The development of the price parity in the foodstuffs production and consumption vertical

Vývoj parity cien vo vertikále výroby a spotreby potravín

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Abstract: The analysis of the development of prices in the foodstuffs vertical, it means the prices of inputs into the agriculture, agricultural products, food products and consumption prices of foodstuffs, on the basis of the price scissors, and with crucial products on the basis of the price shares and differences, has shown that price liberalisation with the applied partial regulation of their development within the market-oriented reform has evoked the greatest raise of prices within 1991–2001 regarding inputs into the agriculture, while prices of agricultural products were growing slower. The parity coefficient (the ratio of price indices) between the development of the prices of inputs and outputs became worse as of 1989 to the detriment of agriculture from 93.9 reached in 1990 to 50.3 in 2001, what means a significant opening of the price scissors to the detriment of agricultural producers. That situation was influenced mostly by the development in the first year of the reform but the trend of opening the price scissors, except for 1994, was persisting, though in the last two years the differences in the trends of the development of prices of inputs and outputs have been moderated. At the beginning of the development, the effect of the low level of the agricultural products prices was not adequately reflected in the prices of food producers and consequently in consumer prices. This was influenced mainly by the pressure of food producers evoked by the need of settlement of additional costs connected with the transformation, in particular to the detriment of the agricultural products prices (opening of the price scissors with the parity coefficient dropping from 90.8 in 1990 to 56.5 in 2001), but this negative trend has been stopped in the last two years. A gradual accommodation of demand and supply and a growing competition environment also through large retails established in our country has been reflected in closing the price scissors between the prices of food producers and consumer prices of foodstuffs (the parity coefficient raised from 76.6 in 1991 to 88.7 in 2001). The development of the shares and differences in prices as of 1994 pointed to a substantial differentiation in the development of prices in the vertical of the production and consumption of individual products what was effected by the applied regulation system as well. With milk and milk products, the majority of the evaluated products was showing a slightly raised share of the raw cow milk price in the final food products prices, and in the last three years, also the processor price share in the consumer price. This narrowed the difference between the producer and dealer prices. With slaughter cattle and the major kinds of beef, a gradual decline of the slaughter cattle price share in the processor price was interrupted in 2001, what, to a certain extent, was also caused by the crisis evoked by the BSE and by the minimum price which prevented transferring of these consequences, to a larger extent, to farmers. Similarly, in 2001, a non-standard situation occurred between the processor and consumer prices of the individual kinds of beef. With slaughter pigs and the evaluated kinds of pork, after the period of dropping slaughter pig prices share in the processor price of the major kinds of pork, its growth was recorded mostly in 2001, when the processor price share in the consumer price dropped as well.

Key words: the price, price regulation, parity coefficient, price scissors, food vertical

Abstrakt: Z analýzy vývoja cien vo vertikále potravín, to znamená cien vstupov do poľnohospodárstva, poľnohospodárskych výrobkov, potravinárskych výrobkov a spotrebiteľských cien potravín na základe cenových nožníc a pri rozhodujúcich výrobkoch na základe cenových podielov a rozdielov vyplynulo, že liberalizácia cien s uplatnením čiastočnej regulácie ich vývoja priniesla v rámci trhovo orientovanej reformy najväčšie zvýšenie cien v rokoch 1991–2001 pri vstupoch do poľnohospodárstva, pritom ceny poľnohospodárskych výrobkov rástli najpomalšie. Koeficient parity (pomer indexov cien) medzi vývojom cien vstupov a výstupov od roku 1989 sa zhoršil v neprospech poľnohospodárstva z 93,9 v roku 1990 na 50,3 v roku 2001, čo znamená výrazné roztvorenie cenových nožníc v neprospech poľnohospodárskych výrobcov. Ovplyvnil to hlavne vývoj v prvom roku reformy, ale tendencia roztvárania cenových nožníc s výnimkou roku 1994 pretrvávala, aj keď v posledných dvoch rokoch sa rozdiely v trendoch vývoja cien vstupov a výstupov zmiernili. Efekt z nízkej úrovne cien poľnohospodárskych výrobkov sa na začiatku vývoja dostatočne neprejavil v cenách výrobcov potravín a následne v ich spotrebiteľských cenách. Ovplyvnil to hlavne tlak výrobcov potravín vyvolaný potrebou úhrady ďalších nákladov súvisiacich s transformáciou najmä na úkor cien poľnohospodárskych výrobkov (roztvorenie cenových nožníc pri znížení koeficientu parity z 90,8 v roku 1990 na 56,5 v roku 2001), ale v posledných dvoch rokoch sa tento negatívny vývoj zastavil. Postupné prispôsobovanie ponuky dopytu a silnejúce konkurenčné prostredie aj prostredníctvom u nás etablovaných

veľkých obchodných predajní sa prejavilo v uzatváraní cenových nožníc medzi cenami potravinárskych výrobcov a spotrebiteľskými cenami potravín (zvýšenie koeficientu parity zo 76,6 v roku 1991 na 88,7 v roku 2001). Na významnú diferenciáciu vo vývoji cien vo vertikále výroby a spotreby jednotlivých výrobkov ukázal vývoj podielov a rozdielov cien od roku 1994, čo ovplyvnil aj uplatňovaný systém regulácie. Pri mlieku a mliečnych výrobkoch sa u väčšiny hodnotených výrobkoch mierne zvýšil podiel ceny surového kravského mlieka na cenách finálnych potravinárskych výrobkov a v posledných troch rokoch aj podiel ceny spracovateľov na spotrebiteľskej cene. Tým sa znížil aj rozdiel medzi cenami výrobcov a obchodníkov. Pri jatočnom hovädzom dobytku a hlavných druhoch hovädzieho mäsa sa postupný pokles podielu ceny jatočného hovädzieho dobytka na cene spracovateľov hlavných druhov mäsa v roku 2001 prerušil, čo bol do určitej miery aj dôsledok krízy vyvolanej výskytom BSE a minimálnou cenou, ktorá zabránila preniesť vo väčšej miere tieto dôsledky na poľnohospodárov. Obdobne v roku 2001 vznikla neštandardná situácia aj medzi cenou spracovateľov a spotrebiteľskými cenami jednotlivých druhov hovädzieho mäsa. Pri jatočných ošípaných z hodnotených druhov bravčového mäsa došlo po období poklesu podielu ceny jatočných ošípaných na cene spracovateľov hlavných druhov mäsa k jeho nárastu hlavne v roku 2001, kedy došlo zároveň k poklesu ceny spracovateľov na spotrebiteľskej cene.

Kľúčové slová: cena, cenová regulácia, koeficient parity, cenové nožnice, potravinová vertikála

INTRODUCTION

The state interventions which should serve mostly to protect the market, economic competition, cultivation of the competition conditions, etc., are also a part of a well-operating market. Price regulation is a part of the price policy and its direct objective is to protect the created values and the consumer against any uncontrolled development of the prices, and not to allow the producers and dealers in especially sensitive fields of the production and consumption to behave so that within the liberalisation of prices there may occur their unwanted movement (Oláh and Boržík, 2000). A different opinion is presented by Zemaničová (1997), saying that the prices are the market key attribute, and therefore their liberalisation and flexibility is a presumption for functioning of the market mechanism. The best regulator is the market and effective economic competition, and that is why the application of regulation may be considered only in exceptional cases. The author states as well that the price regulation is cost-demanding (both for the state and entrepreneurs) and complicated, that it requires quality information and documents. On the other hand, the regulated prices block any incentives to reduce the costs, as well as any innovation activities. According to Janok (2001), within the price policy and price strategy, both market powers – demand and supply – are stated to be harmonised through price. It is important that market economy be developed in the total economic balance.

The rules of the negotiation, application, regulation and control of product prices in Slovakia are modified by the SR National Council Act No. 18/1996 Coll. on prices, modified and amended by the Acts No. 196/2002 Coll. and No.276/2001 Coll., and by the SR Ministry of Finance Executive Decree No. 87/1996, modified and amended by the Decree No. 375/1999 Coll., and the Act No. 276/2001 Coll. In addition to the above mentioned legal standards, the measures in the SR agriculture applied by the Ministry of Agriculture of the SR are focused on the support and organisation of the agrarian market with cereals, sugar beet and sugar, potatoes, milk, beef, pork, poultry and eggs (the so-called market orders). The regulatory tools of the market with these commodities (except for cereals excluding food wheat, poultry and eggs) include, in the last time, besides the guaranteed prices for the state intervention purchase, also the minimum prices with the quotation of their sale and qualitative delimitation of agricultural commodities.

MATERIAL AND METHODS

The purpose of the article is to report the information and data acquired from studying and surveying the mutual relationships in price development at the individual stages of the food production and consumption vertical in the Slovak market within 1990–2001. The price database was created for that purpose in the value and index expression compiled from the official statistic reporting and publications. In order to analyse mutual dependencies of the development of prices of inputs into the agriculture, producer prices of agricultural and food products, and consumer prices of foodstuffs, we have used the price scissors construed as a simple ratio of indices of the prices of the evaluated groups of products expressing the rate of either approximation or withdrawal of the price development from the balance state (opening and closing of the price scissors). They are expressed through parity coefficient equalling 100 at the balanced development of the evaluated groups prices. In addition to this, in order to evaluate price development in the production and consumption of foodstuffs, the data have been used on price differences and shares regarding the key animal commodities – cow milk, beef and pork – in the relationship: purchase price of the relevant agricultural products and producer prices of the subsequent foodstuffs, and in the relationship: producer price of the evaluated foodstuffs and their consumer price.

RESULTS AND DISCUSSION

The development of the price scissors and its consequences

The market-oriented reform, an important feature of which was the price liberalisation with a partial regulation of their development applied, in particular, through the intervention purchase of the major agricultural commodities at guaranteed prices and, since 2000, also through the minimum prices of the specified quality, was reflected in a considerably different development of the prices in the foodstuffs production and consumption vertical. This was influenced mainly by the development in the first year of the reform which significantly declined from its presumptions because of an inadequate preparedness to react to any unexpected changes.

The greatest growth dynamics was recorded regarding prices of inputs into agriculture while the growth of the agricultural products prices was the lowest one. The trend of a more rapid increase of the input prices compared to those of the agricultural products, except for 1994, was preserved despite the moderation of differences in the development trends of those two groups of product prices in the last two years. Nevertheless, opening of the price scissors between inputs into agriculture and agricultural products is substantial, with the parity coefficient dropping from 93.9 in 1990 to 50.3 in 2001. An attempt of agricultural producers to raise the prices was negatively affected by the pressure of food producers solving the settlement of the increased costs mostly to the detriment of the agricultural products prices. Even a significantly more rapid dynamics of the growth of the food producer prices was not sufficient to cover the growth of their costs both fixed, because of the inadequate use of capacities influenced by the dropped de-

mand, or variable, influenced by the growth of the prices of additional inputs, the credit price included. This was reflected in opening of the price scissors between the producers of agricultural products and food processors (the parity coefficient declined from 90.8 in 1990 to 56.5 in 2001) which was, however, less moderate than between the development of prices of inputs and agricultural products and which stopped in the last two years. Similarly the trade, where the demand for financing raised considerably, mainly in the first years of the transformation, also because of new costs (lease, privatisation costs, credit prices, advertising, risk reimbursement, etc.) reflected all these costs into the trade performance price. There was a space for raising the prices to the detriment of producers mostly at the time of a high surplus what, despite a slight oscillation, resulted in closing the price scissors after 1991, with the parity coefficient raising from 76.6 in 1991 to 88.7 in 2001. In the last two years, mainly in 2001, this trend was also supported by growing competition of the established large shopping units (super- and hypermarkets) accompanied by import of cheaper highly-subsidised foodstuffs. The parity development between agricultural products prices and consumer food prices resulted in a drop of dependencies of the food consumer price growth on the food producer prices. The trend of the price scissors development in the food production and consumption vertical is shown in Figure 1.

In order to find out any consequences of the price scissors, a special methodology was developed, based on specification of the method of quantifying the impacts of the changed prices of inputs on the agricultural production costs and of the changed agricultural products prices on the yields from sales of agricultural products, and consequently of the balance of these two influences. The results of the quantification of these impacts show that the price scissors contributed to reduce the
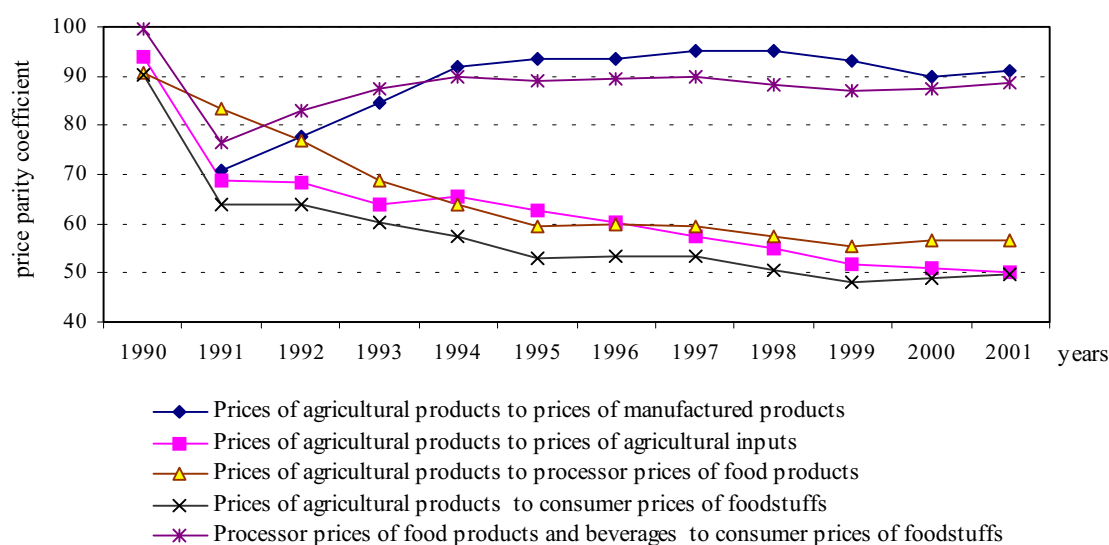

Figure 1. Development of price scissors in food vertical (1989 = 100)

Source: Ministry of Agriculture, RIAFE calculations

revenue in agriculture by SKK 14 769 mill. within 1991–2000. The inter-annual moderation of their opening in 2001, at a more expressive inter-annual growth of the production and yields rather than the consumption of inputs, represented the moderation of the mentioned accumulated influence by SKK 360 mill.

Development of the product price share and difference in the food chain

The system of processing the price information by the Statistical Office of the Slovak Republic (SR SO) does not permit to perform a more detailed development analysis of prices in the food chain on the basis of the product evaluation, in particular because of the absence of the food producer prices. For this purpose, there were therefore applied and processed the data available from the relevant statements of the Ministry of Agriculture of the SR, which also contain data on the prices of agricultural products purchased by the processors of milk, beef and pork, and data on the prices of their products what allows to evaluate the relationship between the primary producer and processor prices. In the analysis of the

prices in the following step of the food vertical, i.e. processor – trade, we have used the level of the consumer prices of individual foodstuffs free of the VAT from the price series issued by the SR SO.

Cow milk

The purchase milk price share in the processor price of the selected milk products has been developing differentially in the last eight years (since 1994), to a certain extent influenced by the state regulatory measures on the basis of the market order for milk, in particular by introduction of the fixed price, since 2000 replaced by the minimum price. In 1999, a significant fall occurred regarding the milk purchaser price share in the sales price of whole and skimmed milk what, on one hand, influenced a drop of the raw cow milk price and, on the other hand, a more expressive raise of the sales prices of these products by the processors. In the following years, this share was gradually rising regarding whole milk, but dropping with skimmed milk. The milk purchase price share was also dropping with regard to the sales price of the Eidam cheese what deepened the price difference between the
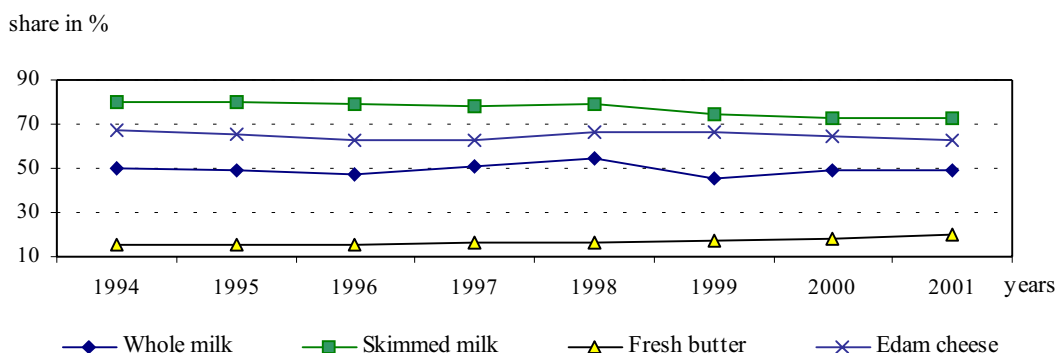

share in %

Figure 2. Development of producer milk price share in processor products prices

Source: Ministry of Agriculture, RIAFE calculations
Notes: milk conversion coefficient for butter 2.1; for Edam cheese 8.78
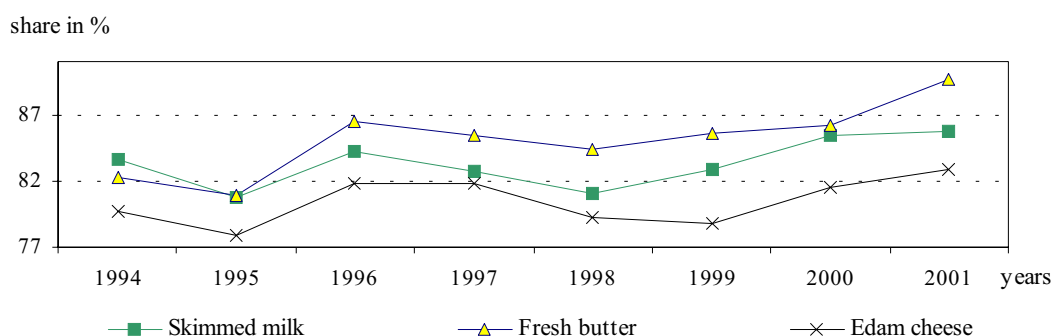

share in %

Figure 3. Development of processor product price shares in consumer product prices

Source: Ministry of Agriculture, Statistical Office of the SR, RIAFE calculations
Notes: consumer prices without VAT

feedstuffs and final product prices. From the four monitored product representatives, a slight raise of the milk purchase price share in the processor price was shown only with fresh butter (see Figure2).

In the relation of the processor and consumer prices, the processor price share in the consumer price was growing what influenced a slower growth rate of the processor price compared to the food producer price growth in the last three years (see Figure 3). Thus the price difference of the evaluated products between the producers and dealers was reduced as well.

Cattle

A gradual decline of the slaughter cattle purchase price share in the sales price of individual monitored products in 2001 was interrupted by its substantial raise, mostly due to an intensive crisis in the beef cattle market evoked by the BSE (see Figure 4). This situation was partially influenced by the minimum price set by the state which did not allow to transfer the consequences of the crisis

to the primary production. To the contrary, the consequences of the reduced demand were most visible with the processors of slaughter cattle.

The relationship between the processor and consumer prices was most favourable for the processors within 1998–1999, because the share of the monitored products processor prices reached the highest values since 1994. In 2001, a non-standard situation occurred also on this stage of the food vertical when the processor price share in the consumer price of boneless chuck and round roast was rapidly falling what resulted in a more expressive differences between these prices (see Figure 5). This considerable fall of the processor prices was not reflected in consumer prices what, at the decreased consumers demand , may be deemed to be an unusual trading strategy.

Pigs

The share of the slaughter pigs purchase price in the evaluated products processor price was slightly decreas-
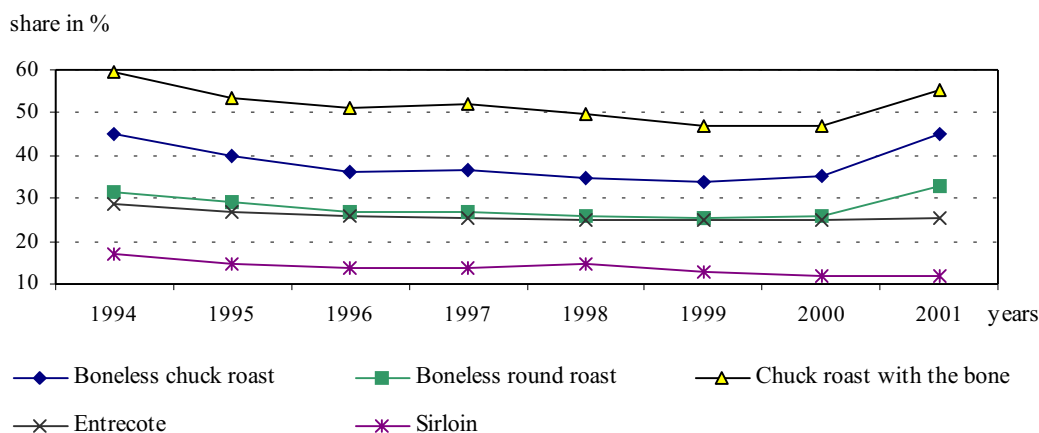
share in %

Figure 4. Development of producer price share of slaughter cattle in processor product prices

Source: Statistical Office of the Slovak Republic, Ministry of Agriculture of the SR, RIAFE calculations
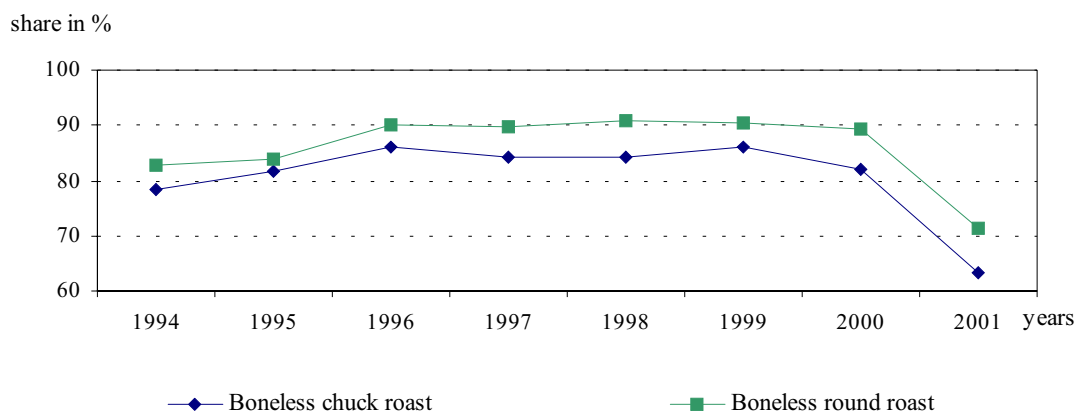
share in %

Figure 5. Development of processor product price shares in consumer product prices

Source: Ministry of Agriculture, Statistical Office of the SR, RIAFE calculations
Notes: consumer prices without VAT

ing from 1994 up to 1998 (the exception was pork ham shank with bone showing no expressive changes in 1995–1998). During the last three years, the revitalisation occurred and the purchase price increased its share in the product sales price. The year 2001 was extremely favourable for the breeders of slaughter pigs because, with the majority of the monitored products, the purchase price of pigs reached the highest share values in the processor price for the last eight years (see Figure 6).

The development of the processor price share in the pork product consumer price was gradually growing in 1994–1997. However, the inter-annual development of these pork product prices shares was different in the following years. In 1999, the inter-annual share of the evaluated product sales prices in the relevant consumer price dropped, then raised with all monitored products in 2000 and dropped again in 2001. This oscillation was caused by the growth of the pork product processor prices what may be explained by shifting a certain part of the consumer preferences from beef products to pork products. Thus, the differences between the consumer and processor prices increased as well (see Figure 7).

CONCLUSION

The problem of the hitherto price development in Slovakia and in the other economies undergoing the transformation process is a low level of the prices from the viewpoint of the foodstuffs producers (primary producers and processors) revenues and a high level of the food consumer prices with regard to the incomes of the population. Despite the fact that there still exist internal reserves for a partial moderation of the price disharmony consequences (in allocation of agricultural production with regard to the suitability of natural conditions, in making the subsidiary support more effective, in a higher cultivating and breeding discipline, in a more effective valuation of inputs, in restructuring the food industry, in raising the qualification of top management with the consequent improvement of the management level including the provision of the product sales at a qualitatively higher level of the supplier-consumer relationships, including trade and others), the solution of this problem and of its consequences is very complicated under the present conditions. The present experiences in our country and
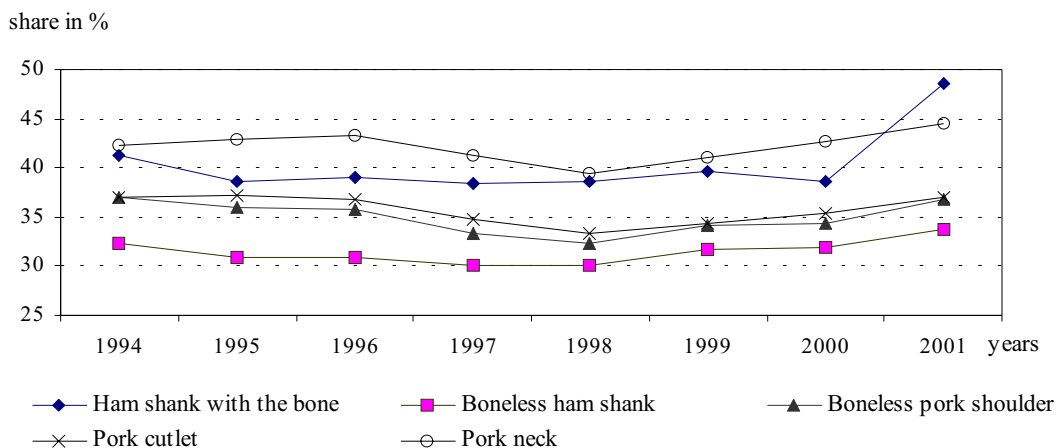

Figure 6. Development of producer price share of slaughter pigs in processor product prices

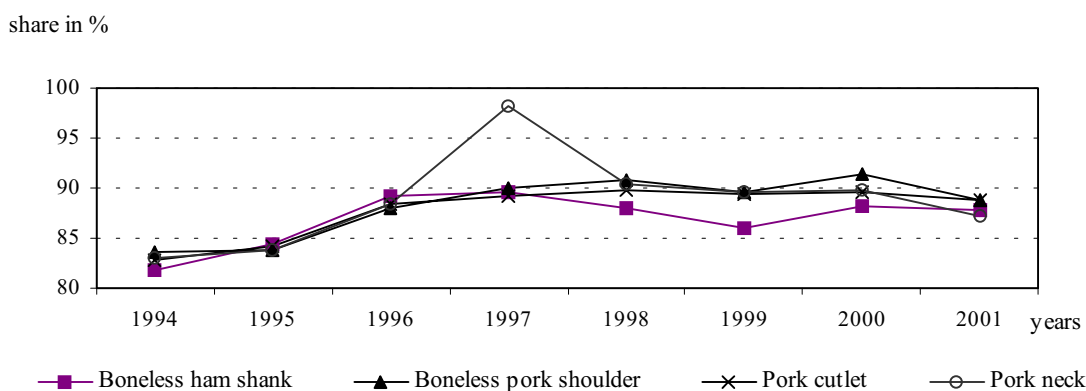Source: Statistical Office of the Slovak Republic, Ministry of Agriculture of the SR, RIAFE calculations

Figure 7. Development of processor product price shares in consumer product prices

Source: Ministry of Agriculture, Statistical Office of the SR, RIAFE calculations
Notes: consumer prices without VAT

also in developed market economies have shown that the problems of a highly sub-dimensional revenue level, in particular those of agriculture, are insoluble without state interventions based on the effective regulation of the market with food products accompanied with the adequate subsidiary support. Therefore, any delay in the implementation of conceptual intentions for a gradual introduction of the basic organisation elements of the market with the most important commodities in compliance with the principles of the common organisation of the EU market (as of 2002) retards the formation of competitive agrarian entrepreneurs and introduction of their products in the national and international markets.

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