Sri Lanka	Azerbaij.	Senegal		Russia	
Venezuela	Israel	Kazakhstan	Sweden	Slovakia	Croatia	Congo		Mexico	
Peru	Morocco	Kuwait	Bolivia	Finland	Zimbabwe	Armenia		Iran	
Poland	Dominican	Syria	Tunisia	Nicarag.	Paraguay	Haiti		Indonesia	
Philippines	Ecuador	Bangladesh	Lebanon	Benin	Latvia	Albania		South Afr.	
Egypt	UAE	Cuba	Ghana	Lithuania	Gabon	Bosnia		Turkey	
India	Algeria	Jordan	El Salvador	Norway	Mauritius	Guyana		Saudi Arab.	
Thailand	Jamaica	Korea	Kenya	Liberia	Iceland	Djibouti	Guinea-Biss	USA	
Korea	Ireland	Slovenia	Côte d'Ivo.	Malawi	Lesotho	Grenada	Kiribati	Japan	
Romania	Switzerland	Mali	Suriname	Polynesia	Cape Ver.	Tajikistan	Eritrea	UK	
Hungary	Denmark	Uganda	Estonia	Barbados	Gambia	Timor-Leste	Seychelles	France	
Portugal	Libya	Zambia	Kyrgyzstan	Belize	Botswana	Maldives	Vanuatu	Germany	
Belgium	Madagascar	Cyprus	Lao	Turkmen.	Burundi	Chad	Mongolia	Canada	
Netherlands	Serbia	Cameroon	Brunei	Malta	Samoa	Bermuda	Sao Tome	Spain	
Nigeria	Palestina	Burkina Faso	Luxemb.	Antilles	Comoros	C. Afri. Rep.	Solomon Is.	Malaysia	
Belarus	Uruguay	Mozambique	Sierra Leo.	Niger	Antigua	Montenegro	Ethiopia	Argentina	
Greece	Tanzania	Sudan	Namibia	Mauritan	Swaziland	Dominica	Serbia and	Italy	
Austria	Ethiopia	Uzbekistan	Nepal	Guinea	Caledonia	Saint Kitts			
Bulgaria	Moldova	Cambodia	Fiji	St. Lucia	St. Vincent	Rwanda			

Source: own processing



3: Consumption of chicken meat in individual countries of the world (according to the tempo of growth of consumption per capita and volume of consumption per inhabitant and year)  
Source: own processing



IX: Territorial structure of global chicken meat trade (export) in thousands of USD

	1961	1981	1993	2001	2009	Basic index 93/09	Share in 2009
World + (Total)	168 755	2 298 870	4 205 802	7 594 691	15 995 092	3.80	
Americas + (Total)	52 009	772 575	1 392 939	3 217 896	8 969 627	6.44	56.1%
Europe + (Total)	114 283	1 316 045	2 046 813	2 760 134	5 762 228	2.82	36.0%
European Union + (Total)	112 917	1 285 730	2 031 592	2 744 380	5 679 676	2.80	35.5%
--South America + (Total)	155	362 643	583 898	1 336 770	5 258 265	9.01	32.9%
Brazil	0	354 296	565 763	1 291 660	4 817 760	8.52	30.1%
--Western Europe + (Total)	47 660	845 174	1 512 280	1 955 650	3 930 321	2.60	24.6%
--Northern America + (Total)	51 807	408 948	803 285	1 873 993	3 687 043	4.59	23.1%
United States of America	51 648	404 908	799 195	1 816 310	3 494 860	4.37	21.8%
Netherlands	37 743	342 470	631 532	791 572	1 713 930	2.71	10.7%
Asia + (Total)	1 766	176 159	746 535	1 589 351	1 185 366	1.59	7.4%
--Eastern Europe + (Total)	30 396	345 827	192 992	263 015	870 518	4.51	5.4%
--Eastern Asia + (Total)	1 254	52 636	317 354	995 642	852 687	2.69	5.3%
France	7 026	423 751	622 325	584 407	808 824	1.30	5.1%
Belgium				403 594	768 900		4.8%
--Northern Europe + (Total)	35 540	106 657	223 080	377 697	616 151	2.76	3.9%
Germany	820	61 976	89 525	158 690	568 124	6.35	3.6%
Poland	11 688	34 874	51 718	128 687	465 503	9.00	2.9%
--Southern Europe + (Total)	687	18 387	118 461	163 772	345 238	2.91	2.2%
United Kingdom	972	21 610	66 289	150 009	268 251	4.05	1.7%
China	1 160	49 680	174 568	546 696	267 465	1.53	1.7%

Source: FAO, own processing

X: Territorial structure of global chicken meat trade (export) in tons

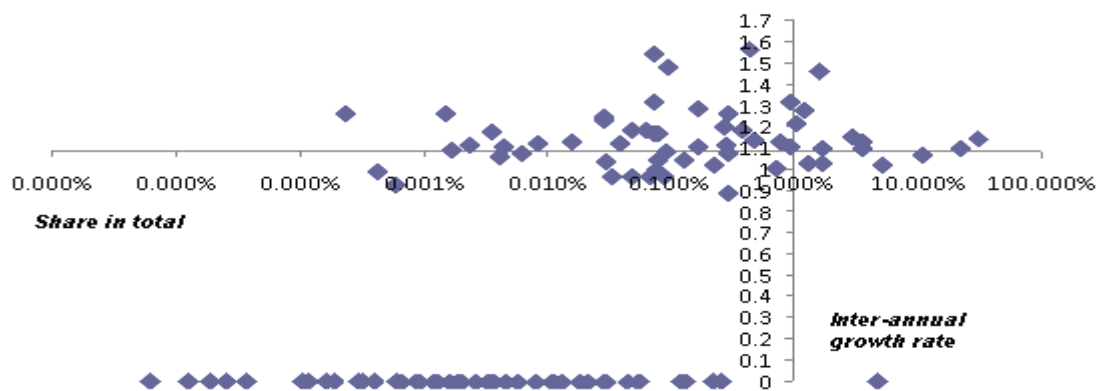
	1961	1981	1993	2001	2009	Basic index 93/09	Share in 2009
World + (Total)	271 481	1 718 534	3 198 444	7 443 424	10 732 576	3.36	
Americas + (Total)	91 860	648 777	1 454 955	4 165 413	7 234 860	4.97	67.4%
--Northern America + (Total)	91 554	348 114	923 361	2 862 835	3 643 923	3.95	34.0%
--South America + (Total)	261	300 128	527 487	1 295 872	3 569 970	6.77	33.3%
United States of America	91 364	344 119	917 072	2 794 690	3 511 170	3.83	32.7%
Brazil	0	293 937	511 397	1 249 290	3 265 750	6.39	30.4%
Europe + (Total)	174 784	928 023	1 242 779	1 852 214	2 592 095	2.09	24.2%
European Union + (Total)	172 833	904 751	1 233 458	1 839 455	2 544 131	2.06	23.7%
--Western Europe + (Total)	74 028	607 632	940 939	1 348 663	1 705 490	1.81	15.9%
Asia + (Total)	4 095	122 594	486 788	1 390 627	852 689	1.75	7.9%
Netherlands	61 534	232 845	316 706	586 628	731 750	2.31	6.8%
--Eastern Asia + (Total)	3 198	46 451	271 389	1 025 614	616 929	2.27	5.7%
China, Hong Kong SAR	94	1 338	164 764	660 621	461 161	2.80	4.3%
--Eastern Europe + (Total)	48 078	235 755	76 541	109 874	380 168	4.97	3.5%
--Northern Europe + (Total)	51 598	70 285	152 771	280 421	350 832	2.31	3.3%
France	8 390	309 994	444 640	370 122	348 464	0.78	3.2%
Belgium				286 498	344 015	#DIV/0!	3.2%
Germany	1 110	49 829	55 385	98 270	251 493	4.54	2.3%
Poland	19 106	15 067	14 798	41 975	214 688	14.51	2.0%
Argentina	259	0	1 726	17 171	209 271	121.25	1.9%
United Kingdom	1 494	12 236	42 865	129 332	202 140	4.72	1.9%
--Western Asia + (Total)	464	44 810	39 004	38 538	192 611	4.94	1.8%
China	3 055	42 103	100 881	361 060	134 089	1.33	1.2%

Source: FAO, own processing

reached approximately 86%). There is thus a high degree of concentration – that is also evidenced by the following Graph 4 – where it is clear that global trade is controlled by only a few countries.

Graph 4 shows a distinct concentration of export strength in the hands of a limited number of countries. To the left of the y axis, there is

a presentation of the number of countries whose share in world export is less than 1%, and to the right are the countries whose share is higher than 1%. Above the x axis are those countries whose rate of growth in the value of export exceeded the worldwide average within the period of 1993–2009 (i.e. 8.7% per year). Under the axis are the countries



4: Structure of world chicken meat trade (according to the share of individual countries in world export and year-on-year rate of growth in the value of executed exports)

Source: own processing

XI: Segmentation of individual countries according to export activities in the area of chicken meat according to growth of consumption and share in global consumption (key to Graph 4)

Austria	Russia	Bulgaria	Turkey	Estonia	Kuwait	Brazil	UK
Latvia	El Salvador	Costa Rica	Oman	Egypt	Ireland	USA	Argentina
Finland	Slovakia	Spain	Norway	Trinidad	Sri Lanka	Germany	Canada
Korea	Romania	Guatemala	Lithuania	Sweden	Australia	Hong Kong	Chile
Cyprus	Fiji	Macao SAR	New Zealand	Italy		Poland	
Belarus	Paraguay	Ecuador	Syria	Botswana	Bangladesh	Netherlands	
Jordan	Bahrain	Iran	Côte d'Ivoire	Senegal	Luxembourg	France	
Philippines	Colombia	Lebanon	Kazakhstan	Moldova	Belize	Belgium	
Ukraine	Luxembourg	Togo	Macedonia	Uganda	Brunei	China	
Uruguay	Qatar	Peru	Viet Nam	Algeria	Burkina Faso	Denmark	
Israel	India	Georgia	Guinea	Angola	Burundi		
Namibia	Barbados	Aruba	Seychelles	Antigua	Cambodia		
Serbia	Tunisia	Yemen	Albania	Armenia	Cameroon		
Bosnia	Palestina	Morocco	Saint Lucia	Azerbaijan	Cape Verde		
Honduras	Nicaragua	Zambia	Benin	Bahamas	Central Africa		
Polynesia	Lesotho	New Caledonia	Zimbabwe	Singapore	Chad		
Gabon	Libya	Pakistan	Japan	Switzerland	Comoros		
Ghana	Madagascar	Papua	Czech Republic	Malaysia	Congo		
Grenada	Malawi	Saint Vincent	Bolivia	Portugal	Cuba		
Guam	Mali	Serbia	Jamaica	Croatia	DR of Congo		
Guyana	Malta	Sudan	Greece	UAE	Djibouti		
Haiti	Mauritius	Swaziland	South Africa	Saudi Arabia	Dominican R.		
Iceland	Montenegro	Tonga	Mexico	Kenya	Ethiopia		
Indonesia	Mozambique	Tanzania	Slovenia	Panama	Ethiopia PDR		
Kyrgyzstan	Nepal	Venezuela (	Hungary	Thailand	Antilles		

Source: own processing

whose year-on-year rate of growth in the value of exports was lower. Tab. XI shows the segmentation of countries according to the individual quadrants of Graph 4 as mentioned above. The brown segment

has a total share of trade of approximately 67%, the yellow segment has a share of global export of approximately 23.5%, the green segment has a share

XII: Territorial structure of global trade (import) of chicken meat in thousands of USD

	1961	1981	1993	2001	2009	Share in 2009
World + (Total)	164 383	2 458 802	3 962 504	6 801 011	15 698 786	
Europe + (Total)	140 489	900 421	1 699 491	3 189 291	6 644 265	42.32%
Asia + (Total)	7 193	1 213 127	1 776 699	2 901 651	6 611 422	42.11%
European Union + (Total)	120 009	476 663	1 495 150	2 343 119	5 212 998	33.21%
--Eastern Asia + (Total)	3 594	223 475	1 077 536	1 982 022	3 229 802	20.57%
--Western Asia + (Total)	1 988	826 277	537 633	751 405	2 630 355	16.76%
--Western Europe + (Total)	124 022	402 922	948 280	1 133 757	2 547 206	16.23%
--Northern Europe + (Total)	2 023	47 617	356 452	970 945	1 770 316	11.28%
--Eastern Europe + (Total)	9 139	406 008	174 453	853 525	1 713 682	10.92%
Americas + (Total)	7 712	153 701	351 165	511 827	1 466 809	9.34%
United Kingdom	1 365	37 299	332 476	736 717	1 205 220	7.68%
China, Hong Kong SAR	3 429	58 539	315 416	646 362	1 057 660	6.74%
China	0	261	56 388	419 017	1 024 642	6.53%
Japan	65	162 735	703 629	827 697	1 023 290	6.52%
Saudi Arabia	228	262 820	20 4587	310 250	1 008 940	6.43%
Russian Federation			72 927	665 190	1 006 000	6.41%
Africa + (Total)	8 296	164 910	101 281	164 409	910 112	5.80%
Germany	104 900	281 317	548 597	490 871	732 977	4.67%
France	467	20 964	96 347	222 423	704 387	4.49%
Netherlands	618	22 740	126 124	185 215	608 456	3.88%
United Arab Emirates	0	67 000	90 000	147 000	470 817	3.00%

Source: FAO, own processing

XIII: Territorial structure of global trade (import) of chicken meat in tons

	1961	1981	1993	2001	2009	Share in 2009
World + (Total)	258 388	1 643 403	2 733 965	6 422 431	9 428 170	
Asia + (Total)	13 225	804 358	1 391 716	3 001 807	4 342 303	46.06%
Europe + (Total)	222 740	560 683	890 492	2 620 518	3 094 959	32.83%
--Eastern Asia + (Total)	6 363	155 396	832 104	2 144 085	2 006 318	21.28%
European Union + (Total)	194 482	278 835	752 581	1 231 965	1 879 195	19.93%
--Western Asia + (Total)	2 803	547 505	433 912	687 374	1 681 502	17.83%
--Eastern Europe + (Total)	14 621	279 342	196 790	1 429 872	1 372 291	14.56%
Americas + (Total)	11 550	145 955	341 326	566 836	1 184 867	12.57%
--Western Europe + (Total)	196 597	230 882	413 570	626 365	998 714	10.59%
Russian Federation			73 900	1 219 260	911 954	9.67%
China	0	175	97 849	655 743	796 421	8.45%
Africa + (Total)	10 012	117 107	87 076	207 436	763 170	8.09%
Saudi Arabia	300	182 280	168 366	290 259	554 709	5.88%
Mexico	101	13 007	113 269	227 913	480 535	5.10%
Japan	91	97 997	390 317	523 087	420 253	4.46%
United Arab Emirates	0	42 000	75 000	131 000	311 669	3.31%
Netherlands	954	13 247	70 658	127 754	309 557	3.28%
United Kingdom	1 855	21 380	129 546	255 679	304 254	3.23%

Source: FAO, own processing

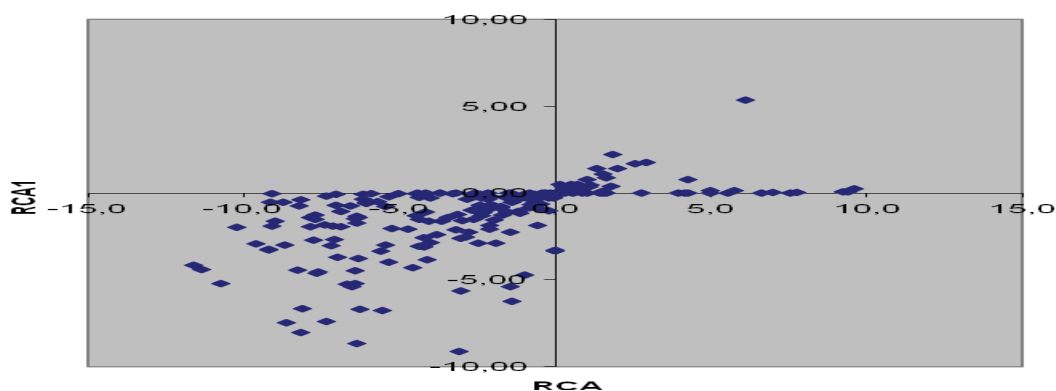
of approximately 6%, and the share of the other countries (white segment) is less than 4%.

In addition to the selected characteristics of the territorial structure of world export of chicken meat, it is also appropriate to mention the territorial structure of imports – see Tab. XII and XIII. Both of those tables show that the most significant importer of chicken meat is Europe and Asia. These two regions have a share in global imports of approximately 75% in terms of value and approximately 79% in terms of volumes. Namely, the most significant volumes of imports are seen in the following countries: Great Britain, China, Japan, Saudi Arabia, Hong Kong, Russia, Germany, France, and Netherlands, United Arab Emirates (the share of the said countries% in the value and volume of global imports ranges around a level of approximately 50%). If we compare with each other the individual data pertaining to the territorial structure of exports

and imports, a number of countries show up not only as a significant importer, but also as an exporter – that is caused by the fact that a whole number of countries is active in the re-export process. For example, this is especially noticeable in the case of the Netherlands, Germany, Great Britain, France or Hong Kong.

### Competitiveness on the global chicken meat market

An analysis of competitiveness confirms the finding pertaining to a high rate of concentration of the chicken meat market. The results of the RCA and RCAI index values presented in Graph 5 provide an overview of the distribution of forces within the global market. The results presented in the graph and in Tab. XIV below show that a comparative advantage in the field of chicken meat trade is had by a relatively small segment of countries.



5: Competitiveness of individual countries on the global market (results of RCA and RCAI index)

Source: own processing

XIV: Distribution of countries into selected groups according to segmentation in Graph 5 (on the basis of RCA and RCAI index values)

Norway	France	Slovakia	Djibouti	Mauritania	Zimbabwe	Viet Nam	Grenada	Brazil	Uruguay
Cambodia	Germany	Peru	UK	Macao SAR	Sao Tome	Equatorial G.	Saint Lucia	USA	Italy
Swaziland	Uzbekistan	Panama	Moldova	Guinea-Bis.	Albania	Ethiopia	Cuba	Poland	Thailand
Philippines	Bolivia	Lebanon	Faroe Isl.	Sierra Leone	Cape Verde	Comoros	Angola	Belgium	Serbia
Sri Lanka	El Salvador	Mongolia	Greece	Guatemala	Kiribati	Guam	Niue	Turkey	Australia
Mauritius	Nicaragua	Canada	Latvia	Mexico	Russia	Norfolk Isl.	Antilles	Netherlands	Denmark
Mali	Bulgaria	Azerbaijan	Sweden	Malta	Ukraine	Pacific Isl.	Saudi Arabia	Hungary	N. Zealand
Malawi	Iceland	Egypt	Romania	Seychelles	Haiti	Montenegro	Namibia	Chile	Iran
Chad	Malaysia	Papua	Trinidad	Aruba	Iraq	New Caled.	St. Vincent	Finland	
Indonesia	Korea	Cyprus	Qatar	Bhutan	Bahrain	Polynesia	Samoa	Argentina	
Guyana	Portugal	Dominica	Montenegro	Mozambique	UAE	Macedonia	Saint Kitts		
Tunisia	Fiji	Gambia	Venezuela	Togo	Kyrgyzstan	Cook Islands	Dominica		
Sudan	Spain	Czech Rep.	Japan	South Africa	Bahamas	Bermuda	Suriname		
Brunei	Guinea	Botswana	Jamaica	Oman	Armenia	Ghana	Gabon		
Costa Rica	Croatia	Estonia	Palestina	Solomon Isl.	Vanuatu	Yemen	Antigua		
Syria	Honduras	Luxemburg	Turkmen.	Afghanistan	Georgia	DR Congo	Kuwait		
Côte d'Ivoire	Austria	China	Ireland	Liberia	Lesotho	Timor-Leste	Benin		
Nigeria	Maldives	Switzerland	Singapore	Kazakhstan	Tajikistan	Congo	Tonga		

Source: own processing

These countries then generally have comparative advantages in the field of chicken meat trade both in terms of their own market, as well as in terms of the global market. The resulting distribution of forces on the global chicken meat market is also shown by the last table – Tab. XV – providing an overview of

the development of the chicken meat trade balance in the case of individual world countries.

Tab. XIV shows that countries with the most significant comparative advantages both in terms of their own domestic market, as well as in terms of the global market, control approximately 82% of the value of global trade. The share of the other more

XV: (A) Countries with a positive chicken meat trade balance

Brazil	4816 440	Chile	116 837	Australia	26 528	Serbia	4 287	Iran	328
USA	3 358 999	Denmark	107 148	Slovenia	21 888	Paraguay	2 840	Zambia	112
Netherlands	1 095 475	France	104 437	Lithuania	14 276	Colombia	1 811	Kenya	97
Belgium	517 767	Hungary	78 017	N. Zealand	11 575	India	934	Total	11 289 837
Poland	436 847	Italy	66 906	Uruguay	8 962	Costa Rica	580		
Argentina	251 038	Thailand	46 555	Israel	8 645	Ecuador	423		
Turkey	148 219	Belarus	34 063	Bulgaria	7 401	Barbados	402		

Source: own processing

XV: (B): Countries with a negative chicken meat trade balance

Saudi Arabia	-1 113 624	Ghana	-85 373	Suriname	-18 117	Tonga	-6 648	Solomon Isl.	-1 384
Russia	-1 111 464	Czech Rep.	-75 282	Macao SAR	-17 327	Azerbaijan	-6 256	Sudan	-1 317
Japan	-1 108 375	Kazakhstan	-73 670	Mozambique	-17 151	Botswana	-5 974	Côte d'Ivoire	-1 302
UK	-946 970	DR Congo	-61 192	Caledonia	-16 752	Turkmenistan	-5 830	Iceland	-1 223
China	-857 177	Egypt	-57 022	Jamaica	-15 983	Moldova	-5 711	Kiribati	-1 210
Hong Kong	-599 242	Gabon	-52 881	Estonia	-15 350	Togo	-5 578	Gambia	-1 167
UAE	-457 829	Austria	-50 183	Croatia	-14 853	Djibouti	-5 151	Sao Tome	-1 156
Mexico	-439 471	Bahrain	-49 037	Lebanon	-14 420	Liberia	-5 132	Fiji	-1 076
Kuwait	-334 530	Malaysia	-43 664	Malta	-14 257	Dominica	-5 111	Brunei	-480
Viet Nam	-314 220	Macedonia	-39 829	Palestina	-13 553	Timor-Leste	-5 110	Bolivia	-473
Iraq	-191 110	Portugal	-39 405	Dominica	-12 222	Panama	-5 021	Bhutan	-355
Angola	-181 467	Namibia	-38 046	Cyprus	-11 747	Nigeria	-4 850	Sri Lanka	-235
Ukraine	-172 917	Slovakia	-37 379	Mauritania	-11 673	Honduras	-4 699	Morocco	-222
Yemen	-171 100	Georgia	-36 995	Peru	-11 573	Saint Kitts	-4 518	Saint Pierre	-190
Germany	-164 853	Guatemala	-35 363	Comoros	-11 570	Indonesia	-3 858	Mauritius	-178
Singapore	-160 802	Armenia	-29 710	Antigua	-11 357	Papua	-3 511	Niue	-163
Cuba	-155 972	Haiti	-29 378	Trinidad	-10 884	Syria	-3 418	Mali	-115
Sweden	-142 360	Zimbabwe	-29 163	Bosnia	-10 406	Sierra Leone	-3 370	Cambodia	-112
Ireland	-139 538	Antilles	-27 172	Saint Lucia	-9 909	Vanuatu	-2 576	Guyana	-97
South Africa	-124 106	Luxembourg	-26 533	Bermuda	-9 584	Finland	-2 305	Malawi	-90
Benin	-117 989	Kyrgyzstan	-25 930	Montenegro	-9 112	Seychelles	-2 192	Cameroon	-52
Switzerland	-114 083	Albania	-25 877	Maldives	-8 770	Uzbekistan	-2 115	Chad	-52
Greece	-111 127	Afghanistan	-24 583	Aruba	-8 273	Norway	-1 893	Swaziland	-40
Qatar	-110 009	Latvia	-24 477	Cape Verde	-8 255	Mongolia	-1 844	Myanmar	-33
Romania	-107 949	Bahamas	-23 494	St. Vincent	-8 165	Nicaragua	-1 672	Burkina Faso	-20
Korea	-103 252	Polynesia	-22 925	Samoa	-7 683	Cook Islands	-1 570	Uganda	-8
Oman	-99 294	Tajikistan	-22 487	Grenada	-7 662	Faroe Islands	-1 561	Bangladesh	-3
Canada	-96 774	EquatorialG.	-21 255	Lesotho	-7 250	Tunisia	-1 548	Ethiopia	-3
Spain	-96 025	Jordan	-20 748	Congo	-6 810	Guinea	-1 535	Niger	-2
Venezuela	-89 485	Philippines	-20 225	El Salvador	-6 745	Guinea-Biss.	-1 484	Rwanda	-2

Source: own processing



than 180 analyzed countries thus does not even achieve 20%. This fact is also reflected in the resulting chicken meat trade balance in the case of individual countries – see Tab. XV A. Most of the countries of the world achieve a negative trade balance in terms of chicken meat trade – see Tab. XV B.

## CONCLUSIONS

Based on the global chicken meat market as set out above, the following may be stated. The chicken meat market has developed very dynamically within the past years and has significantly grown both in volume as well as in the value of traded chicken meat. The demand for chicken meat grew significantly in all regions of the world, but the demand for chicken meat increased and continues to increase the most dynamically in Asian countries. In relation to the growth in demand, it may be stated that demand is growing despite a significant increase in the prices of chicken meat, where primarily in the past ten years the prices of chicken meat have grown significantly faster as compared to the prices of pork and beef. The growing demand for this type of meat despite the increase in its price as compared to other types of meats can be explained primarily by the fact that the prices of chicken meat are still significantly lower when compared to pork and especially beef. The growth in demand for chicken meat on the global market in recent years has been affected by two key factors. The first of these is the growth in population (from 3 billion in 1960 to approximately 7 billion in 2010), which has more than doubled in the course of the last five decades, and the second of these factors is also growth in global product and primarily the per capita product, which has also more than doubled in the course of the past approximately fifty years despite the quick growth in population, from USD 2500 to approximately USD 6000 (measured in stable prices from 2000). However, it is important to mention that the level of consumption of chicken meat differs significantly in individual countries. While less than a kilogram of chicken meat is the share per one inhabitant per year in the poorest countries of Africa, consumption ranges in the tens of kilograms of chicken meat per year in the developed countries of the world.

Supply reacted in a very flexible manner to the growth in demand for chicken meat in the course of the analyzed five decades. World production of chicken meat increased from 7.5 million tons to more than 86 million tons. The global market reacted in a flexible manner, where there was an increase in the volumes of executed trade from 271 thousand tons/year in 1961 to more than 10.7 million tons/year in 2010. The growth in demand for chicken meat was accompanied by an increase in its price. As a result of that, the value of world trade in chicken meat then increased even more dynamically as compared to growth in the volume of executed contracts. Just in the years 1961–2009, the value of world trade in chicken meat increased from

approximately USD 169 million to approximately USD 16 billion. An analysis of the global chicken meat market has proven its concentration. Approximately two hundred countries and regions producing and trading in chicken meat have been analyzed. The results of the analysis show that there are only several countries that control the global chicken meat market and which have comparative advantages. The most significant players on the chicken meat market undoubtedly include, in terms of production, America and Asia, followed by Europe; in terms of consumption they are America, Asia and Europe; and in terms of trade (export), the most significant players are America (primarily Brazil and the USA) and Europe (primarily the EU). The analysis of the global market further shows that Brazil, the USA and China represent, in terms of global production, consumption and trade, the main driving force on the chicken meat market. These three countries have a share in global production of approximately 46%, their share in global consumption ranges at a level of over 40%. The share of these countries in global export ranges at a level exceeding 50%. In relation to the comparative advantages available to individual countries of the world in terms of the global market, it may be stated that only a limited segment of countries is able to assert themselves in the current highly turbulent environment. These countries include Brazil, USA, Poland, Belgium, Turkey, Netherlands, Hungary, Chile, Finland, Argentina, Uruguay, Italy, Thailand, Serbia, Australia, Denmark, New Zealand and Iran. The cumulative chicken meat trade balance in the case of these countries exceeds the sum of ten billion American dollars, and their share in the global chicken meat trade ranges at a level exceeding eighty percent. On the basis of the above findings, it may be stated that the processes of liberalization, internationalization and specialization have, in the case of the global chicken meat market, manifested themselves in such a way that it has gradually become profiled. The market has concentrated and is currently controlled by approximately ten to fifteen dominant countries. It may be expected that in the future the demand for chicken meat will continue to grow and the perspective of the market will be significantly increasing, primarily as a result of growth in the standard of living especially in developing countries of the world and also by way of growth in the world population. The growth in demand for chicken meat will also be boosted by its dietary properties for which this meat is sought out by consumers. A significant role in the development of demand for chicken meat will also continue to be played by its significantly lower unit price as compared to competing types of meats, which is caused by the lower costs for the production of one kilogram. In relation to the development of the territorial structure of world trade in chicken meat, it may be expected that the market will continue to profile itself even more. Primarily southern and northern American countries will assert themselves

as exporters, as well as western European countries. Asian countries will, on the other hand, will work their way up to the position of a dominant consumer. The main production centers will

continue to be primarily in southern and northern America, southeastern Asia, and in Europe these will be primarily some EU member countries.

### SUMMARY

The global meat market and primarily the chicken meat market represents a very dynamically developing area. Production of and trade in chicken meat, under the pressure of constantly growing demand for this product, are constantly increasing in values, both in terms of volume, as well as in terms of the value of realized chicken meat. The objective of the present article is the analysis of the chicken meat market in the world in order to identify the basic development trends associated with the development of production of and trade in chicken meat, and also in order to identify the individual entities controlling the global chicken meat market (production, consumption and trade). The results of the conducted analysis show the following findings. World production of poultry meat increased from 7.5 million tons to more than 86 million tons. The global market reacted in a flexible manner, in which there was an increase in volumes of executed trade from 271 thousand tons/year in the year 1961 to more than 10.7 million tons/year in the year 2010. Further, the value of world trade in chicken meat within the analyzed period increased from approximately USD 169 million to approximately USD 16 billion. If we analyze the global chicken meat market, it may be stated that it is very concentrated. The results of the analysis show that there are only several countries that control the global chicken meat market and which have comparative advantages. The most significant players on the chicken meat market undoubtedly include, in terms of production, America and Asia, with Europe following; in terms of consumption, it is America, Asia and Europe; and in terms of trade (export), the most significant players are America (primarily Brazil and the USA) and Europe (primarily the EU). In relation to the comparative advantages available to individual countries of the world in terms of the global market, it may be stated that only a limited segment of countries is able to assert themselves in the current highly turbulent environment. These countries include Brazil, USA, Poland, Belgium, Turkey, Netherlands, Hungary, Chile, Finland, Argentina, Uruguay, Italy, Thailand, Serbia, Australia, Denmark, New Zealand and Iran. The cumulative chicken meat trade balance in the case of these countries exceeds the sum of ten billion American dollars, and their share in the global chicken meat trade ranges at a level exceeding eighty percent.

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### REFERENCES

- BALASSA, B., 1965: Trade liberalization and 'revealed' comparative advantages. *The Manchester School of Economic and Social Studies*. Vol. 32, No. 2, pp. 99/123. ISSN 10490078.
- BOSKOVIC, S. B., MITROVIC, S., DJOKOVIC, R., DOSKOVIC, V., DJERMANOVIC, V., 2010: Chemical Composition of Chicken Meat Produced in Extensive Indoor and Free Range Rearing Systeme. *African Journal of Biotechnology*. Available online at <http://www.academicjournals.org/AJB>. ISSN 1684-5315.
- BOWEN, H. P., 1983: On the Theoretical Interpretation of Trade Intensity and Revealed Comparative Advantage, *Weltwirtschaftliches Archiv*, 119: 464-472. ISSN 0043-2636.
- BURIANOVÁ, J., 2011: Effect of the 2008-2009 economic crisis on the results of agricultural foreign trade of the Czech Republic. *Agric. Econ. – Czech*. Vol. 57, No. 5, pp. 226-231. ISSN 0139-570X.
- DONGES, J. B. and RIEDEL, J., 1977: The Expansion of Manufactured Exports in Developing Countries: an Empirical Assessment of Supply and Demand Issues. *Weltwirtschaftliches Archiv*, Vol. 113. ISSN 0043-2636.
- FAJARDO-ZAPATA, Á., L., MENDEZ-CASALLAS, F. J., MOLINA, L. H., 2011: Residues of Anabolic Drugs in Meat Intended for Human Consumption. *Univ. Sci.* [online], Vol. 16, No. 1, pp. 77-91. ISSN 0122-7483.
- FAO, 2009: *The State of Food and Agriculture – Livestock in Balance*, Rome. ISSN 0081-4539.
- FOOD AND AGRICULTURAL ORGANIZATION (FAO), 2007b: *ProdSTAT: Livestock (primary and processed)*. <http://faostat.fao.org/site/569/DesktopDefault.aspx?PageID=569ChickenMeat> Accessed May 25, 2012.
- LIESNER, H. H., 1958: The European Common Market and British Industry. *The Economic Journal*, Vol. 68, No. 270, pp. 302-316. ISSN 1468-0297.

- MAGDELAINE, M., SPIESS, P., VALCESCHINI, E., 2008: Poultry Meat Consumption Trends in Europe. *World's Poultry Science Journal*, Vol. 64, 53–64. ISSN 0043-9339.
- MIRZAEI, F., YAZDANI, S., MOSTAFAVI, S. M., 2006: The Dynamics of Iran's Chicken Meat Export Patterns in the Middle East Region. *International Journal of Poultry Science* 5 (1): 93–95. ISSN 1682-8356.
- QINETI, A., RAJCANIOVA, M., MATEJKOVA, E., 2009: The competitiveness and comparative advantage of the Slovak and the EU agri-food trade with Russia and Ukraine. *Agric. Econ. – Czech*. Vol. 55, No. 8, pp. 375–383. ISSN 0139-570X.
- SCANES, C. G., 2007: The Global Importance of Poultry. *World's Poultry Science Journal*, Vol. 63, pp. 1057–1058. ISSN 0043-9339.
- SENTURK, B., GULER, H., 2012: The Progress of Poultry Meat Production in Turkey. *Journal of animal and veterinary advances*, 11, Vol. 6, pp. 763–765. ISSN 1680-5593.
- SPEEDY, A. W., 2003: Global Production and Consumption of Animal Source Foods. *Journal of Nutrition*. Vol. 133, No. 11. ISSN 0022-3166.
- STEINFELD, H., 2003: Economic Constraints on Production and Consumption of Animal Source Foods for Nutrition in Developing Countries. *Journal of Nutrition*. Vol. 133, No. 11. ISSN 0022-3166.
- SUCHÝ, P., JELÍNEK, P., STRAKOVÁ, E., HUCL, J., 2002: Chemical Composition of Muscles of Hybrid Broiler Chickens during Prolonged Feeding. *Czech J. Anim. Sci.* 47(12): 511–518. ISSN 1212-1819.
- SVATOŠ, M. et al., 2011: Globalizační procesy v zemědělství a role EU v rámci globálního trhu. Praha: powerprint. ISBN 978-80-87415-26-9.
- UTKULU, U., SEYMEN, D., 2004: Revealed Comparative Advantage and Competitiveness: Evidence for Turkey vis-à-vis the EU/15. Paper was presented at the European Study Group 6th Conference, ETSG 2004.
- VOLLRATH, T. L., 1991: A Theoretical Evaluation of Alternative Trade Intensity Measures of Revealed Comparative Advantage. *Weltwirtschaftliches Archiv*, 127: 265–280. ISSN 0043-2636.
- WINDHORST, H. W., 2006: Changes in Poultry Production and Trade Worldwide. *World's Poultry Science Journal*, Vol. 62, pp. 585–602. ISSN 0043-9339.

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