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Fruit Production and Trade Comparison in Hungary and Slovakia

Porovnanie produkcie a obchodu s ovocím v Maďarsku a na Slovensku

Abstract *The article researched development in Hungarian and Slovak fruit sector before and after EU-Accession from production and foreign trade aspects. It monitored the fruit orchards area, structure of grown fruit varieties, changes in fruit production, fruit import and export and also trade balance development during the period 2002 up to 2012. More detailed it was analyzed structure of import and export divided into three time periods including pre-Accession term and segmented by main grown fruit categories. It was also indicated major exporting countries that supply fruit and fruit products on Hungarian and Slovak market and most important export destinations for fruit of domestic origin.*

Key words *fruit production – orchards - fruits export – fruits import*

Abstrakt Príspevok skúmal vývoj v maďarskom a slovenskom odvetví ovocinárstva pred a po vstupe do EÚ z hľadiska produkčného a zahraničného obchodu. Monitoroval výmeru ovocných sádov, štruktúru pestovaných odrôd ovocia, zmeny v produkcii ovocia, vývoj dovozu, vývozu ovocia a takisto vývoj obchodnej bilancie v rokoch 2002 do 2012. Detailnejšie bola analyzovaná štruktúra dovozu a vývozu v rozdelení do troch časových etáp vrátane predvstupového obdobia a rozčlenená podľa hlavných kategórií pestovaného ovocia. Vyznačené boli tiež hlavné exportujúce krajiny, ktoré dodávajú ovocie a ovocné výrobky na maďarský a slovenský trh a najvýznamnejšie exportné destinácie pre ovocie domáceho pôvodu.

Kľúčové slová *produkcia ovocia – ovocné sady – vývoz ovocia – dovoz ovocia*

There has been a remarkable increase in global fruit production. In 2011, approximately 640 million tonnes of fruit were gathered throughout the world, whereas in 2000, the volume was only 470 million tonnes (FAO, 2013). The production of functional foods has become more important. Juices and foods with high fruit content are increasingly sought by customers. While fruit production is continuously growing globally, production in Hungary and in Slovakia differs from this trend.

In the past two decades, the fruit sector has faced several challenges such as the change of the political system, Hungary's accession to the European Union in 2004 and the effects of globalisation. The country is difficult to adapt itself to these (Erdész et al. 2009). The open market has brought development opportunities for enterprises and producers; however, since 2004 they have been forced to compete with other member states.

While the fruit production in Hungary had fluctuated between 1.4 million and 1 million tonnes, after the EU accession it declined to 600-800 thousand tonnes. The largest decrease was observed in peach production, but a mild reduction was noticeable in case of all fruits. The balance of trade of Hungarian horticultural production positive expressed in quantities, however, an increasing share of domestic consumption are imported fruits. After the EU-accession only the export of apple juice and frozen sour cherry improved. The food industry plays an important role in the Hungarian economy; nonetheless, the number of participants in canning and deep-frozen industry decreased after 2004. Processing plants often face the problem that the raw product is not available in the required quantity or quality. Fruit production is decreasing, especially the labour-intensive fruit species (e.g. raspberry, blackberry, strawberry). The lack of modern storage system is a huge problem for the processing industry. Furthermore the lack of capital limits technological development of Hungarian-owned small and medium sized enterprises. Being well-capitalized and using modern technologies are mainly characteristics of foreign investors. On the other side the advantage for fruit cultivation is that Hungary has good geographical position, good climate conditions as well as fertile soil, tradition, know-how and skilful fruit growers.

Slovakia has similarly advantageous conditions for fruit cultivation due to favourable geographical position and related good climate and irrigation conditions. Besides country has tradition of fruit growing, sufficient fertile agricultural land and skilful labour force. Large differences between night and day temperatures ensure brightly coloured fruits with good taste characteristics (Matošková, D. et al.; 2010). Despite of this the situation within Slovak fruit industry is unsatisfied as temperate climate fruits production is not able to cover domestic consumption demand. Most of orchards are old with over-matured fruit trees or managed through extensive technology and the result is low profitability. Therefore Slovak fruit production is showing a declining trend in previous decade. In 2012 production was lower by 23 % compared to the year 2002. The fruit cultivation in Slovakia was supported by development programmes that provided to farmers sources for orchards planting in the past. Several orchards originated during the period 1996-2005 based on modern technologies (preparation of soil, quality certified seeds, bird and hailstorm protection net, drip irrigation system, tree anchoring system, fertilization practices, pesticide application...) are able to compete with most advanced fruit growers. Unfortunately a lot of old orchards became unproductive during the same time period. Accompanying element in current fruit cultivation is high share of extensive orchards (31 %). Average yield of apple is around 13 tons per hectare and the fruit growers with such yield have serious income problem. On the other hand it exist intensive orchards with yield around 40 ton/hectare. There are several issues hampering new orchards establishment for instance disordered land ownerships, land disintegration into small plots with many land holders, lack of interest for fruit trees growing among younger generation, high investment requirements and long return on investment. While in the year 2000 the establishment of new one hectare orchard cost around € 16 thousand currently this amount is three times higher. Further problems are absence of capital linkage between the agriculture and processing industry, e.g. canning and frozen food industry; disinterest of food processing industry in co-operation with domestic fruit growers; high financial needs for the procurement of post-harvest handling and processing equipments

and lack of cold storage capacities with controlled atmosphere technology. A lot of representatives of fruit producers and state administrative underlined the importance of producer organisations establishment as individual fruit farmer is still a most weak element in Slovak agricultural production and distribution network.

Methodology

The main purpose of the article is to examine production in fruit sector and consecutively the reasons for rising fruit import of mild climate zone to Slovakia and Hungary in past decade. Both countries have good climatic, soil, labour skills and historical conditions for growing fruit from mild climate fruit, e. g. apples, peaches, apricots, pears, cherries etc. Other objectives is to compare fruit production, export and import volumes in Hungary and Slovakia, naturally taking into consideration the number of population and production capacities (agricultural land size, labour force) in both researched countries.

On January 2012 Hungary had 9.9 million and Slovakia 5.4 million inhabitants. It will be analysed the domestic fruit production of most prevalent fruit varieties cultivated and simultaneously imported into Slovakia and Hungary since 2002 up to nowadays. We introduced the basic features of Hungarian and Slovakian fruit sector. We focused on production data, harvested area, total harvested production and international trade. The time frame for this analysis was the period 2002–2012. Data was collected predominantly from Central Statistical Offices of both countries (Statistical Office of the Slovak Republic in Slovakia, abbreviated as SO SR, and the Hungarian Central Statistical Office, abbreviated as HCSO). Orchards area in Slovakia was provided by Central Controlling and Testing Institute in Agriculture (ÚKSÚP) and foreign trade data by Ministry of Agriculture and Rural Development of the Slovak Republic (MPRV SR).

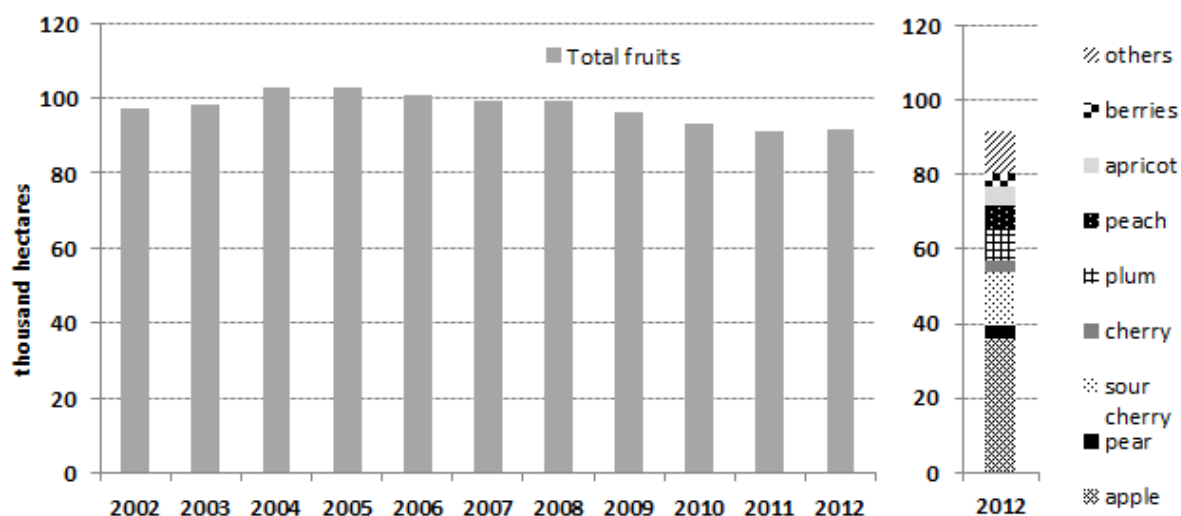
Orchard area

In Hungary the total agricultural area was 5.3 million hectares, from which fruit orchards occupied 91 thousand hectares (1.7 per cent) in 2012. Before the accession the area of fruits showed a slowly increasing trend (Fig. 1). Apple growing area was 39 per cent of the total fruits area. Apple is the most important fruit in Hungary, giving approximately 80 per cent (value of 53 million EUR) of total processed volume. As far as orchard sizes are concerned, 18 per cent of total apple growing area consisted of orchards over 25 hectares. Similarly, the 18 per cent of orchards were between 3 and 6 hectares, and 10 per cent of the orchards were less than one hectare (KSH, 2012). The structure of apple orchards by age improved in past five years. The 10-14 and 15-24 years old orchards were in the largest share, around 30-30 per cent of total in 2012. The second important fruit is sour cherry in Hungary; its growing area was 16 per cent (14.5 thousand hectares) of total fruits area. Other stone fruits were similar.

Total utilized agricultural area in Slovak Republic represented 1.9 million hectares in 2012 thereof orchards constituted just 7.8 thousand hectares, i.e. 0.4 %.

Changes of fruit orchards area in Hungary (2002-2012)

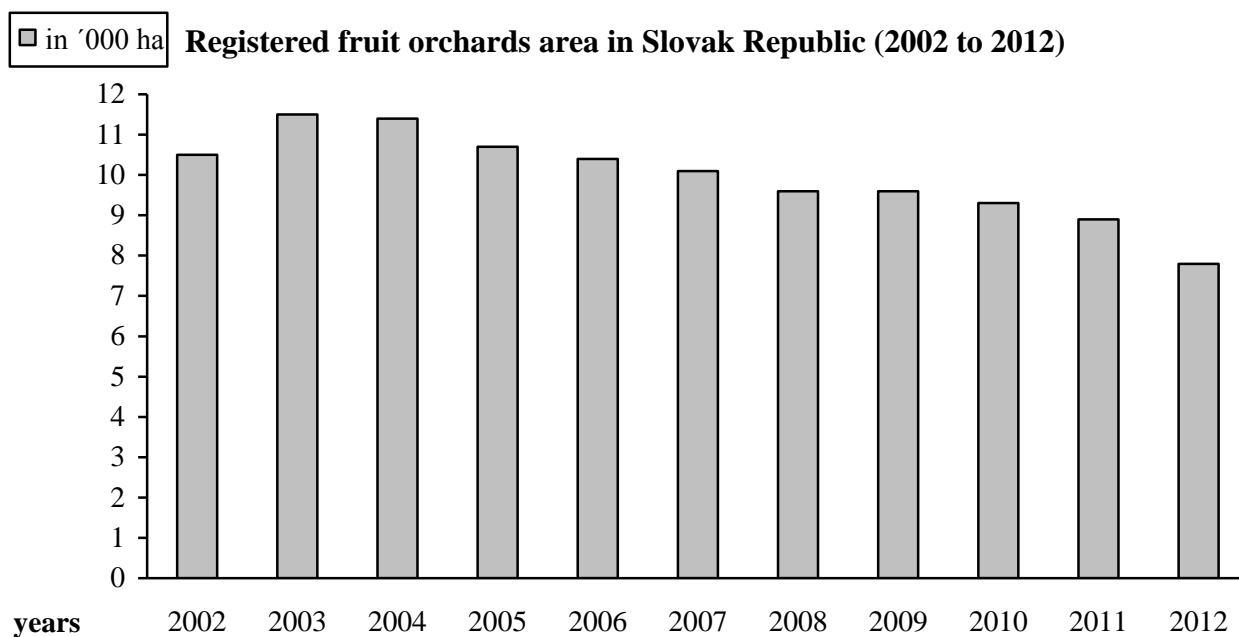
Fig. 1



Source: HCSO

Since 2003 the area of orchards declined by 31 % and simultaneously it decreased fruit production. Similarly to Hungary, the most favourite fruit varieties are apple that comprises around 52 % of total orchards area. Second most cultivated fruit is peach that shares around 9 % of orchards. Apple production reached 51 thousand tons in estimated value of 20 million € in 2012. Peach production was 2.7 thousand tons valued by farm gate prices at approximately 1.5 million €. Third rank of most favourite fruit variety (8.8 % of total orchards area) occupies plum that value of production constituted around 1.9 million €.

Fig. 2



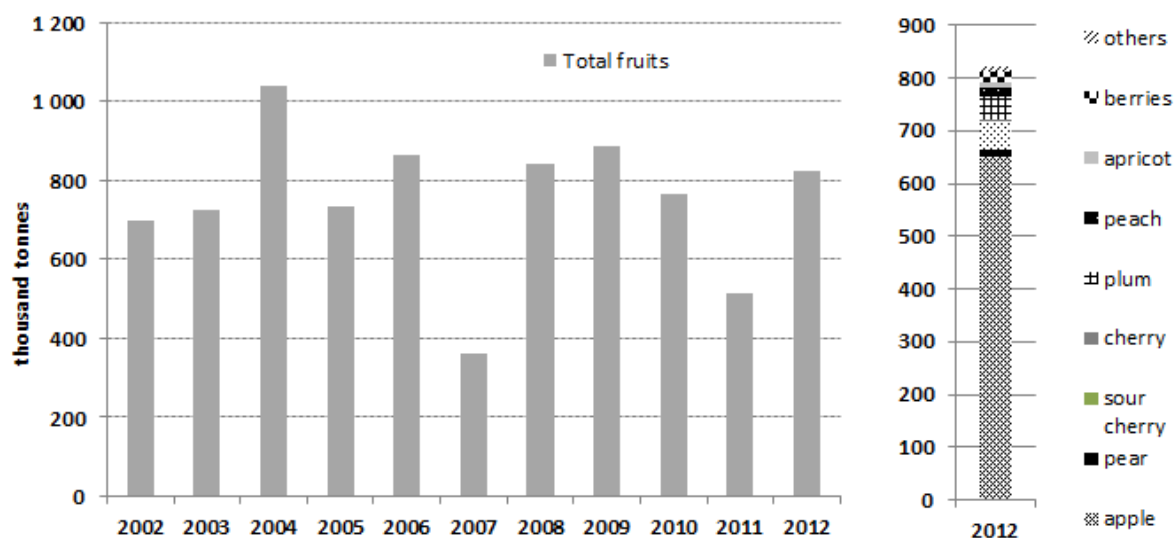
Source: ÚKSÚP

Fruit production

Total fruit production in Hungary has fluctuated in the past ten years due to the unpredictable weather. In 2007, serious frost damage destroyed orchards; apple orchards were 100 per cent damaged in certain regions. Sour cherry production fell back by 30 per cent, peaches by 40 per cent, and pears by 70 per cent. Similar situation took place in 2011 (Fig.2). With prices increasing and production decreasing, imports significantly grew compared to the previous year.

According to Hungarian Central Statistical Office (HCSO) data, apples are produced in the largest quantity (650 thousand tonnes); sour cherries are the second with 53 thousand tonnes in 2012. The third important fruit is plum (43 thousand tonnes). The production of pears (17 thousand tonnes), peaches (16 thousand tonnes) and apricots (10 thousand tonnes) go side by side. In 2012, the spring frost significantly damaged the production of stone fruits, while their usual production is three times higher. Cherries reach the lowest output level (4 thousand tonnes). Production of most berries (raspberry, currants, gooseberry, and mulberry) has reduced in the past years because of low sales prices and outdated technology.

Changes of fruit production in Hungary (2002-2012)



Source: HCSO

After EU-Accession of Slovakia the fruit production has declined by third. During following years it varied influenced mainly by weather conditions and incidence of fruit diseases. Frost, hail and fungus negatively affected fruit trees in the years 2007 and 2011.

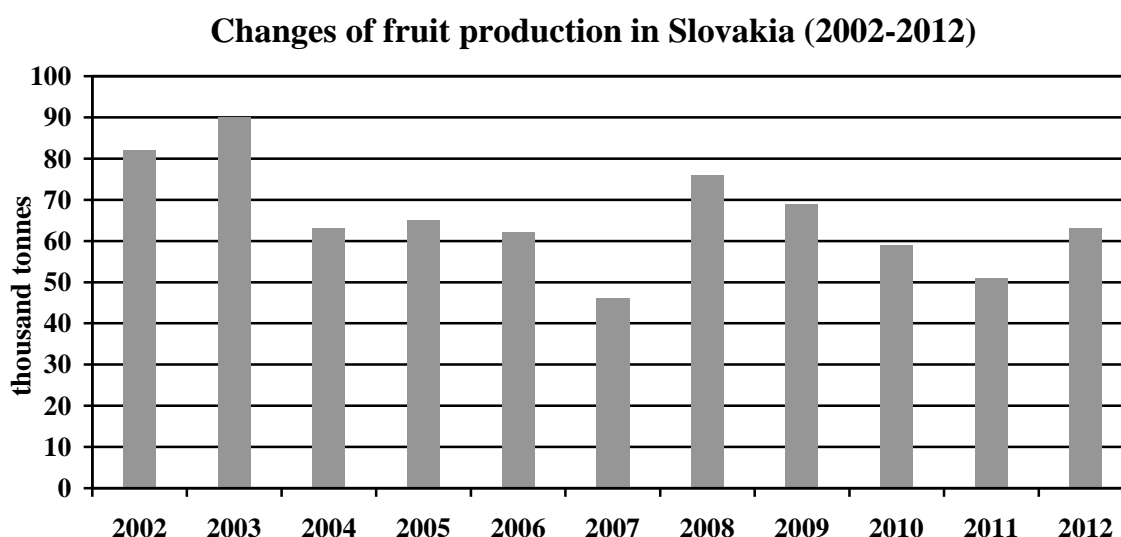
Fruit production in Slovakia is characterised by low competitiveness which relate to low level of penetration on domestic and foreign market, unbalanced fruit quality, impossibility to deliver fruits throughout calendar year. Serious issues are lack of financial sources for new orchards establishment, bird nets and irrigation systems. Problem is also generally reluctance of fruit producers to provide vocational trainings to students and subsequently jobs to

graduates of agricultural high-schools and universities. Young people lost motivation to employ in fruit growing companies due to negative views on economic situation.

Important role should have production of fruit in domestic gardens and allotments and home production needs to be recognised as complement to the supply from commercial growers and as an integral part of the food supply chain (Barling, D.- Lang, T. – Sharpe, R., 2008). Encouraging people to garden and produce their own fruit will help to meet environmental, social and health objectives.

Decline of indigenous fruit production in the United Kingdom the Defra (2008) attributed to changing consumer preferences for exotic and more varied produce, cheaper transport and communication costs making fruit sourcing more viable and fewer trade restrictions.

Fig. 4



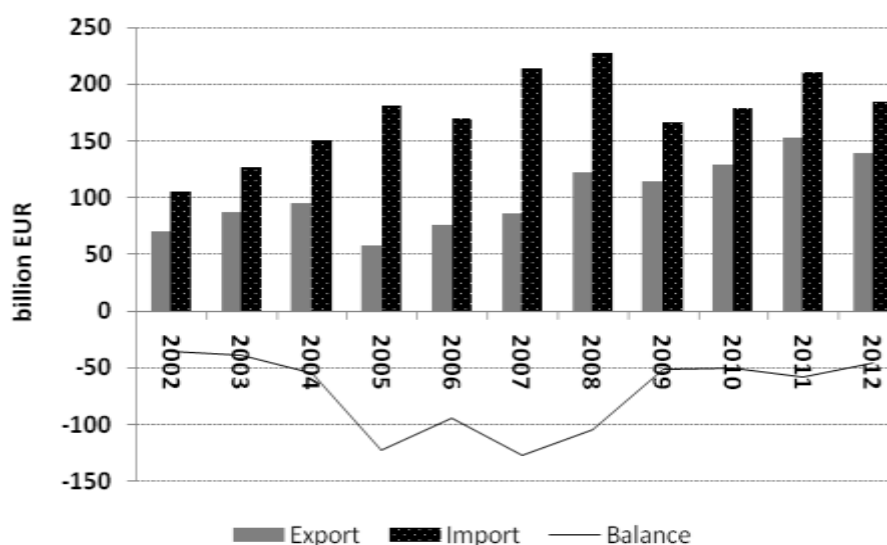
Source: SO SR

Foreign trade development

As far as foreign trade is concerned, Hungarian import increased after the EU accession, it culminated in 2008, and then it levelled off, reaching an average of 185 billion EUR. Export first reduced in 2005 then it started to rise slowly. The export-import balance showed a 227 per cent drop between 2004 and 2005, which remained at a low level till 2008. Presently, the balance is similar to pre-EU accession, however it is still negative.

The foreign trade of fruits in Hungary (2002-2012)

Fig. 5

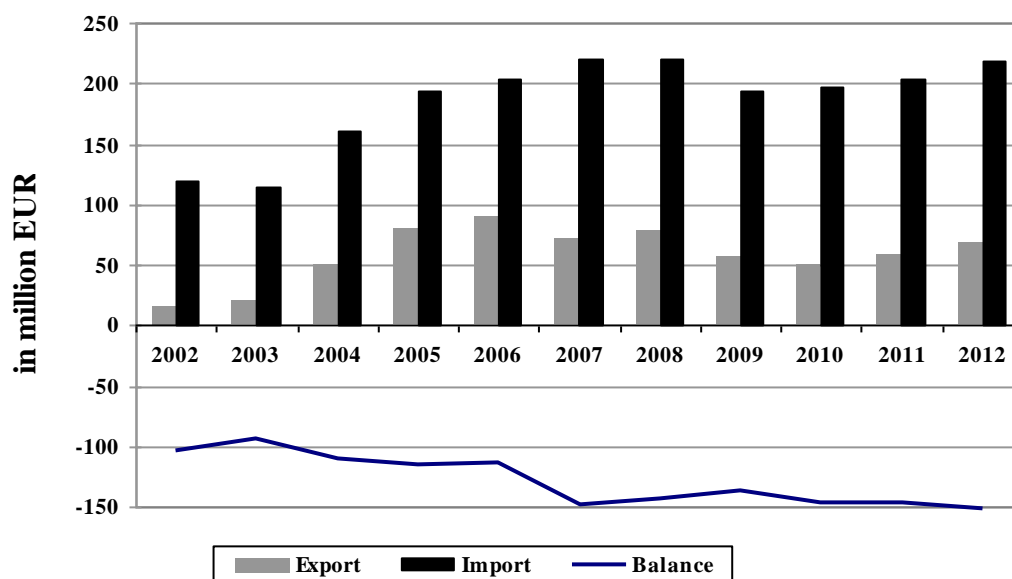


Source: HCSO

Since EU-Accession total import of fruits has increased significantly on Slovak market and the result is huge negative trade balance. During previous years the import of tropical fruits has stabilised and import of some varieties slightly reduced (for instance bananas, grapefruits and oranges). The import of mild climate fruit varieties rose to the contrary, mainly before financial crisis in year 2007-2008.

Foreign trade of fruits in Slovakia (2002-2012)

Fig. 6



Source: MPRV SR

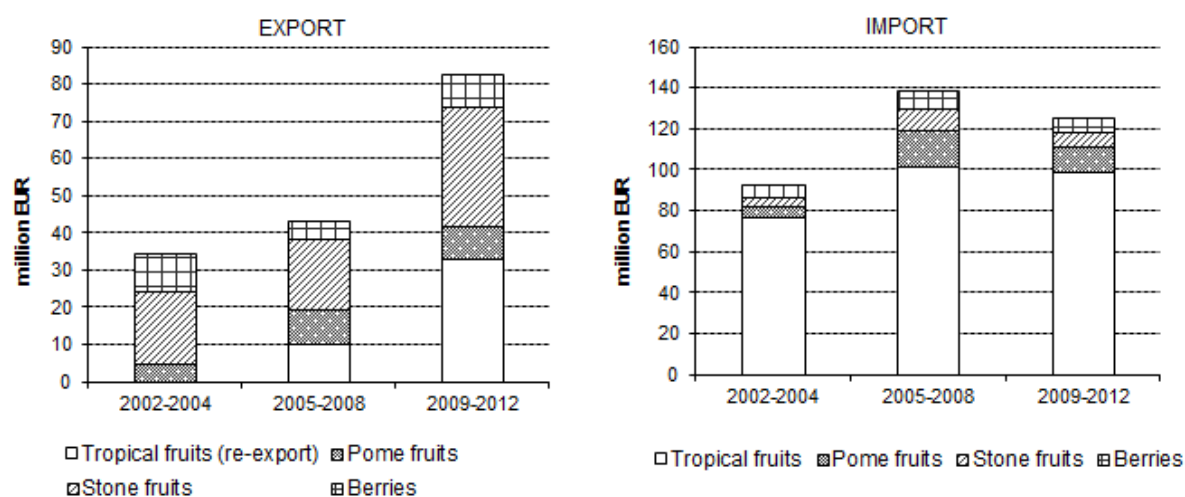
There are several reasons of rising fruits import on Slovak market but most important are steep production decline and simultaneously decrease in number of fruit growers who were not sufficiently prepared to new economic conditions within Common Agricultural Market and they were unable to struggle with foreign fruit suppliers. In addition to most fruit growers the sale of fruits production to retail chains is very complicated and often disadvantageous. Trade negotiations with retail chains are difficult and it is not easy even for producer organization to assert as fruit supplier. Retail chains claim from suppliers the sorted, graded and packaged fruits in large quantities and transported directly to their shops throughout all year but these conditions Slovak fruit producers are not able to fulfil.

Some fruit producers in Slovakia are testing innovative forms of sale, for instance farm-gate sale, market places, farmers' markets, farmers' shops or pick your own fruit. Despite initial worries that customers will harm fruit trees the self-picking proved a success. A few co-operatives sell fresh fruit and fruit products through own fruit store to local customers.

Fig. 7 shows changes of Hungarian fruit export and import in the researched period. The largest value of export products was stone fruits in 2002-2004; it represented a 56.8 per cent share of the total amount. Berries were the second (30.3 per cent); pome fruits represented 12 per cent. In 2005-2008, pome fruit export showed a double increase. In this period, tropical fruit export was launched, giving 23.2 per cent of total amount. The period 2009-2012 indicated growth in the export of these products, except pome fruits. Tropical fruit export also increased significantly. Generally, the main export products are fresh fruits, such as apple, sour cherry and plum. One part of the export is re-exported, these are tropical fruits.

Hungarian export and import of important fruits

Fig. 7



Source: HCSO

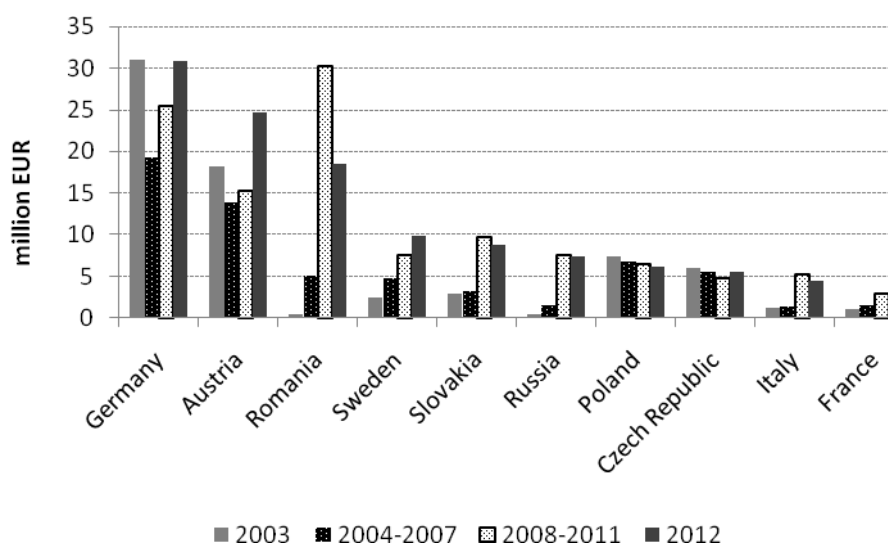
Regarding the annual average values, the most significant import product is tropical fruits and the value of import tropical fruits is continuously growing. The import of other products also grew between 2005 and 2008. Pome fruits tripled, the import of stone fruits rose by 250

per cent, while berries by 150 per cent compared to the average values of the 2002-2004 period. On the other hand in the following period, the numbers toned down. The main import goods are tropical fruits (banana, orange and tangerine). Fresh fruits (excl. tropical) are the second highest volume of imports; these are mainly apple, pear, peach and strawberry. The third highest is frozen fruit. The main imported frozen fruits are strawberries, the second are sour cherries and the third are raspberries. Dried fruits come to the last place.

Much of Hungarian foreign trade were directed to EU-15 countries; export was 66 per cent between 2002 and 2004. Fruit export slowly balanced between 2009 and 2012 in the EU (towards EU-15 it was 50 per cent and towards EU-12 it was 40 per cent of total value). After the EU accession, notable realignment could not be observed in case of destination countries. The most important export target markets were Germany, Austria and Romania in 2012. The Hungarian share in the Slovak market has significantly grown in the past years, Hungarian export has tripled. Romanian import has also increased heavily. Fresh fruit transportation is the most notable, stemming from apple and tropical fruits re-export. Sour cherry is the most important export product, e.g. 50-70 per cent of fresh sour cherry is directed to Germany.

The Hungarian fruits export by destination countries

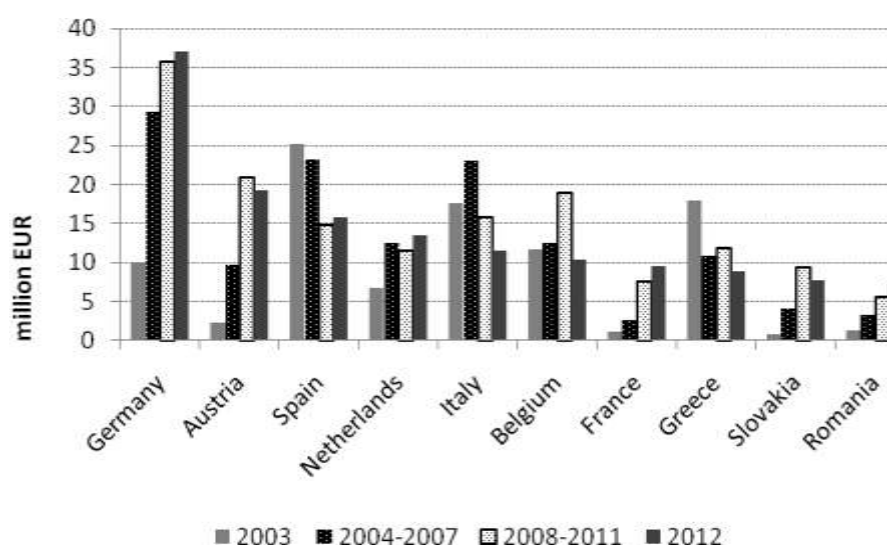
Fig. 8



Source: HCSO

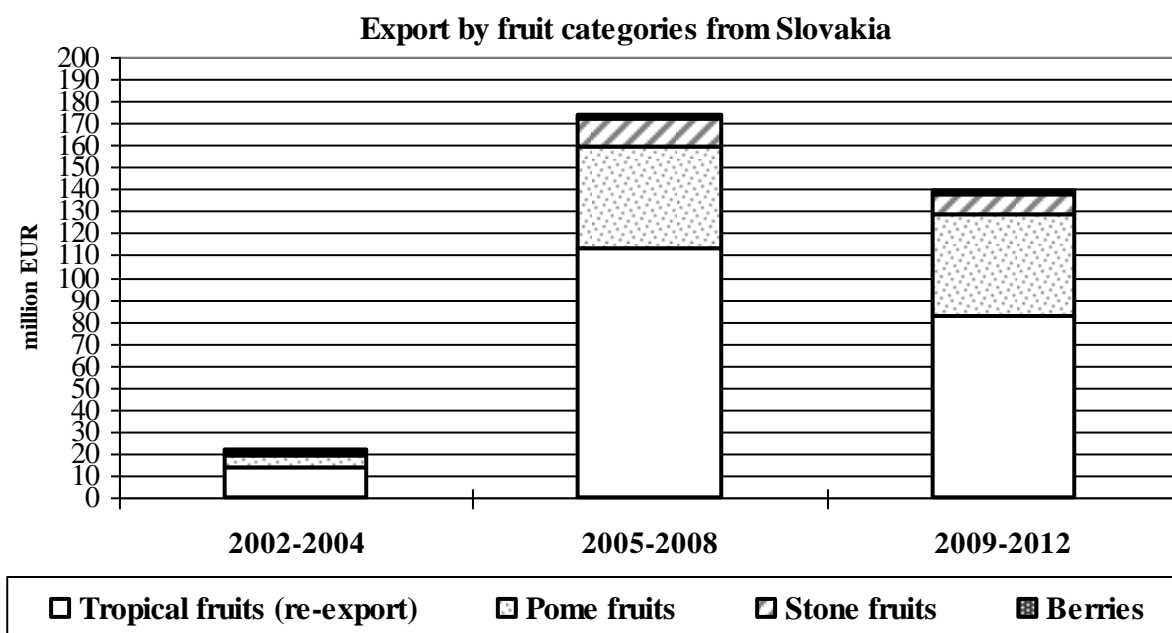
After the EU accession, some supplier countries (Germany, Austria) improved their fruit exports. Hugerealignment could be observed between the EU member states; Germany overtook some traditional supplier countries (e.g. Italy, Spain, and Greece), however, Germany mostly re-exports. Austria also showed a remarkable change, because it stepped forward from the ninth place to the second. These two countries improved due to the expansion of grocery retail chains (e.g. Aldi, Spar). After the EU accession the volume of import banana, orange juice, nuts and fresh apple has risen considerably.

Fig. 5. The Hungarian fruits import by destination countries

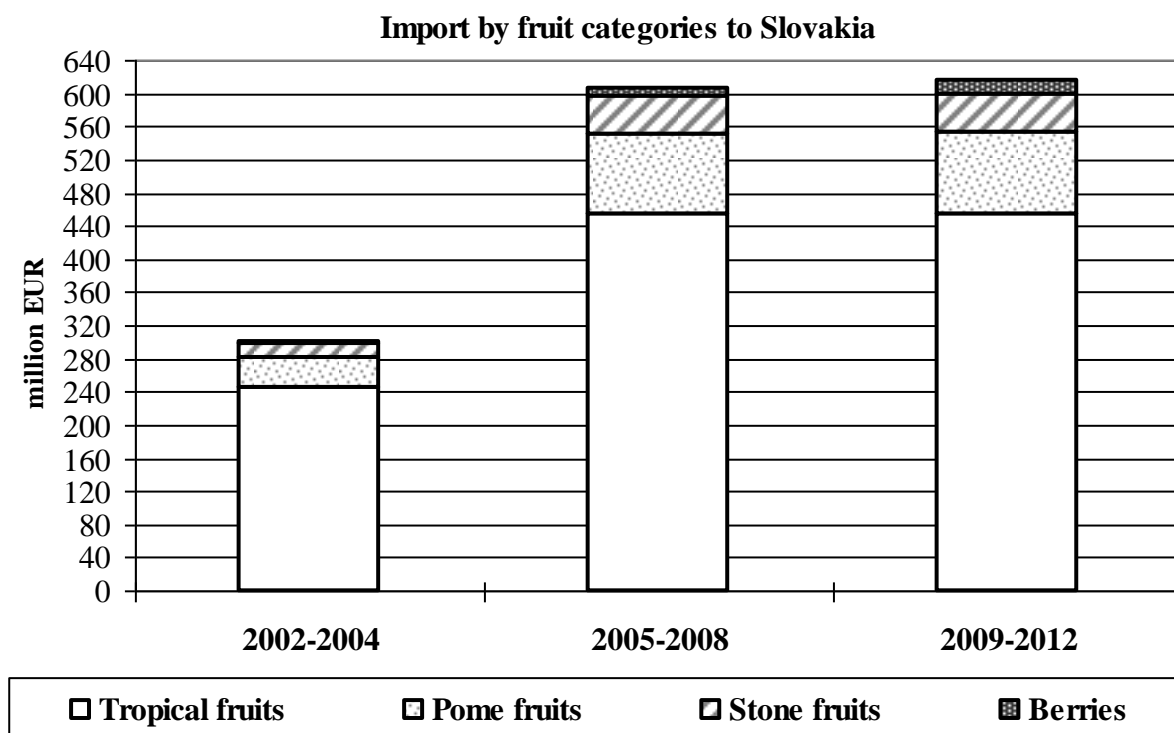


Source: Hungarian Central Statistical Office

Export value of apples and pears produced in Slovakia rose from € 817 thousands in 2002 to € 14.6 million in 2012. On the other hand import value of pome fruits more than doubled from €11.2 million to € 25.6 million. Similar development arose with stone fruits and berries. Specifically import value of peaches, apricots, plums and cherries years increased by 72 % through comparison 2012 – 2002. During the same time period the import value of berries varieties grew by almost 8 times.



Source: MPRV SR



Source: MPRV SR

Since 2002 the balance of trade with fresh fruits has worsened from € 104 million to € 151 million in 2012 (Meravá, E., 2013), e.g. by 45 %. Unfortunately it was noticed increased mild climate fruits import especially apples and pears and not just tropical fruits. Similarly the balance of trade with processed fruit products is permanently negative as since 2002 it has increased significantly (by 57 %) namely from € 30 million to € 47 million.

Conclusion

Fruit production in both countries declined in past decade. Formerly total fruit production in Hungary achieved around 1 million tons and currently it is in range 600 - 800 thousand tons. Similarly production of fruits in Slovakia decreased from 90 to 60 thousand tons.

Hungarian export of fresh fruits, with the exception of apples and pears, increased during last three years, especially stone fruits (sour cherries and plums). On the other side it grew import volume of tropical fruits namely bananas and citrus varieties for instance oranges, tangerines, lemons etc. that is natural trend as consumers are seeking greater fruit variety. However unwelcome development is the rising import of apples, pears, peaches and strawberries.

In order to increase fruit production and export in both countries the experts propose association of individual fruit growers into producer organisations. The objectives of such connection are optimization of production costs, concentration of fruit supply, placing the production on the market, adjustment of production to demand in terms of quality and quantity and producer prices stabilisation.

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Submitted August 26, 2014

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