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MARKETING AND PROCESSING SHARE IN FOOD PRICES (LONG TERM COMPARATIVE ANALYSIS)

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ABSTRACT. This paper analyzes the final agricultural output value, the foodstuffs consumption value, and the price relations of primary agricultural products and food in Poland and Germany in 1960-2001. The share of the final agricultural output value in the foodstuffs consumption value has decreased in both countries. Although it is lower in Germany, the rate of its decrease is greater in Poland. In Poland and Germany the differences in prices between primary agricultural products and food have been increasing. At the same time the margin of profit for processing and trade has been growing in both countries.

Key words: final agricultural output value, foodstuffs consumption value, price relations, margin of profit

Introduction

Prices, as the main factor influencing production and consumption, constitute the core of economics. Agricultural prices play a special role, since they determine the agricultural production income, consumers' level of life and, in many countries, the value of export (**Tomek** and **Robinson** 2001).

The money farmers receive for the products they sell is just a fraction of the money spent by final consumers. Consumer expenditures for foodstuff are divided between original producers/farmers and between processing and distribution agencies. The food prices to agricultural prices index may be a base to estimate the share of final agricultural production value in foodstuffs consumption value, and to assess at the same time the marketing and processing margin. The gap between the agricultural production value and the foodstuffs consumption value has recently been expanding in most of the developed countries.

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The aim of this publication is to assess and compare the processing and marketing share in food prices in Poland and Germany, on the basis of food consumption value, agricultural production value and price trends analysis in 1960-2002.

Germany and Poland have similar production and consumption structures thus have been chosen for comparison analysis. The data used in this paper comes from Polish and German statistical publications.

The share of agricultural production value in foodstuffs consumption value

Most of agricultural products undergo considerable processing before being placed in the form desired by the consumer. The costs of marketing and processing of agricultural products are defined as a margin. A margin can be also defined as a difference between food prices and agricultural products prices (**Tomek** and **Robinson** 2001).

Figure 1 presents the final agricultural output value and foodstuffs consumption value in Poland in 1960-2002. Within the analyzed period in Poland, the difference between the value of the final agricultural output and foodstuffs consumption was persistently trending up. The value of the final agricultural output has been increasing on average by 331 M. zl per year, while foodstuffs consumption value has been growing by 1.4 milliards zl per year. The annual growth of the foodstuffs consumption value has been four times bigger than the final annual agricultural output value growth.

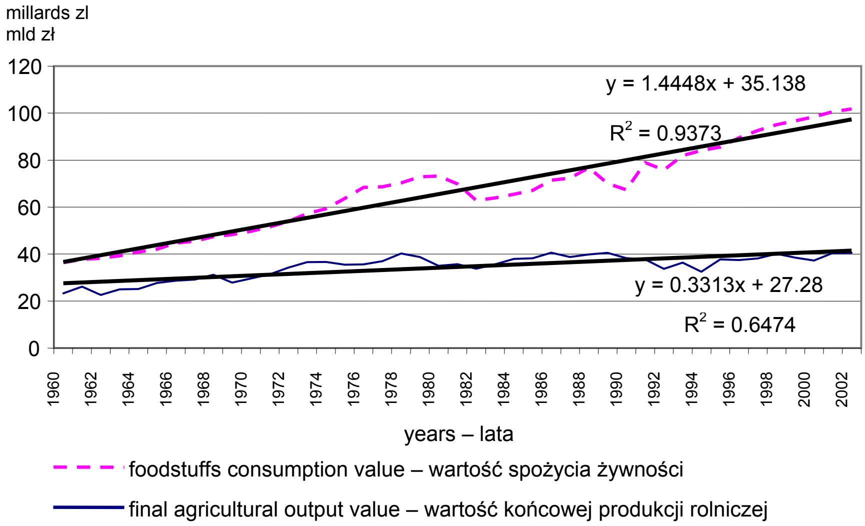

Fig. 1. Final agricultural output value and foodstuffs consumption value in Poland in 1960-2002 (constant prices of 2001) (on the basis of **Roczniki...** 1961-2003)
Ryc. 1. Wartość końcowej produkcji rolniczej oraz wartość spożycia żywności w Polsce w latach 1960-2002 (ceny stałe z 2001 roku) (na podstawie **Roczników...** 1961-2003)

Figure 2 presents the final agricultural output value and foodstuffs consumption value in Germany in 1968-2001. The difference between the value of the final agricultural output and foodstuffs consumption in Germany has been more pronounced than in Poland throughout the entire analyzed period. The annual growth of the final agricultural output value has been 290 M. EUR, while foodstuffs consumption value has been increasing by 2.4 milliards per year.

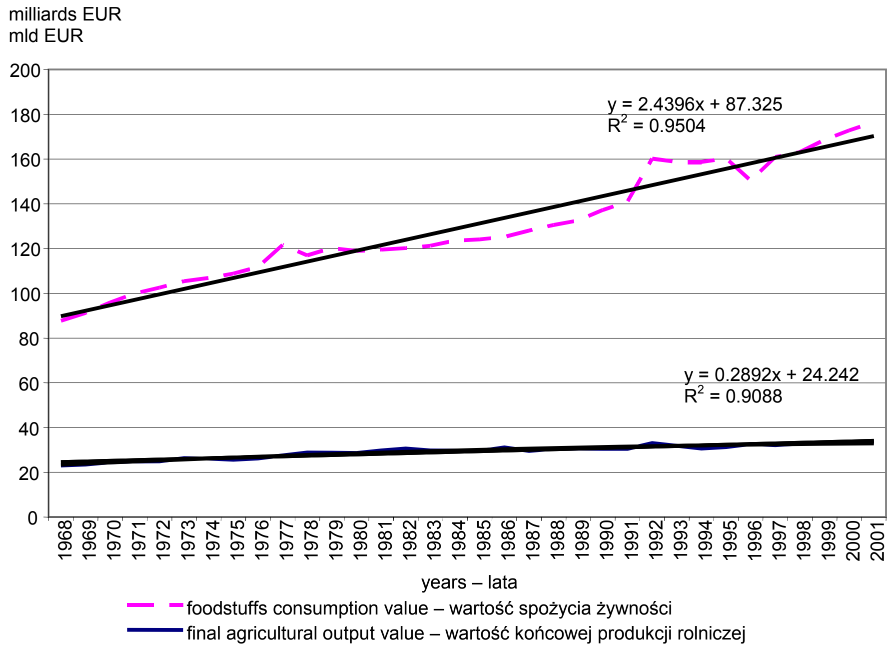

Fig. 2. Final agricultural output value and foodstuffs consumption value in Germany in 1968-2001 (constant prices of 2001) (on the basis of **Statistisches...** 1968-2001)
Ryc. 2. Wartość końcowej produkcji rolniczej oraz wartość spożycia żywności w Niemczech w latach 1968-2001 (ceny stałe z 2001 roku) (na podstawie **Statistisches...** 1968-2001)

Figure 3 presents the proportion of final agricultural output value in foodstuffs consumption value in Poland and Germany between 1960 and 2002. The share of final agricultural output value in foodstuffs consumption value has been decreasing in both countries. In Poland in 1961 it amounted to over 69%, while in 2000 it fell to 37.8%. A sharp decrease of the index was noticed in the years 1990-1991, when it fell from 56.8% to 47.7%. In Germany the share of the final agricultural output value in the foodstuffs consumption value decreased from 26.3% to 19%, in years 1968-2001.

It should be emphasized that in 2001 the share of final agricultural output value in foodstuffs consumption value in Poland was twice as big as in Germany. Larger margins in Germany than in Poland may indicate that the processing and marketing sector is better developed in this country. The costs of marketing and processing are more important in Germany than in Poland, since they absorb bigger part of consumer food expenditures.

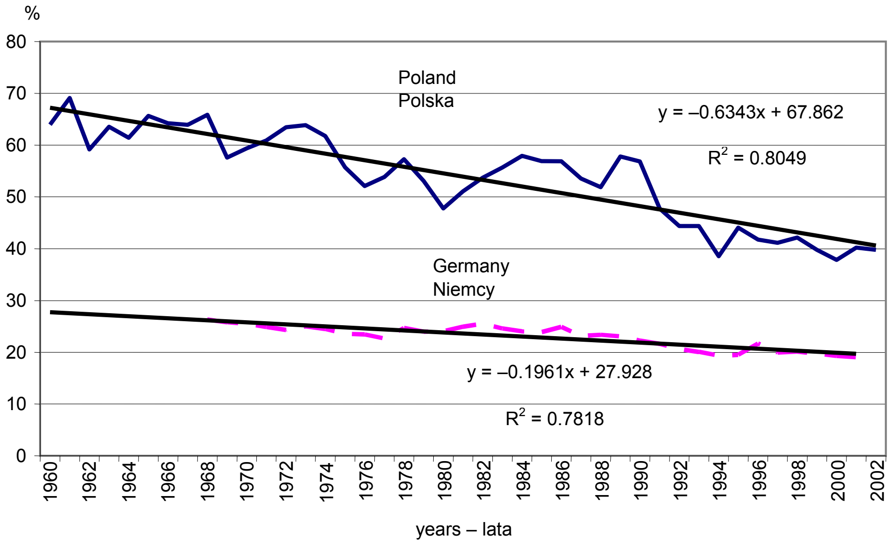

Fig. 3. Final agricultural output value share in foodstuffs consumption value in Poland and Germany in 1960-2002 (constant prices of 2001) (on the basis of **Roczniki...** 1961-2003, **Statistisches...** 1960-2001)
Ryc. 3. Udział wartości końcowej produkcji rolniczej w wartości spożycia żywności w Polsce i w Niemczech w latach 1960-2002 (ceny stałe z 2001 roku) (na podstawie **Roczników...** 1961-2003, **Statistisches...** 1960-2001)

However, the rate of decrease of agricultural production value share in foodstuffs consumption value has been more important in Poland than in Germany. In Poland this share has been decreasing annually by 0.6%, while in Germany only by 0.2%.

In Poland, the food market and consumer trends have been changing from the very beginning of the economic system transformation. Permanent supply failures from the former system have been changed into expanding food industry offer. Better possibilities of choice, growing consumer consciousness, changes in life style, and different consumer trends coming from the West resulted in increasing demand for highly processed and easy to handle food. As a result of growing consumers' demands, further dynamic expansion of food marketing chain can be expected in coming years in Poland. This process may result in further decrease of agricultural production value share in foodstuffs consumption value.

Foodstuff to agricultural products price relations

The increasing marketing and processing margins may also be demonstrated by the food products to agricultural products price relations.

Table 1 presents food prices to agricultural prices index in Poland and Germany in 1960-2001. The differences in price relations' indexes between products are mainly a result of differences in the level of their processing.

Table 1

Food prices to agricultural prices indexes in Poland and Germany in 1960-2001 (on the basis of Poczta and Wysocki 2000, Roczniki... 1961, 1971, 1981, 1991, 2001, 2002, Statistisches... 1960, 1970, 1980, 1990, 2000, 2001)
Relacje cen produktów spożywczych do cen produktów rolnych Polsce i w Niemczech w latach 1960-2001 (na podstawie Poczty i Wysockiego 2000, Roczników... 1961, 1971, 1981, 1991, 2001, 2002, Statistisches... 1960, 1970, 1980, 1990, 2000, 2001)

Relation Relacja	Country Kraj	1960	1970	1980	1990	2000	2001
Bread/cereal Chleb/zboże	Poland – Polska Germany – Niemcy	2.7 –	1.4 3.9	1.6 5.9	3.5 9.8	5.1 18.3	5.2 –
Flour/cereal Mąka/zboże	Poland – Polska Germany – Niemcy	2.6 2.6	2.1 2.7	1.3 2.9	4.2 3.6	3.5 5.6	2.9 –
Sugar/sugar beet Cukier/buraki cukrowe	Poland – Polska Germany – Niemcy	20.0 15.9	17.5 17.7	7.4 14.3	25.0 19.0	26.7 21.7	24.6 –
Milk in retail/milk in wholesale Mleko detaliczne/mleko w skupie	Poland – Polska Germany – Niemcy	1.2 0.9	1.2 1.9	0.4 2.0	1.5 2.0	1.6 2.2	1.7 –
Butter/milk Masło/mleko	Poland – Polska Germany – Niemcy	27.4 21.1	24.1 19.0	10.4 16.1	40 13.3	17.4 13.8	15.5 –
Cheese (Gouda)/milk Ser (Gouda)/mleko	Poland – Polska Germany – Niemcy	17.7 13.6	18.9 17.0	7.6 19.0	35.5 19.8	20.6 20.2	19.6 –
Joint of pork/pork Schab wieprzowy/żywiec wieprzowy	Poland – Polska Germany – Niemcy	2.6 3.3	3.1 3.4	1.8 4.1	4.0 5.3	3.8 5.9	3.3 –
Beef meat/beef Mięso wołowe/żywiec wołowy	Poland – Polska Germany – Niemcy	3.5 5.1	4.5 4.2	2.1 4.7	5.9 7.3	5.2 9.4	5.1 –
Poultry meat/poultry Mięso drobiowe/żywiec drobiowy	Poland – Polska Germany – Niemcy	2.3 2.4	2.3 2.3	1.5 2.5	2.3 2.6	1.8 3.0	1.5 –
Eggs in wholesale/eggs in retail Jajka w skupie/jajka w detalu	Poland – Polska Germany – Niemcy	1.6 1.2	1.6 1.3	1.5 1.4	2.5 1.8	1.7 1.9	1.8 –
Ham/pork Szynka gotowana/żywiec wieprzowy	Poland – Polska Germany – Niemcy	– 4.9	5.3 5.7	3.7 7.5	6.8 10.8	5.4 12.5	4.7 –
Myśliwska sausage/pork Kiełbasa myśliwska/żywiec wieprzowy	Poland – Polska Germany – Niemcy	2.4 3.1	5.9 3.5	4.2 4.8	6.2 7.3	6.1 8.6	5.4 –
Potatoes in wholesale/potatoes in retail Ziemniaki w skupie/ziemniaki w detalu	Poland – Polska Germany – Niemcy	2.2 4.8	2.3 2.3	1.4 3.5	2.5 6.3	2.4 8.2	3.0 –

Between 1960 and 1970, the price relation of bread, flour, eggs, potatoes to their commodities were on relatively low and at constant level in Poland. "Cheap food policy" held by the government based on subsidizing every stage of agri-food chain allowed to keep relatively low food prices. The lowest prices of food in relation to agricultural products were noticed in 1980 when the biggest part of production was subsidized. Sharp increase of food prices in Poland was observed in 1990. With the change of economic system, prices of agricultural products and food, as well as all restrictions concerning margins were liberalized. The most important increase in the prices characterized the products the most restricted before, e.g. sugar, butter and meat and its preparations (**Kowrygo** 2000). Price relation of butter to milk in 1990 amounted to 40, and sugar to sugar-beet 25. Important growth of price relation index has been also observed for cheese. It increased from 7.6 in 1980 to 35.5 in 1990. Since 1990 bread and milk have become relatively more expensive.

In Germany the values of foodstuff to agricultural products price relations indexes have been, in most cases, bigger than in Poland. For all products presented in Table 1 these indexes have been constantly growing. The biggest discrepancies between Poland and Germany apply to bread/cereal, flour/cereal, processed meat/meat and potatoes in wholesale/potatoes in retail. The closest relations between Poland and Germany apply to cheese/milk, milk in wholesale/milk in retail and eggs in wholesale/eggs in retail. Cheese as a highly processed product is characterized by high margins in both countries (value of index of about 20). According to food market studies (**Górska-Warsewicz** 2002) milk has been the only product on the Polish food market listed in Table 1 associated with a brand, which strongly influences its price. Eggs as unprocessed products, are characterized by relatively constant and similar level of price relation index in Poland and Germany. In Poland, butter and sugar prices in relation to their commodities prices have been higher.

Polish and German household expenditure structures are different (**Michota-Katulska** and **Kopytek** 2002). However, because of tendency of absorbing consumer patterns and consumption trends from more developed countries, the increase of prices of bread, meat, butcher's meat and potatoes can be expected in Poland.

Conclusions

1. Falling share of agricultural production value in foodstuff consumption value is a result of more developed marketing chain of food, growing level of food processing and increasing demands of consumers.

2. The differences in prices of agricultural products and food have been expanding in Poland and Germany. At the same time marketing and processing margins have been increasing, while farmers' share in foodstuff consumption value has been falling.

3. Similar consumption trends in Poland and Germany may cause the growth of bread, meat, processed meat and potatoes retail prices in Poland.

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UDZIAŁ PRZETWÓRSTWA I MARKETINGU W CENIE ŻYWNOŚCI (ANALIZA PORÓWNAWCZA W DŁUGIM OKRESIE)

S t r e s z c z e n i e

Celem artykułu jest określenie udziału przetwórstwa i obrotu w cenie produktu finalnego na podstawie prezentacji trendów zmian wartości spożycia żywności, wartości produkcji rolniczej oraz relacji cenowych artykułów spożywczych do cen surowców w Polsce i w Niemczech. Różnica pomiędzy wartością końcowej produkcji rolniczej oraz wartością spożycia żywności wzrasta w obu krajach. W Niemczech udział wartości końcowej produkcji rolniczej w wartości spożycia żywności jest mniejszy niż w Polsce, jednak w Polsce udział ten spada szybciej. W Niemczech w całym badanym okresie oraz w Polsce od 1990 roku w przypadku większości analizowanych produktów zauważa się wzrastające różnice pomiędzy cenami produktów spożywczych a cenami surowców rolniczych. Malejący udział wartości produkcji rolniczej w wartości spożycia żywności oraz wzrastające różnice cen produktów spożywczych i ich surowców są wynikiem coraz bardziej rozwiniętej sieci marketingowej produktów spożywczych.