

A SECTOR OF STRATEGIC IMPORTANCE? THE BASIC DILEMMAS OF HUNGARIAN AGRICULTURE IN THE SECOND HALF OF THE 20TH CENTURY¹

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Abstract

Agriculture in Hungary has a strategic importance as the sector generates foreign currency earnings while it increases rural employment opportunities. Foreign currency generation assumes higher inputs of labour and highly mechanised production (e.g. cereal production), which does not promote rural employment. The dramatic decrease in the labour-intensive sectors generates a decline in rural employment. This dichotomy results in irresolvable contradictions. The study examines the possibilities of resolving the contradictions in Hungarian agriculture.

Keywords: agriculture, green revolution, foreign currency generating capacity, employment

Introduction

The agricultural sector's role in ensuring food security, its foreign currency generating capacity and its role in providing rural employment opportunities made Hungarian agriculture a strategic sector in the 20th century. However, there is a contradiction between its foreign currency generating capacity and the employment opportunities it can provide. The foreign currency generating capacity is attributed to large scale, mechanised and low labour-intensive production (e.g. wheat production) that highly contributes to increasing rural unemployment. In the socialist era full employment disguised this contradiction but after the regime change the role of agriculture in providing rural employment opportunities decreased dramatically. This study aims at considering this contradiction and its impacts on Hungarian agriculture between 1960 and 2000.

1. In the light and shade of the green revolution

In the 1950s, the world's agriculture was characterised by fundamental changes. In the 1960s and 1980s, fostered by the green revolution, outputs increased rapidly (Beke, 2010), e.g. wheat production in the world doubled between 1960 and 1990. In the 1960s and in the early 1980s Hungarian agriculture achieved a unique success.

¹ Researcher was supported by the Bolyai János Research Scholarship – Hungarian Academy of Sciences.

By 1965 gross agricultural production increased to 125 % (1950 = 100%) and by 1982 to 226 %, while net agricultural production increased to 400% (KSH, 1994). The share of agricultural products sold in the internal and external markets between 1950 and 1982 increased from 100% to 290%. The potential of agricultural production was significant. Wheat and corn yields approached the standards of France, Denmark, the USA or Canada, and Hungary was among the major meat producers (KSH, 1985).

Industrial agriculture, mechanisation and the new advanced technologies had an impact on the product structure as well. The production area of high yielding arable crops increased significantly. Between 1961 and 1970 the production area of wheat, corn, lucerne and sunflower was 2.5 times bigger than the production area of other plants and by 1972 it was already 4.3 times bigger, which led to a simplification and a reduced farmland biodiversity.

In Hungary agriculture had a strategic importance since it ensured food self-sufficiency and had a vital role in foreign trade, in providing rural employment opportunities and in the supply of energy sources. Prior to the regime change the agricultural sector - agriculture and food industry together – played a major role in the economy of the country. Before 1990, agriculture's contribution to GDP was over 13% and employed more than 17% of the population, and its foreign currency generating capacity (in convertible currencies and on the socialist markets) remained significant even after the regime change. From 1990 on, production and ownership structures changed and at the same time the country lost its domestic and external markets, the difference in the price scissor increased, and the profitability of agricultural production decreased (Popp, 2003). At the turn of the century, agriculture's contribution to GDP was only 4%, the sector's relative importance within the economy started to decline, however, agriculture still plays a vital role in the economy.

2. Foreign currency generating capacity of agriculture

In the 1960s, agricultural trade in Hungary expanded rapidly. The country was self-sufficient in food production and it was able to export agricultural products to three main markets. Trade was significant with the socialist countries (the Soviet Union, Czechoslovakia, Poland and East Germany), with countries in the near east (Iraq, Algeria, Libya, Egypt, Angola, Lebanon and Iran), with the countries of North Africa and with the sub-Saharan African countries. From the 1970s, Hungary shifted some of its trade to the Near East and to Western Europe. In the 1960s, Hungary through trade between western and eastern countries, enabled Comecon countries to have better access to advanced technology. Eastern Europe was a target market to Western European countries, while Hungary processed materials that were imported from the Comecon countries at a low price, and could import advanced technology and modern consumer goods in return. For improving industrial production systems knowledge, technology, modern machinery, new plant varieties and expertise were needed, therefore western organisation and management concepts were adapted and joint ventures with western companies were set up. In the 1960s, Hungary had a relative abundance of factors of production, and international trade relations and markets were expanding.

In the 1970s, the price explosion in fuel and raw material changed foreign trade significantly (Cseszka, 2008). Conditions on the world market became adverse. The decline in the terms of trade showed that the economy is highly dependent on the international division of labour. Price movements on the world market eventually influenced the rubel-based transactions as well, due to the introduction of the moving five-year average. As a result of the price boom in

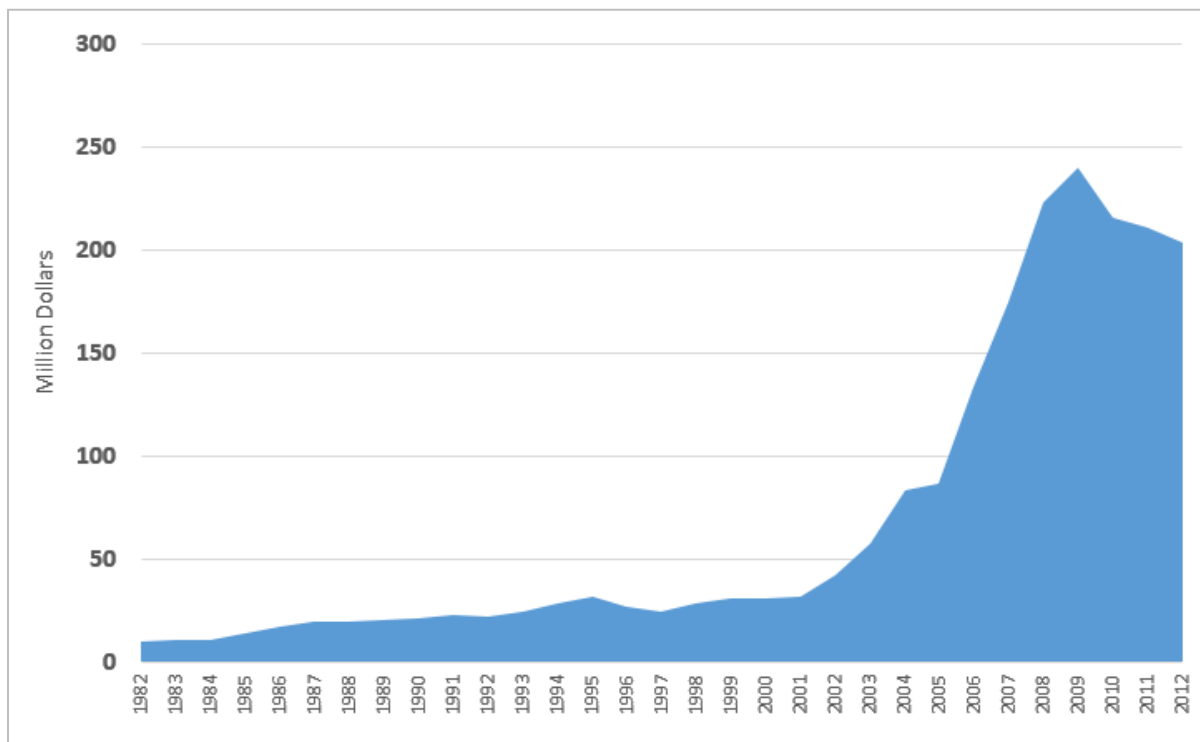
the 1970s, the Soviet Union could adjust the terms of trade within the Comecon countries, which led to the modification of the Bucharest formula. Comecon prices were fixed for five year periods and remained constant until 1975. In intra-Comecon trade, due to the world market price fluctuations, the moving five-year average was applied. The Bucharest formula was modified and prices were calculated by averaging the historical world market prices for a five year period. The rubel prices that were used in intra-Comecon trade were adjusted every year based on the world market prices of the previous five years, i.e. the base period for calculating the 1976 prices was 1971-1975, for the 1977 prices the period between 1972-1976, while for 1978 the period between 1973-1977 was taken into account (Éliás et al. 1980). The price level of imports increased by more than 25 % in 1975, while the price level of energy sources doubled (Barát, 1994).

While there was a decrease in the terms of trade, a protectionist route was followed in agriculture, trade became more difficult, and at the same time the foreign currency generating capacity of agriculture and food industry decreased. On the world market trade was influenced by support policies and conditions. From 1970, exports to the European Community decreased due to the restrictive import measures applied in the Common Market, resulting in a significant decrease of revenues and foreign currency earnings. Hungary's accession to the General Agreement on Tariffs and Trade (GATT) in 1973 ensured discrimination-free access to the markets of the GATT members, however the EC's discrimination against the so called "state-trading countries", including Hungary continued until the end of the 1980s (Balázs, 1998).

In the 1970s Hungary received huge loans from the West (first 4 billion dollars), and by the end of the decade further loans were needed (altogether 10 billion dollars) because the interest rates had to be paid back and the trade deficit had to be covered. The loan trap had closed, country's terms of trade eroded undercutting its creditworthiness.

Due to the soaring oil prices and the high interest rates of the US dollar loans became more expensive, the credit flow to East European countries was reduced significantly as a result of the Polish crisis and debt moratorium, which had disastrous consequences for the heavily indebted countries, including Hungary. At the end of 1981, Hungary joined the IMF and the World Bank to avoid a crisis and to improve the country's balance of payments. The IMF membership together with the related greater austerity and reduced imports and investments was viewed as a positive step towards a more efficient use of resources and an improved balance of trade and balance of payments (Borszéki, 1988). At the same time Hungary had a chronic shortage of convertible foreign currency.

Figure 1. Gross external debt in Hungary between 1982 and 2012



Source: Self-compilation based on World Bank Cross Country Data, 2005

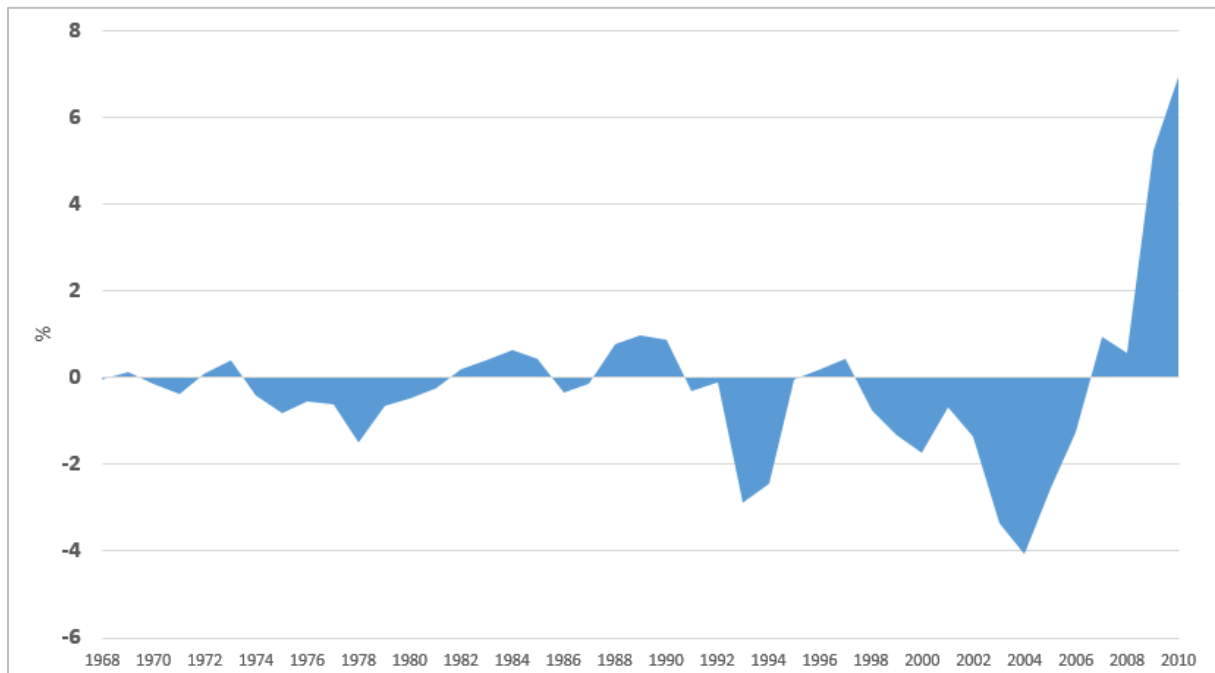
The debt crisis had a devastating impact on agriculture as well. The export of agricultural products improved the balance of payments even despite of the decreasing world market prices. In the agricultural sector in 1982, the imposed cuts exceeded the government subsidies, and export subsidies increased continuously (Varga, 1989). The importance of the agricultural sector was highlighted by the extent of oil, meat and cereal trade that was often conducted on a barter basis. In exchange for agricultural products Hungary could receive energy sources. In the middle of the 1980s, the share of food industry exports was 20-25%, of which one third was to convertible currency markets. Food economy contributed to the balance of payments by 50-60 billion HUF that benefited the whole economy (Szabóné Megyesi, 2000).

The regime change in 1989 fundamentally altered the agricultural sector. At the beginning of the 1990s, Hungarian agriculture lost most of its domestic and East European markets and at the same time farm structure and land ownership changed radically. The changes in the structure of foreign trade had a negative impact on agriculture. After the collapse of the Comecon, Hungarian agriculture lost most of its significant eastern markets and its domestic markets. In developed western countries there was an increase in protectionist tendencies (Varga, 2007), the Common Agricultural Policy and the agricultural subsidies enabled the member states to become self-sufficient in most of the agricultural products that resulted in a drastic decline in Hungary's export opportunities (Juhász, 2002).

The share of agriculture in Hungary's GDP was 26% in 1990 and it declined steadily. In 2002 its share was only 7.8% and by 2004, when Hungary joined the European Union, agriculture's share in the country's GDP was approximately 6% as a result of the decreasing exports of agricultural products and of the decrease in the exports of other products. It is worth

mentioning however that in other sectors of the economy import increased significantly, while agriculture generated a surplus each year (Botos, 2005). Trade balance in 1989 was +787 million USD, while in 1991 there was a -1190 million USD deficit.

Figure 2. Hungary's external balance between 1968 and 2010



Source: Self-compilation based on World Bank Cross Country Data

The Europe Agreement in 1991 had a negative impact on Hungarian agricultural trade. The export of agricultural products to the EC member states amounted to 1169 million dollars whereas imports amounted to 173 million dollars, which means that the export/import coverage ratio was 6.7. In 1994, this ratio was 2.1:1 as a result of the dynamic increase in import penetration and of the insufficient export growth. Between 1995 and 1996, the ratio increased from 2.8 to 3.2, while in 1997 it was only 2.6.

The share of agricultural export to the EC amounted to 44%, while extra-EC agricultural imports were not significant and represented only 2% in 1991 (Szűcs, 1998). Despite of all these, the sector recorded a trade surplus but the country's total trade balance with the EC remained to be negative. Despite of the changes the role of agriculture was still important since it was one of the largest foreign exchange earning source and it played a vital role in improving the country's balance of payments (Botos, 2005).

3. The role of agriculture in providing employment opportunities

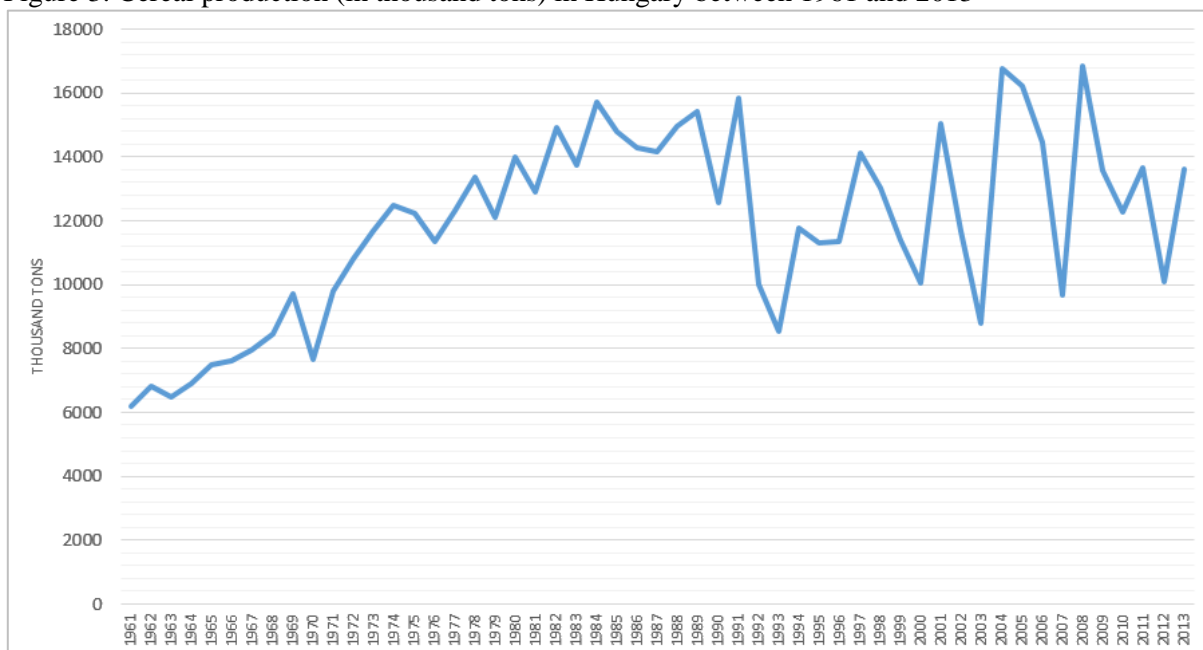
Employment trends in agriculture depend on several factors:

- in other sectors of the economy wages are higher, therefore agricultural labourers shift to those sectors

- intensive farming practices and the increased efficiency reduce the amount of labour inputs
- as a result of farm size concentration the number of small farms decreased and the size of large-farms increased (Bíró, 2012).

Although the above mentioned changes speeded up the labour force shift from farm to non-farm sectors, agricultural activities remained to be the main source of rural livelihood (Bíró-Rácz, 2013). After the forced collectivization in the 1960s, economic policy aimed at improving the living standards and the efficiency of production, and modern, efficient large-scale production and technological development was encouraged (Varga, 2006). Significant changes were implemented in farm management and in labour organisation. Earlier, production was organised at a local level, however organisation was restructured and centralized, therefore decision making and power relations changed. The relatively independent local managers became merely passive implementers of the centralised decisions, and a highly dependent, centralised, functional structure was created. Taylorist labour organisation principles (Katona, 2004) were introduced on large-scale farms and as a result, a rigid yet precise and extremely effective hierarchy came to exist. Taylorism (or scientific management), the technological changes, the division of labour and the increased specialisation brought deskilling of jobs, lower task autonomy and employee participation. The centralized management system adversely affected the sense of ownership of the labour force. Wage workers had to follow orders and the need for most skills was removed. Types of production – e.g. horticulture, the production of herbs and spices, fruit and wine production - that required hard manual work, skills and diligence took only second place or was possible only in small-scale backyard farms. Large-scale farms that applied the taylorist principles managed to raise cereal production significantly (as can be seen in Figure 4.), whereas the labour intensive, technically demanding production that required autonomous decision making and specialised skills proved to be expensive.

Figure 3. Cereal production (in thousand tons) in Hungary between 1961 and 2013



Source: Self-compilation based on World Bank Cross Country Data, 2005

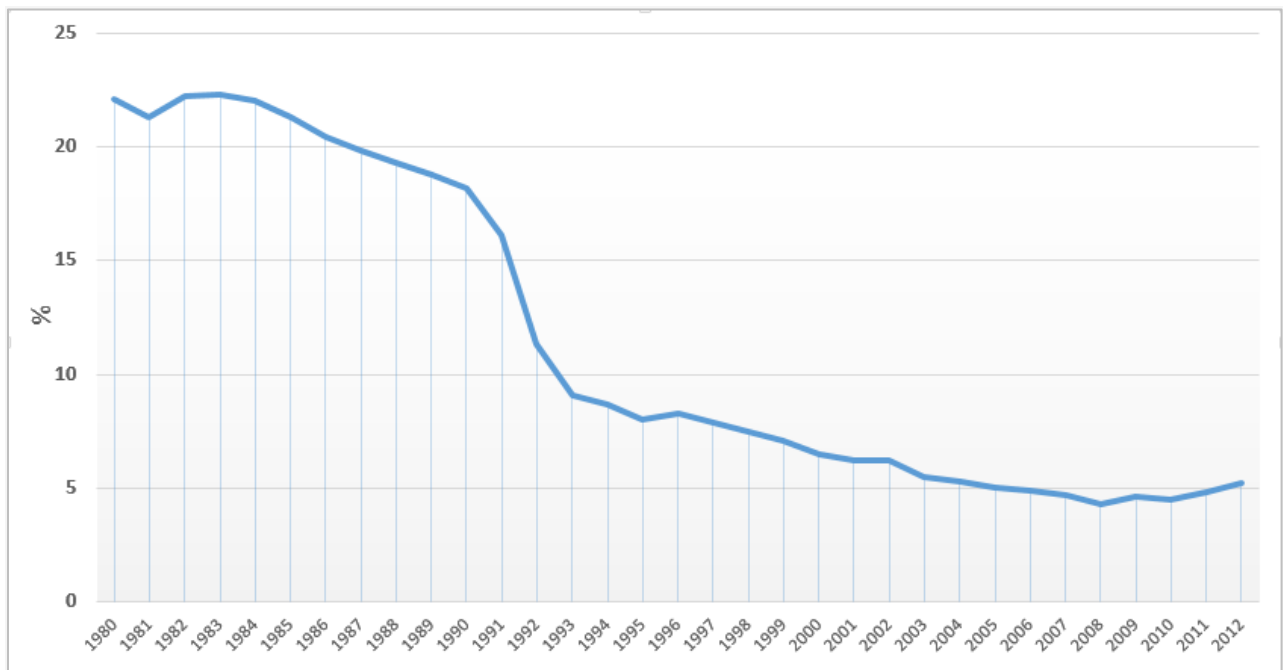
Socialist agriculture was infamous for forced over-employment. In developed countries, in the less labour-intensive types of production, e.g. in the cereal sector, large mechanised farms employed only a few workers. Unlike in farms in the USA, Hungarian agricultural cooperatives and state farms engaged a lot of employees, and as a result of implementing the Taylorist principles, a rigid yet productive hierarchical labour organisations with 4 or 5 management levels came into existence (Kuczi, 2006). All the above mentioned facts show that Taylorism in agriculture had several negative effects, however the skills that were lost on large-scale farms could be used on small-scale and backyard farms. Although incomes were low in agriculture, small scale production and market gardens provided some extra predictable income that could attract people to rural areas after the 1970s (Varga, 2010).

Prior to the regime change 90% of agricultural workers were employed by agricultural cooperatives and state farms, and besides agricultural production they were allowed to engage in complementary activities such as maintenance and accounting (Gulyás, 2009). After 1991, due to the changes in management and ownership structures, a new but controversial employment structure emerged and the number of people employed in agriculture fell dramatically. The dual farm structure embedded inefficiency and low competitiveness. Cereal production on large-scale farms does not require much labour, therefore rural unemployment increased, while the share of the labour intensive fruit or vegetable production gradually declined. Another reason for the decreasing share of vegetable and fruit production was the fact that there was a lack of infrastructure, creditors, buyers and a lack of storage capacity, cold storage, grading and packing facilities, quality checks and processing (Török, 2011).

Another less frequently cited but interesting data is the size of large farms. Eurostat counts the size of all the utilised agricultural area (UAA), starting from the largest farms (such as the farm of Csányi Sándor in Hungary) moving to the smaller ones, and where the total amount exceeds 20% of the country's total agricultural area the farm is considered to be „large”. The average size of these large farms is 54 ha in Switzerland, 135 ha in the Netherlands, 150 ha in Belgium, 250 ha in Poland, 274 ha in France, 295 ha in Austria, 337 ha in Italy and 426 ha in Denmark. In Germany, in spite of the so called „DDR-effekt” the average size of the large farms is only 1.396 hectare, whereas in Hungary it is 3.164 hectare. Even bigger large farms can be found only in the Czech Republic (3.531 ha) and in Slovakia (3.934 ha) (Martins and Tosstorff, 2011).

In Hungary, industrial large-scale monocultures provided foreign currency earnings but it failed to provide rural employment opportunities and it failed to recognise the farmers' role in rural development. Prior to the regime change, over 80% of the 25-64 years old people were employed in agriculture, however by the mid-1990s only 55%. The most significant decrease can be seen in the case of the low-skilled workers. Their share decreased from 80% to 36%. More than 50% of them could not participate in the labour market and became the primary recipients of social transfers or they had to work in the black market. Between 1989 and 1997, the number of people working in agriculture decreased by 650.000, which is a 34.3% decrease (a share of 8.5% of the total) (Tóth, 1998). Between 2000 and 2010 even fewer people were employed in agriculture and forestry, the share decreased from 6.6 to 4.5%.

Figure 4. Employment in agriculture in Hungary (total employment) between 1980 and 2012



Source: Self-compilation based on World Bank Cross Country Data, 2005

Instead of migrating to more productive sectors, labour force moved to long-term inactivity and the traditionally agricultural regions became crisis areas with pervasive unemployment and social problems (Magda, 2011).

As can be seen, after the regime change agriculture and rural areas could not retain their population. Inactivity and unemployment in rural areas increased and at the same time labour-intensive methods of production decreased dramatically. Vegetable and wine production together with processing employed more than 10 people on one hectare (Magda, 2005). With the decline of these sectors, workers who had skills and expertise handed down from father to son became long-term unemployed (Magda, 2011).

Summary

During the past 50 years, agriculture's foreign currency generating capacity and its role in providing rural employment opportunities changed significantly. In the 1960s, economic growth was caused by several factors, such as the relatively cheap and abundant factors of production, the expansion of foreign trade and the rapidly expanding markets. After the 1973 oil crisis, growth slowed down, but it continued to be a main source of foreign currency earnings. Despite of the decreasing world market prices, agricultural exports were crucial for the economy, Hungary had an average annual agricultural trade surplus, and agricultural exports improved the balance of payments. Agricultural exports were stimulated by export subsidies but the quantity based subsidies had a negative impact on the production structure.

After the regime change agriculture went through significant changes. Hungarian agriculture and food industry was characterised by forced over-employment and this invisible unemployment characterising socialist agriculture soon became visible and rural inactivity

rose dramatically. Privatisation had a negative impact on the horticulture sector that requires significantly more labour-intensive methods. At the same time production of cereals and oil seeds increased, and as a result of the applied industrial-scale technology profitability also increased. Horticulture and fruit production declined as these branches are capital intensive and after the EU accession in 2004 the system of agricultural subsidies hindered production. The area based Single Area Payment Scheme (SAPS) supports arable crop production more than the labour-intensive fruit and vegetable production.

Although the macroeconomic environment was changing, the strategic role of agriculture remained important. There is a contradiction between the foreign currency generating capacity of agriculture and rural employment opportunities it can provide, however this contradiction can be solved. The output of the horticulture sector would increase significantly through an increase in the production area, while the cereal sector would not be effected by a similar decrease in the production area.

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