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Research Report

Central and East European Agriculture in Integrating Europe

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Central and East European Agriculture in Integrating Europe

August 2006

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**Central and East
European Agriculture
in Integrating Europe**

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Summary

After the EU enlargement of May 2004, the exchange of agro-food goods between the EU-15 and the new member states (NMS) has accelerated considerably. In particular the expansion of Polish exports in 2005 resulted in the highest surplus registered by the NMS-4 (Czech Republic, Hungary, Poland, Slovakia) in the past decade. Lower production costs in agriculture, especially for labour, are a fundamental cause of Poland's success to date. Despite remaining net importers, the Czech Republic and Slovakia have also slightly improved their position on the EU agro-food markets. Hungary's great ambitions – prior to EU accession – to further expand to EU markets have so far not materialized. The Hungarian setback is rooted in higher production costs, in particular in the livestock sector, and delayed preparations needed to meet European standards. Backed mostly by direct payments and by high EU internal farmgate prices for a number of products, the economic situation in agriculture in the NMS-4 has improved substantially after accession to the EU.

In the years to come, price competitiveness in the NMS will erode as the slight deterioration in agricultural terms of trade visible in the past decade will continue. With ongoing integration into the EU, labour costs and land prices will be on the rise, while farmgate prices in the EU, under pressure from the WTO, will drop in the long run. Further liberalization of the agro-food markets and rising labour productivity will result in a reduction of agricultural jobs in the EU. Consequently, the production of organic foodstuffs and other labour-intensive regional specialties may become an increasingly attractive option to survive. The size and structure of farms will vary between countries depending on the different natural and climatic conditions, as well as their previous histories. It can be expected that large market-oriented farms will continue to constitute the majority in the Czech Republic and Slovakia and, to a lesser extent, in Hungary; the significance of smaller market-oriented farms is likely to dwindle. In Poland, this concentration process will ensue at a much slower pace owing to the country's completely different post-war development. Mounting WTO pressure and the growing reluctance of rich EU member states to contribute to the Brussels budget for the development of poorer countries of the Union will lead to a weakening of redistribution processes. As a result, the total amount of money available from Brussels for redistribution under the CAP will be less than today.

Keywords: *Central and East European new EU member states, agriculture, food industry, agro-food trade, EU integration, regional development, Common Agricultural Policy, WTO*

JEL classification: F15, H71, J33, J43, O13, O57, P32, Q14, Q15, Q17

Central and East European agriculture in integrating Europe

Transformation as a prerequisite for integration

In the course of the 1990s, agriculture in the NMS-4 (the Czech Republic, Hungary, Poland and Slovakia) underwent a process of reform designed to guide the four countries into Europe. The requisite reforms, however, did not follow a uniform pattern. The prime challenge facing the Czech Republic, Hungary and Slovakia (NMS-3) was that of restoring ties of ownership that had been ruptured during the period of forced collectivization in the 1950s. In the Czech Republic and Slovakia, restoration took the form of restitution; in Hungary, compensation. The former leviathans of the command economy were replaced by market-oriented farms, several hundred hectares in size and mostly leasehold. Since current agricultural land prices have not even reached a fifth of those in the EU-15, lease of land has remained a negligible cost item.

Table 1

NMS-4 and Austria: main indicators in 2005

	Czech Republic	Hungary	Poland	Slovakia	Austria
Total country area, mn ha	7.887	9.303	31.268	4.903	8.387
Population, average					
Total population, persons mn	10.2	10.1	38.2	5.4	8.2
of which rural population, pers. mn	2.7	3.5	14.7	2.4	2.8
as % of total population	26.1	33.9	38.6	44.3	34.2
Agricultural area					
mn ha	4.269	5.864	15.906	2.435	3.259
% of total territory	54.1	63.0	50.9	49.7	38.9
ha/capita	0.417	0.581	0.417	0.452	0.395
ha/person employed in agriculture ¹⁾	22.5	30.2	6.5	23.2	15.5
Gross domestic product					
EUR bn at exchange rate	100.0	87.9	243.7	38.1	246.1
per capita (EUR at exchange rate)	9773	87214	6385	7082	29923
per capita (EUR at PPP)	17360	14260	11690	12910	28850
Average share of household expenditure spent on food %	19.8 ²⁾	24.4	28.1 ²⁾	20.4 ²⁾	13.2

Notes: 1) In annual work units (AWUs). One AWU takes into account also part-time and seasonal work, which are recalculated into the work-time equivalent of a full-time worker. - 2) Including non-alcoholic beverages.

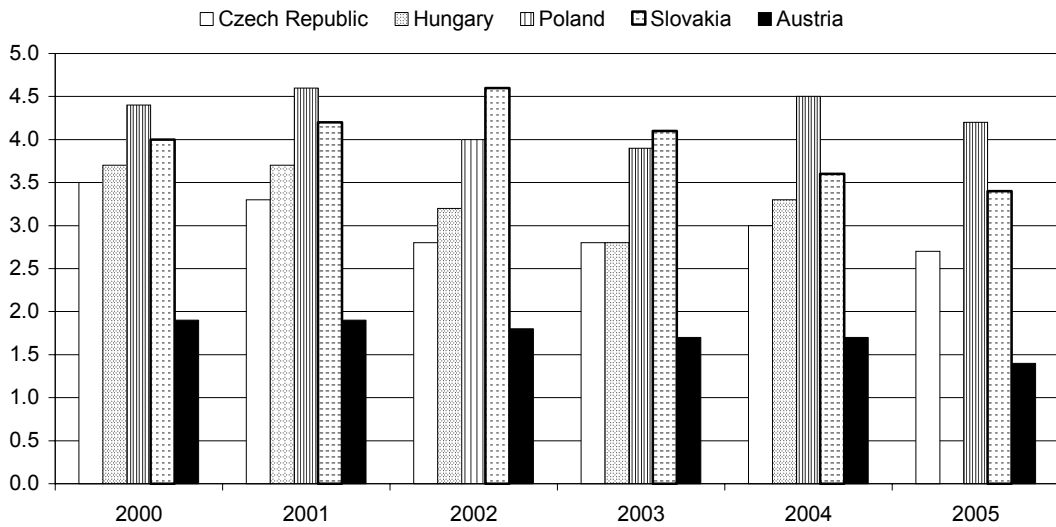
Sources: wiiw Database incorporating national statistics; WIFO Database; Eurostat New Cronos.

Agriculture underwent a radical change in the first half of the 1990s in particular; the result, especially on large farms, was a sharp drop in gross agricultural output. It would appear that small farms display greater resistance to reform and crises than large companies.

Indeed, the larger the farm, the greater the drop in output. At the same time, the share of agriculture in both gross domestic product (GDP) and total employment slumped. Nonetheless, agriculture's contribution to GDP in the NMS-3 is still higher than in Austria; this, however, is primarily an indication that the non-agricultural sector performs far better in Austria than in the NMS-3. In terms of agricultural employment, the differences are less marked.

Figure 1

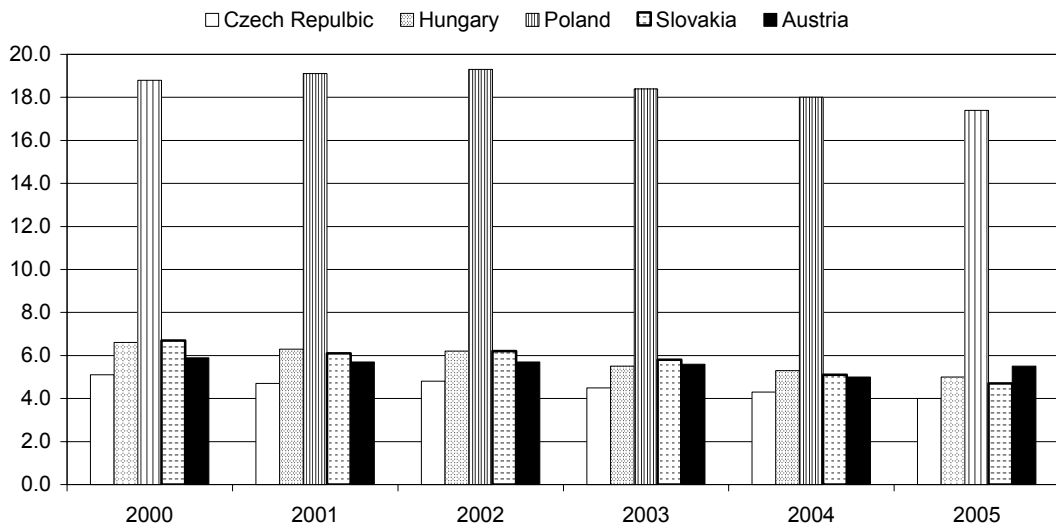
NMS-4 and Austria: Share of agricultural value added in total GDP, in %



Source: wiiw Database incorporating national statistics; WIFO Database.

Figure 2

NMS-4 and Austria: Share of agriculture in total employment, in %



Sources: wiiw Database incorporating national statistics; WIFO Database.

Just as events in post-war Poland had taken a quite different course compared to the other three countries, so too did developments in the agricultural sector after 1990. The forced collectivization of the 1950s failed to take hold in Poland; small-scale private farming prevailed, the average farm having less than five hectares of land. Thus, in Poland there was virtually no need to restore ownership after 1990. Unlike in the NMS-3, the transformation has so far resulted in an only marginal reduction of agricultural employment in Poland. Even today, small-scale farming still predominates, the average farm being slightly larger than 10 hectares; up to one fifth of the economically active population is engaged in agriculture in some way or other. That notwithstanding, even in Poland the number of large farms working many hundreds of hectares and producing solely for the market has increased. Given the agricultural sector's relatively low contribution to GDP and high employment share, it is obvious that labour and land productivity in Polish agriculture is the lowest of all the NMS-4 (Figures 1 and 2). Over-employment in agriculture is due to a lack of job opportunities in non-agricultural sectors in both rural and urban areas, where industry suffered a sharp decline, particularly in the first half of the 1990s. In periods when job opportunities in non-agricultural sectors are in short supply or on the decline, over-employment in agriculture is a welcome alternative as it prevents further unemployment. Moreover, by its very nature subsistence farming tends to save public expenditure that would otherwise arise in connection with unemployment.

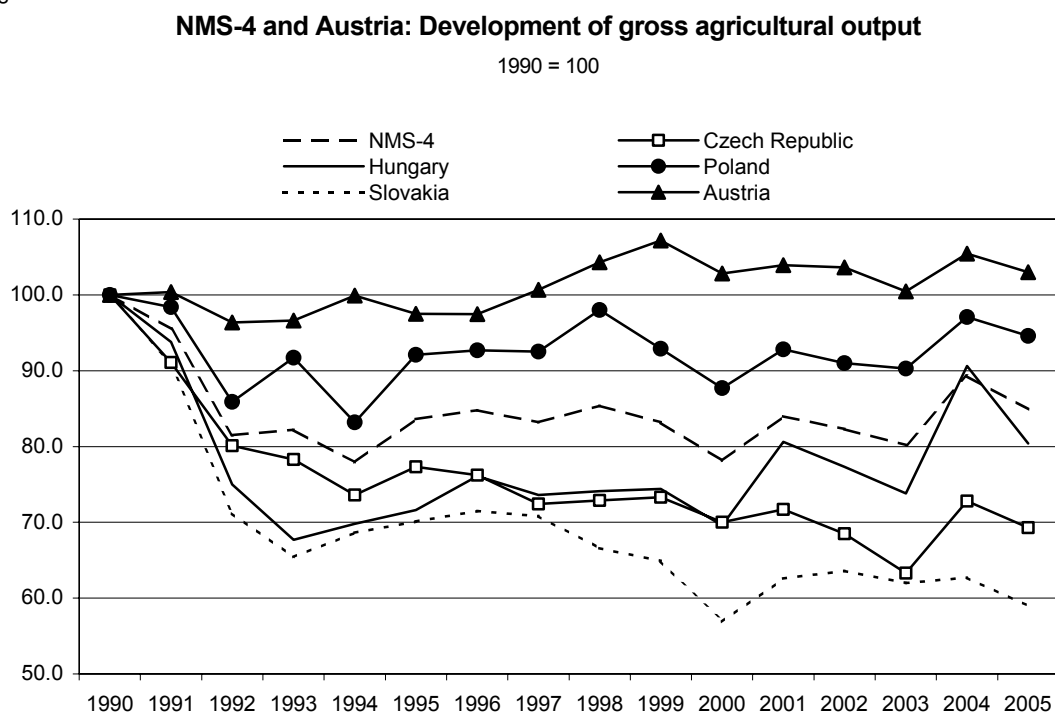
The exchange rates established in the initial phase of the transformation period were such that even today price levels¹ in the NMS-4 are lower than those in the EU-15 or other industrialized countries. However, the differences in overall price levels have been declining (in real terms in euro) on account of: (i) an inflow of foreign direct investment to the NMS-4 with a growing demand for national currencies that has invariably led to their nominal revaluation; and (ii) the level of inflation having usually been higher in the NMS-4 than the EU-15 average, thus leading to a gradual convergence of prices.

The different level of the NMS-4 economies on the one hand and those of the EU-15 on the other are also reflected in the GDP per capita and wage levels, which are still substantially lower in the NMS-4 than in the EU-15, despite the clear growth trends in the former. However, taking into account the lower prices, domestic purchasing power (purchasing power parity) is higher in the NMS-4 than would be suggested by simply converting wages at the current exchange rate. Apart from lower land prices, the generally lower prices in the NMS-4 have meant that agricultural inputs are also cheaper, in particular labour, and, to some extent, locally produced material inputs. While the farmers in the NMS-4 derive from all this a comparative advantage over their counterparts in the

¹ The overall price level in a country is calculated according to a consumption basket that takes into account, on the basis of weighted averages, the prices of both tradable and non-tradable goods (e.g. prices of rent, public transport, health care, social welfare).

EU-15, the gains are partly offset by lower labour productivity and a lack of capital that constrains investment in modern technologies.

Figure 3



Source: wiiw Database incorporating national statistics; New Cronos.

The impact of Copenhagen 2002

At the EU Copenhagen summit in December 2002, the EU introduced four key principles within the Common Agricultural Policy (CAP) specifically for the new member states of the EU (NMS)²:

- (a) a system of production quotas with reference areas and yields derived from results recorded in the recent past;
- (b) the phasing of direct payments over a ten-year transition period, ultimately attaining EU-15 levels by 2013. In 2006, Brussels will pay farmers in the NMS 35% of the final amount³, while each of the countries concerned will be permitted to top up that amount from national sources (depending on its budgetary situation) by an additional 30%, thus yielding a total of 65%. The Czech Republic is one of the countries particularly eager to take advantage of this financial construct, even if it means a larger budget

² In addition to the NMS-4 these include the three Baltic countries (Estonia, Latvia and Lithuania), Slovenia, Cyprus and Malta.

³ The final amount (i.e. 100%) will be paid from Brussels by 2013.

deficit. Whereas it will pay 65% in 2006, neighbouring Slovakia, for example, will pay just 54%;

- (c) immediate access to the agro-food markets of the EU-25 on the condition that the NMS comply with all EU standards. Attainment of those standards calls for huge investments in upgrading both agriculture and the food industry and coping with the non-tariff barriers to trade within the EU;
- (d) an increasingly important role for rural development support, the second pillar of the CAP. That notwithstanding, rural development funding has been cut back somewhat in the wake of the compromise reached during the UK Presidency in the latter half of 2005 that led to a reduction of the EU budget for the period 2007-2013.

Events after May 2004

As from 1 May 2004, when border controls were essentially reduced to merely checking identity papers, the movement of goods between the EU-15 and the NMS picked up considerably. With the liberalization of merchandise trade, cross-border shipments pass virtually uncontrolled throughout the single EU market. That has also impacted total agro-food trade as the expansion of Polish exports in 2005 brought the highest surplus for the NMS-4 in the past decade (Table 2). The lifting of most trade barriers has led to major reductions in transaction costs and hence to a boom in the exchange of goods – particularly between contiguous EU countries, old and new. Unlike trade in goods, full liberalization of the EU-25 labour market has yet to take place. Germany and Austria in particular have been actively restricting the free movement of labour from the NMS; this state of affairs may well last another five years. Even the latest compromise regarding the services directive adopted by the European Parliament this February failed to bring about a fundamental liberalization of trade in services, although full liberalization would indisputably have a positive effect on employment generation throughout the Union.

Table 2

NMS-4: Total agro-food trade balance

EUR million

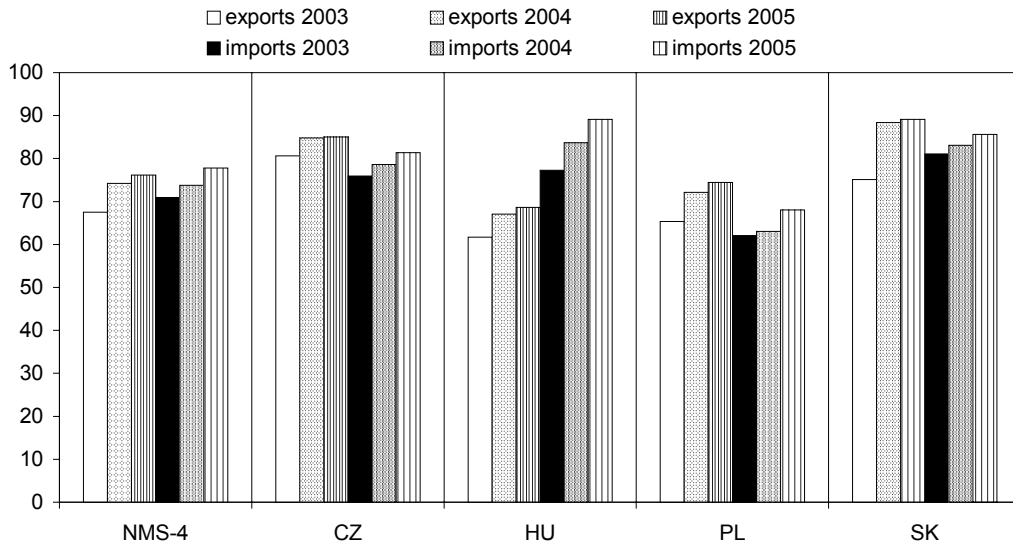
	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	-130	-329	-606	-526	-489	-575	-494	-572	-750	-715	-927	-818
Hungary	1186	1427	1320	1472	1328	1136	1192	1453	1261	1207	911	972
Poland	757	-342	-784	-192	-514	-581	-438	-327	-174	571	943	1823
Slovakia	.	-157	-322	-340	-365	-330	-372	-465	-419	-333	-394	-537
NMS-4		599	-393	415	-41	-350	-111	89	-82	729	532	1441

Note: Agro-food: 0, 1 and 4 SITC commodity groups converted from NCU to EUR at the average official exchange rate.

Sources: wiiw Database incorporating national statistics.

Figure 4

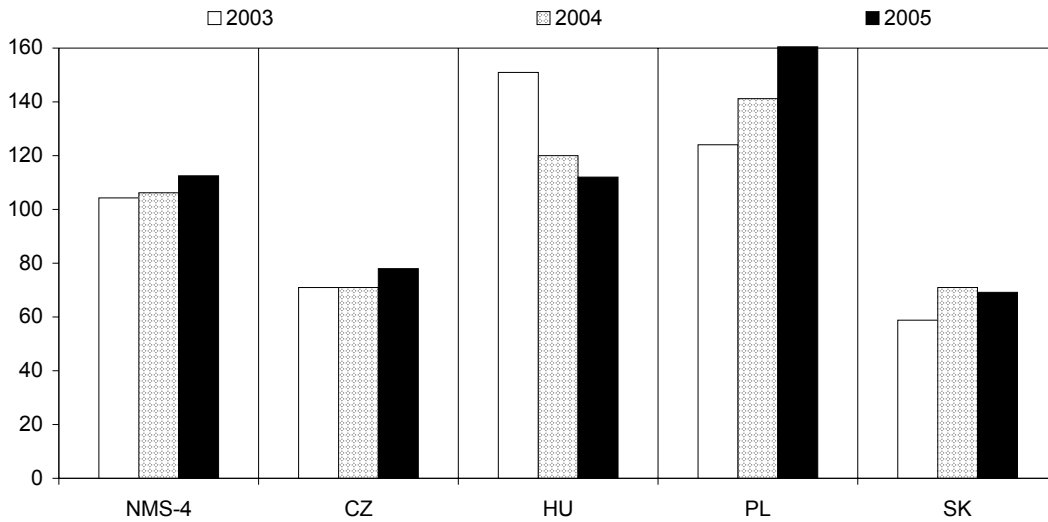
**NMS-4: Agro-food trade with the EU-25 (SITC 0, 1, 4):
Share of EU-25 in total agro-food trade, in %**



Sources: wiiw Database incorporating national statistics.

Figure 5

NMS-4: Agro-food trade with the EU-25, export coverage ratio
 exports in % of imports



Sources: wiiw Database incorporating national statistics, own calculations.

How have the NMS-4 managed to cope with the new rules laid down by the CAP in the first two years of EU membership? One possible indicator is the development of agro-food trade.⁴ With the removal of the final tariff barriers and bureaucratic hurdles, the exchange of agro-food goods has experienced a marked increase since May 2004, particularly where trade within the single market is concerned. This applies to both trade between the EU-15 and the NMS-4 and trade between neighbours within the entire EU-25. For instance, 90% of Slovakia's agro-food exports go to EU countries (Figure 4). The NMS-4 currently import much more from the EU than they did before 2004. This trend is most marked in Hungary: 90% of its agro-food imports originate in the EU. Poland has also stepped up its agro-food imports from the EU. However, as imports from third countries have also been booming, the share of the EU in agro-food imports has remained virtually unchanged over the past three years: more than 60%. Prior to acceding to the EU, Poland protected its agricultural market against imports from third countries by imposing higher customs barriers than those currently applied under the CAP. Those barriers have been lifted in the post-EU accession phase and Poland thus imports more goods from third (non-member) countries as well.

Table 3

NMS-4: Total agro-food trade, export coverage ratio

exports in % of imports

	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	77.5	74.6	60.3	66.1	68.8	62.3	70.8	69.6	63.8	66.7	66.0	74.9
Hungary	341.9	313.2	293.7	266.9	238.2	234.8	218.0	225.1	199.1	188.6	149.1	144.7
Poland	254.0	83.9	72.8	93.7	83.7	80.0	86.2	90.6	95.0	117.8	123.5	136.4
Slovakia	.	71.8	50.2	51.2	50.7	51.7	51.6	50.1	55.2	63.5	66.6	66.5
NMS-4	.	112.9	93.2	106.7	99.4	94.1	98.3	101.2	98.9	109.6	105.4	112.0

Sources: wiiw Database incorporating national statistics, own calculations.

The development of exports relative to imports, i.e. the percentage share of imports covered by exports⁵, is an important indicator of the competitiveness of both agriculture and the food industry. Of the NMS-4, Poland has been the most successful on EU markets since 2003: within two years its coverage of imports by exports increased by 36 percentage points to 160% (Figure 5). With almost 80% of their imports covered by exports, the Czech Republic and Slovakia have also slightly improved their position on the EU agro-food market. Despite all that, however, the two countries still are, and will probably remain, net agro-food importers because in the context of the overall national economy (measured as a share in total GDP, employment and total exports) agriculture is far less important than in Poland. In addition, both countries have greatly increased their

⁴ For the sake of better comparability among the NMS-4, agro-food trade is defined as the SITC (0, 1, 4) nomenclature.

⁵ This relative indicator is more suitable for the analysis of foreign trade developments over time than is the indicator of an absolute amount of surplus or deficit as the former better illustrates the overall foreign trade dynamics.

non-agricultural exports, the Czech economy as a whole is even generating foreign trade surpluses. Despite deterioration in the post-transformation period, among the countries concerned Hungary remained the most important net exporter in total agro-food trade prior to 2004 (Table 3). Consequently, this country had every ambition of penetrating more deeply into the EU market. However, although Hungarian agro-food exports to the EU outstripped imports by more than 50% in 2003, the excess amounted to a mere 12% two years later (Figure 5).

As mentioned above, with the accession to the EU, the NMS-4 took over the strict EU norms and rules. Prior to 2004 many observers expected that these countries would lose part of their markets especially in the EU-15, due to the low sanitary and phytosanitary standards (SPS) in the NMS-4. The detailed figures show that in the accession year 2004 the NMS-4 were apparently not fully able to cope with the SPS applied in the EU-15. In 2004 agro-food exports covered 85% of imports from the EU-15, while one year earlier the coverage rate had stood at 94% (see Table A9). However, the reduction was mostly traced back to the exceptionally strong expansion of imports. Both components of agro-food trade, unprocessed agricultural goods and processed foods, registered a decline of exports. As a result, also the balance in agro-food trade with the EU-15 worsened: the deficit of the NMS-4 increased to EUR 919 million in 2004, compared to EUR 319 million in 2003.

As for the individual countries, only Poland was able to maintain its pre-accession position: in 2003 and 2004 the country registered a more or less equilibrated agro-food trade balance. Hungary's surplus in agro-food trade with the EU-15 amounted to EUR 377 million in 2004, indicating a worsening by EUR 300 million. The Czech Republic and Slovakia registered deficits of EUR 1 billion and EUR 0.2 billion respectively in 2004, thus their position on the agro-food markets in the EU-15 deteriorated by a total of more than EUR 0.2 billion. Bearing in mind the considerable expansion, especially of Polish exports, on the agro-food markets in the enlarged European Union (EU-25), it is evident that the trade improvement took place mostly on the markets in the new member countries.

Poland – the winner to date

The reasons for these variances between the individual NMS-4 are multifaceted. Production costs in Polish agriculture are appreciably lower owing to lower input prices, in particular for labour, where the opportunity costs are virtually zero: a crucial contributory factor to Poland's success thus far. The latter costs reflect the fact that in the mostly underdeveloped rural areas income opportunities other than in agriculture (alternative employment) are negligible. Under these circumstances, Polish smallholders are ready to 'exploit' themselves by not building the cost of their labour into the farmgate prices.

Moreover, social security rates are low as for the most part the state subsidizes the Polish farmers' contributions to the social security scheme.

To a certain degree, Poland also made better preparations for accession to the EU; it started to invest well in time in improving the quality of its agricultural products and processed foods. Immediately after May 2004, most of the country's products complied fully with the strict EU standards, thus facilitating their export throughout the enlarged EU. Poland has secured major shares in the EU markets for milk and dairy products, beef and pork, as well as sugar, vegetables and certain types of fruit. However, Poland's share overall in total agro-food imports, in particular those of the EU-15, is still marginal. Nevertheless, the export opportunities for milk and dairy products to EU markets have encouraged Poland to apply for an increase in its milk quota. As of April 2006 Poland has been able to produce more milk by drawing on its so-called 'restructuring reserve'.

In 2004 the Czech Republic increased its exports, primarily of sugar, milk and beer; Slovakia enjoyed a similar increase in sugar and milk. Hungary suffered a setback on account of three factors: (a) higher production costs, especially labour costs; (b) an underestimation of the extent of the preparations needed to meet EU standards; and (c) delayed establishment of payment agencies. The Hungarian government and enterprises also underestimated the role of marketing: an increasingly important factor in the fully saturated EU market. Animal production, particularly processed animal products, suffered the severest losses. Hungarian poultry farming in particular is still in a critical state following the cuts in government aid to that sector upon the country's accession to the EU.

Hungarian losses

In 2004 the grain market encountered a major problem in the wake of a bumper harvest that encompassed the entire EU. The year 2005 also brought above-average yields, thus necessitating massive interventions on the grain market. The situation was the worst in Hungary where the grain surpluses in both years were equally high. With two bumper crops of more than 16 million tonnes of grain each (Table 4), Hungary had produced twice its annual grain consumption. This phenomenon is not surprising, because, coupled with the generous support from Brussels, Hungary has used the advantages of its climate and soil conditions for expanding grain output.

Grain exports peaked at some 3.5 million tonnes in 2005, yet that was not enough to curb the demand for additional storage capacity. In the same year, Hungary offered over 4 million tonnes of grain to the EU as intervention purchases. Hungarian maize, for example, accounted for 80% of all EU-25 interventions. On account of its generosity, the EU intervention system for cereals encourages the production of huge surpluses. This poses a major challenge to the landlocked countries (NMS-3 and Austria) which have to

defray the significantly higher costs of transporting the surpluses to final consumers. Those costs are often more than EUR 30 per tonne: approximately 30% of the intervention price (EUR 101.32/tonne of grain).

Table 4

NMS-4: Grain production										
million tonnes										
	1991-95	1996-00	1999	2000	2001	2002	2003	2004	2005	2005/2004 change in %
Czech Republic	6.9	6.7	6.9	6.5	7.3	6.8	5.8	8.8	7.7	-12.8
Hungary	11.5	12.0	11.4	10.0	15.0	11.7	8.8	16.8	16.1	-3.9
Poland	23.8	25.2	25.8	22.3	27.0	26.9	23.4	29.6	26.9	-9.1
Slovak Republic	3.6	3.1	2.8	2.2	3.2	3.2	2.5	3.8	3.6	-5.5
NMS (4)	45.7	47.0	46.9	41.0	52.6	48.5	40.4	59.0	54.3	-8.0
Austria	4.5	4.4	4.8	4.5	4.8	4.8	4.3	5.3	4.9	-7.8

Sources: wiiw Database incorporating national statistics; New Cronos.

Rising agricultural incomes in the NMS-4

Agriculture in the NMS-4 has enjoyed an appreciable economic upswing since accession to the EU; farmgate prices for many products within the CAP⁶ are above world market prices. Furthermore, for some products (e.g. cereals and sugarbeet) the CAP guarantees not only prices, but also outlets, provided the goods meet the requisite quality standards. Moreover, direct payments as well as labour productivity have increased in the NMS-4. According to a revised Eurostat estimate, compared to 2004 real agricultural income per worker increased most in the Czech Republic and Poland in 2005: by 13% and 2%, respectively. In Hungary and Slovakia, agricultural income per worker in 2005 dropped by about 10% compared to 2004.⁷

Comparing 2000 and 2005, Poland experienced the largest agricultural income increase: 106%. Poland benefits from being close to its major customer, Germany, resulting in much lower transport costs than is the case in Hungary and Slovakia. Poland also benefits from the fact that local Polish traders in the border regions are fully conversant with the German

⁶ The CAP involves among other things the regulation of supply within the single market, customs protection against third-country imports and export subsidies as a tool to dispose of surpluses. For a number of major commodities, the CAP has led to farmgate prices ranging far above the world price levels.

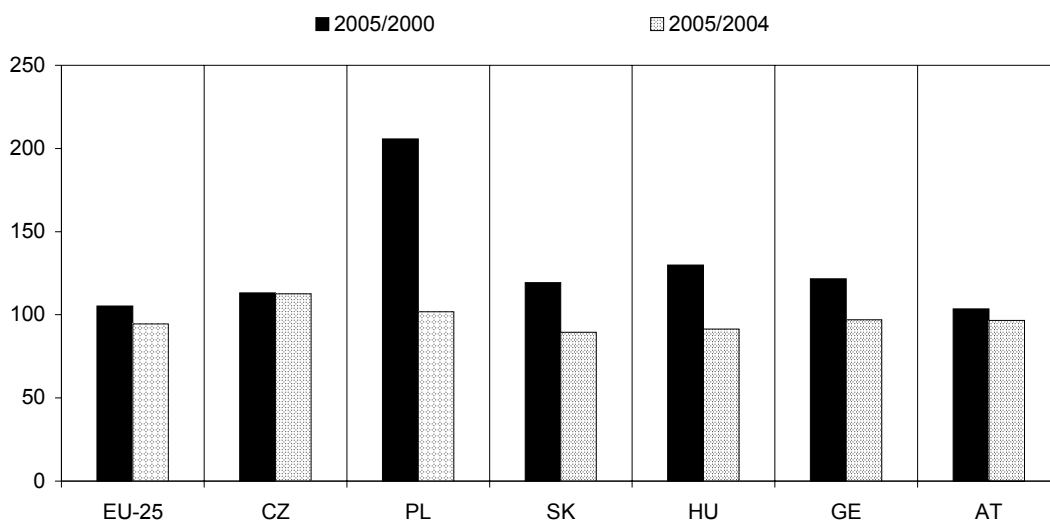
⁷ Source: Eurostat, news release 17.2.2006. Agricultural income comprises the income generated by agricultural activities, per annual work unit, over a given accounting period, even though in certain cases the corresponding revenues will not be received until a later date. In order to take account of part-time and seasonal work, agricultural labour or changes therein are measured in annual work units (AWUs). One AWU is defined as the work-time equivalent of a full-time worker.

market. Furthermore, of the NMS-4 Poland is the largest producer of sugarbeet; the adoption of the CAP sugar regime has thus led to a rise in incomes. This also applies to the Czech Republic, which is the second largest sugarbeet producer among the NMS. In Hungary, agricultural incomes in 2005 were 30% higher in 2005 than in 2000. Bearing in mind the setback the Hungarian exporters suffered on the EU agro-food market, this is a surprising finding. Apparently, it reflects the significance that direct payments bear for agricultural incomes since joining the EU, even though farmgate prices in 2005 fell somewhat compared to 2004. Nevertheless, farmgate prices in 2005 were still higher than those in the pre-accession period.

The development of average agricultural income in the EU-25 as a whole offers an interesting perspective; incomes dropped by 6% in 2005 compared to the previous year and were only 5% higher than in 2000. This is due to the fact that real incomes have been shrinking in most EU-15 countries, while growth only occurred in the NMS. Agricultural incomes in the NMS will continue to grow in the years to come as direct payments increase.

Figure 6

EU-25: Estimate of growth of real agricultural income per full-time worker



Source: Eurostat.

Although a lack of capital has restricted investment in modern technologies in the NMS-4, the situation has improved as agricultural incomes also increased in the post-accession period. However, one problem still obtains: the lack of well-established brands that would

otherwise distinguish regional specialties from mass products in price terms. Furthermore, in the current structure of export goods, basic agricultural commodities with low value-added still prevail over goods with high value-added. Last but not least, both agriculture and the food industry in the NMS-4 have to combat their market deficiencies, yet marketing is particularly slack.

Food industry problems

As distinct from agriculture, the terms of trade in the food industry in the NMS-4 have deteriorated since joining the EU; input prices have risen and output prices have stagnated or even dropped slightly. This shadows developments in the agricultural sector in the early 1990s. At that time, the prices of agricultural inputs increased much more rapidly than farmgate prices. By contrast, the terms of trade in food processing improved as input prices in the food industry (i.e. farmgate prices) were expanding less than its output prices. Moreover, in a period of spiralling inflation the food industry was accustomed to delaying payment of its liabilities to farmers by many months, thus securing more or less interest-free credit for its input purchase and investments.

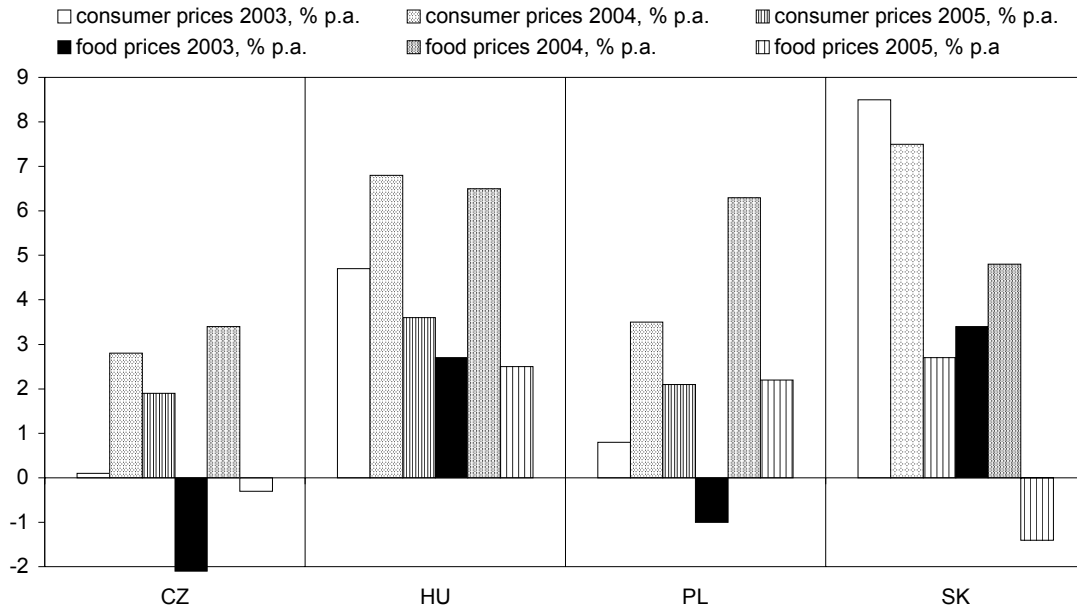
In 2006, the food industry found itself facing higher input prices than two years earlier. Furthermore, it has come under pressure from multinational retail chains, discount chains in particular, intent upon forcing the industry's sales prices down. Compared to the food industry in the EU-15, the NMS-4 will undergo a much faster consolidation process as the level of concentration achieved by food companies to date is still noticeably lower than that in advanced Western countries.

Consumer prices stay calm

Despite the fear that food prices in the NMS-4 would rise sharply after May 2004, this has not occurred in any of the countries. The growing competition among expanding retail chains in particular has eliminated all inflation pressures. In addition, consumer purchasing power has been on the rise, albeit only modestly; that too had a counter-inflationary effect. Only in Poland in 2004 were food price increases negligibly higher than the overall consumer price index. In 2006, the Czech Republic and Slovakia even experienced a drop in food prices with consumers benefiting from the intense price war and competition for customers raging between the established retail chains and the new arrivals on the scene.

Figure 7

NMS-4: Consumer prices



Source: wiiw Database incorporating national statistics

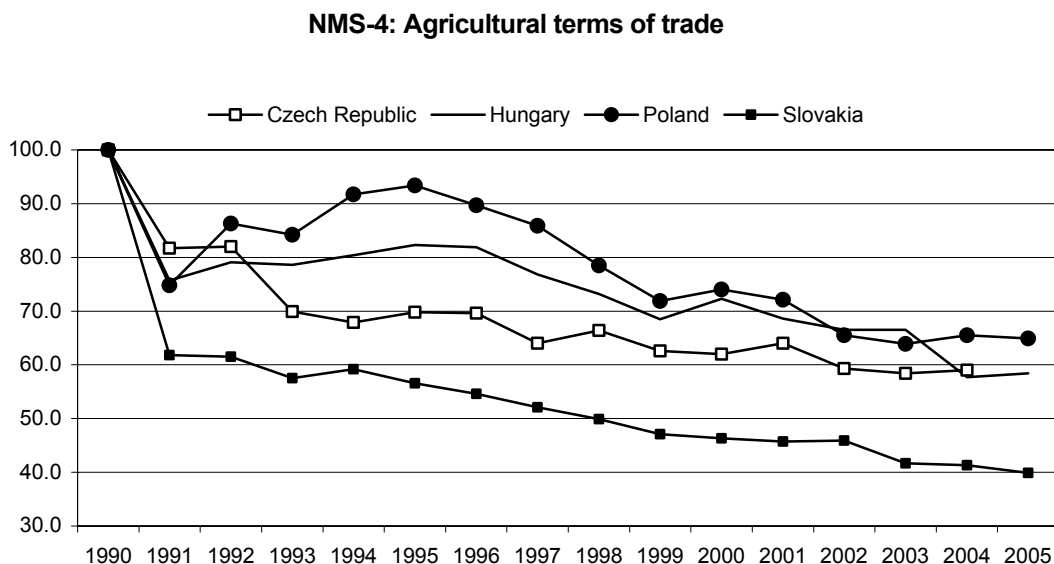
Erosion of price competitiveness in the future

In 2004, the Czech Republic and Poland registered a slight improvement in their agricultural terms of trade (Figure 8). Nevertheless, in the years to come we expect that the deterioration generally visible in the NMS-4 in the past decade will continue. As NMS integration into the EU increases, costs per unit of farm output will grow; this is primarily attributable to higher agricultural land prices and wages that for the time being are still far below the EU-15 levels. This is of especial concern to the Czech Republic, Hungary and Slovakia where prices for freehold or leasehold are likely to increase once the land market has been liberalized – at the end of the seven-year transition period in 2010.

Those increases, however, will not be sudden: even today foreigners merely need to register in order to be entitled to purchase farmland; the obstacles are minimal. Nevertheless, the gradual increase in land prices may become a major cost factor for large farms working leased land. Large farms in the NMS-3 are thus faced with a difficult choice: invest in upgrading production or purchase land, while it is still cheap. In Brussels Poland negotiated a twelve-year transition period for the liberalization of its land market; it extends up until 2016. Future increases in land prices have thus not been a topic of debate in Poland. Furthermore, as stated above, small farms mostly working their own land are a dominant feature of Polish agriculture; this situation is likely to continue. This means that for the most part, any increase in Polish land prices will lead to increased farm assets

(rather than higher production costs). This process of rising input prices in the NMS will be accompanied by a drop in agricultural output prices in the EU caused by the CAP reforms as well as by additional pressure from the WTO. As a result, agricultural terms of trade will worsen.

Figure 8



Note: Agricultural output prices deflated by agricultural input prices.

Source: wiiv Database incorporating national statistics; New Cronos.

Rising reform pressure

In mid-December 2005, after several months of tense negotiations, the EU finally managed to reach a compromise on its budget for the period 2007-2013. Compared to the original proposal, the rural development fund will be reduced by 20%. From the viewpoint of CAP reform, this is not a minor amount. As is well known, the reform was tabled by the former EU Commissioner for Agriculture, Franz Fischler, with the strategic objective of increasing the funding for the second CAP pillar (rural development) and reducing it for the first (market support). The decision taken in December has more or less determined the financial regulatory framework up until 2013. In that period, however, under mounting pressure from the WTO, the CAP will undergo still more changes as a result of the EU commitment to do away with export subsidies.

This holds true even though at present the WTO negotiations so far may be considered a failure. The Doha round collapsed on 24 July 2006 as the biggest six players on the world market (EU, US, Japan, Brazil, Australia, India) were not able to agree on a compromise on agricultural liberalization. The US continued to pledge for big cuts in farm import tariffs in order to further open the world markets for its agro-food exports. The EU, Japan and India,

however, rejected this demand, bringing forward the argument that the US had first to offer a larger reduction of its agricultural subsidies. It was the French farmers, who oppose bigger cuts in EU farm tariffs, who promoted the EU's hardline position against the US. It now seems that the WTO members may only continue negotiations when the US has passed an amendment on reducing agricultural support. The next opportunity may arise after the US Senate elections to be held on 7 November 2006.

Despite those uncertainties concerning the liberalization of international trade rules, it is quite obvious that the current generous system of intervention purchases for cereals in the EU must be modified. Otherwise huge surpluses may build up that could prove difficult to sell on the world market, considering the commitment to abolish export subsidies.

Hence, two possible solutions present themselves. Brussels will have to: (a) reduce the intervention price for cereals by 2013 or (b) reduce the cost of intervention by promoting the conversion of cereals and domestic biomass into renewable energy. Either solution will be financed from the CAP funds and draw on funds from individual member states.

The first solution is indisputably cheaper. Its feasibility, however, depends on the political will of all Community members: something that has proven elusive to date. Moreover, despite the high world prices for oil at present, the production of bio-fuels in Europe has proven unprofitable. This may of course change and bio-fuels may become profitable if energy prices on the world markets rise even further.

Without doubt, the pressure to reduce EU farmgate prices will mount in the years to come. The prices of agricultural commodities produced in Europe will converge with the lower world market prices that are usually dollar-based. This would be the less painful route to take, should the euro weaken against the US dollar.

Future challenges

Even over the short term, the current high-price system of intervention purchases for cereals will have to be changed if the increasingly slow sales of recurrent grain surpluses on the world market are to be avoided. Of the NMS, Hungary in particular enjoys a comparative advantage that makes the current intervention price for grain a highly attractive proposition. Little wonder that Hungarian grain producers have made full use of the generous system offered by the CAP. Another urgent challenge looms large for the NMS in the form of the milk quota system. Since the EU enlargement, milk output (especially in Poland and the Czech Republic) has experienced a strong recovery as guaranteed EU prices for milk together with renewed investment in the dairy industry have been the driving forces behind expansion. As a result, both countries have faced the prospects of having to pay 'superlevy' fines for overproduction in the period 2005-2006 that

far exceeded the milk quotas agreed upon in Copenhagen in 2002. Although the EU has allocated part of its 'restructuring reserve' to both countries, the question whether the current milk quota system makes any sense remains unanswered.

In the years to come the CAP will have to address five distinct issues: (i) the financial predicament arising out of the ever decreasing amounts of money administered centrally by Brussels; (ii) the increasing liberalization of the EU market in the wake of mounting pressure, primarily that of the WTO; (iii) the European farmers' quest for new alternative products' and new income support policies; (iv) the growing differentiation between the various roles of agriculture as a producer of commodities and supplier of services, coupled with the explicit consensus on the part of society on which, where and how many services are required; and (v) the need to strike a new balance between the first (market support) and second (rural development) pillars.

Doubtless, with further liberalization of agricultural markets and rising labour productivity, the agricultural sector in Europe will provide still fewer jobs linked directly to the production of basic foodstuffs as such. Some job opportunities will open up in the production of labour-intensive specialties that offer limited scope for mechanization. One attractive alternative is the production of organic foodstuffs, which is supported by the CAP and, in some cases, by individual member states as well. Austria and the Czech Republic rank among the European leaders in this field. Approximately 10% of the total agricultural area in Austria and 6% in the Czech Republic are devoted exclusively to organic farming; production is mostly based on grasslands. In Austria, the organic segment is dominated by dairy farming in mountain regions.

Monitoring the quality and authenticity of organic foodstuffs is of prime importance as securing consumer confidence in organic farming is still a problem. The issue is particularly contentious in farms that combine different methods of production since conventional products can all too easily be substituted for organic foodstuffs. Discussions have thus been held on segregating the two methods of farming. In reality, this would mean that subsidies for the production of organic foodstuffs would only be granted to those farms producing organic products and nothing else. This measure would benefit smallholders in particular. Another important issue will arise with the determination of the quality that consumers demand and for which they are willing to pay premium prices. Furthermore, the NMS have still to get into awareness raising, product branding and marketing targeted towards consumers in the medium- and high-income brackets.

With rising energy prices and the emerging importance of biomass, the development of a multifunctional form of agriculture may lead to the creation of new employment opportunities or the preservation of existing jobs. A much greater role will also be played by activities linked to conserving the countryside, particularly in areas popular with tourists.

The issue is one of finding the political willingness to consider such activities public goods. Gradually agriculture is becoming a provider of a number of services that serve the public interest. The support for such activities should, however, be designed to target those operations that are closely associated with rural areas and contribute to the conservation of country life. Moreover, rural areas will also be able to offer employment opportunities in modern information technologies, which can be pursued over large distances.

Developments in Austria to date (where 81% of the total rural area is classified as 'less-favoured') may serve as an example of how financial support can keep poorer regions populated. Of all the less-favoured areas, no less than 70% is defined as mountainous. Austria had long provided support to those areas; on joining the EU in 1995, it even increased payments aimed at conserving country life. Whereas most EU countries draw on the first CAP pillar (market support), Austria relies primarily on the second pillar: rural development; including national co-financing, 64% of all agricultural support is channelled in this direction.

Austria's generous co-financing of the support to agriculture lent by Brussels is based on political consensus extending across the entire political spectrum. The rural development policy thus contributes substantially to farm incomes in the Austrian regions that are economically disadvantaged. Hence, the support in question is not provided to agricultural production as such, but rather to compensate farmers for supplying a broad selection of public goods. The main objective of Austria's agricultural policy is to develop, with the assistance of CAP funding, multifunctional agriculture and thus check the rural exodus. The measures adopted also benefit Austrian society as a whole since tourism in general and on-farm tourism in particular have become one of the arms supporting the entire Austrian economy.

As for the size and structure of farms, future developments will vary between countries depending on the different natural and climatic conditions, as well their previous histories. As mentioned above, from the historical point of view, certain parallels can be seen in the development of agriculture in the Czech Republic, Hungary and Slovakia, all three of which were dominated by large state-owned collective farms for forty years. In Poland, on the other hand, small farms survived throughout the communist era. It now transpires that large farms, albeit exclusively market-oriented and somewhat smaller than those before 1990, are still in the majority in the NMS-3. In Poland, although market-oriented farms are also increasing in size, small farms still play a fundamental role in conserving country life.

Based on experience from the former German Democratic Republic, the new German *Länder*, which adopted the CAP as far back as 1991, it can be seen that the large farms there, which were part of the previous regime's legacy, have remained viable under CAP rules. Frequently, these farms yield better economic results than small farms in West

Germany. Over the medium and long term, it can be expected that large market-oriented farms will continue to constitute the majority in the NMS-3. The significance of smaller market-oriented farms is likely to dwindle in general; for many small farms poor access to markets will be a reason to switch to pure subsistence farming, possibly combined with marginal production for local markets. In Poland, this concentration process will ensue at a much slower pace owing to the country's completely different post-war development. The gradual increase in direct payments, 'decoupled' from production, and a strengthening of the second CAP pillar should boost farmers' incomes in poorer regions as well and so contribute to an improvement in the quality of rural life. In the course of this rural revitalization, the EU structural funds designed to support the development of infrastructure should also play an important role.

Despite the temporary breakdown of the Doha round, the WTO will step up pressure in the years to come. That, coupled with a growing reluctance of rich EU member states to contribute to the Brussels budget for the development of poorer EU countries, will lead to a weakening of redistribution processes. This in turn will probably lead to a decline, in both absolute and relative terms, in financial support for agriculture targeted at no-name products (first pillar). However, the second CAP pillar, the rural development funds, will take on increasing importance, with this funding probably increasingly co-financed from national sources. Nevertheless, the manner in which voters in individual EU countries respond to this process will be of decisive importance for many years ahead. Great weight, even in nominal terms, will be given to determining whether it is politically desirable to continue providing direct-income support to people in poorer regions, as well as maintaining the schemes with an organic and multifunctional focus together with all the other rural development schemes (including those for non-farm rural businesses). Within one decade, the second CAP pillar can be expected to become a key support pillar. However, the total amount of money available from Brussels for redistribution under the CAP will be significantly less than today.

Appendix

Selected indicators of agriculture

Table A1

Czech Republic: Selected indicators of agriculture

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Gross agricultural output (GAO)																
Total, CZK mn	.	.	.	.	.	125661	132194	.	.	.	118126	129839	116668	102768	121536	109145
Crops, CZK mn	.	.	.	.	.	57211	64523	.	.	.	53803	59488	54284	44524	61694	50740
Livestock, CZK mn	.	.	.	.	.	68450	67671	.	.	.	64323	70350	62384	58244	59843	58405
Total, 1990=100	100.0	91.1	80.1	78.3	73.6	77.3	76.2	72.4	72.9	73.3	70.0	71.7	68.5	63.3	72.8	69.3
Crops, 1990=100	100.0	97.0	80.5	84.2	78.1	80.4	82.0	79.1	77.8	81.6	75.9	79.8	73.1	63.3	87.5	81.5
Livestock, 1990=100	100.0	86.9	79.8	74.0	70.3	75.1	72.1	67.5	69.4	67.3	65.7	65.9	65.2	63.3	62.2	60.5
Price indices, 1990=100																
Producer input prices	100.0	119.4	128.0	163.0	175.5	183.8	199.5	224.3	220.3	206.3	227.3	240.0	234.7	231.2	247.4	.
Producer output prices	100.0	97.5	105.0	113.8	119.1	128.2	138.8	143.5	146.3	129.1	141.0	153.7	139.1	135.1	146.0	.
Consumer prices (food) ¹⁾	100.0	144.4	157.5	183.7	200.8	223.3	241.1	251.6	262.7	248.1	250.6	263.4	258.1	252.6	261.2	260.4
Price indices, previous year=100																
Producer input prices	102.9	119.4	107.2	127.3	107.7	104.7	108.6	112.4	98.2	93.6	110.2	105.6	97.8	98.5	107.0	.
Producer output prices	105.9	97.5	107.7	108.4	104.7	107.6	108.3	103.4	101.9	88.3	109.2	109.0	90.5	97.1	108.1	.
Consumer prices (food) ¹⁾	111.1	144.4	109.1	116.6	109.3	111.2	108.0	104.4	104.4	94.5	101.0	105.1	98.0	97.9	103.4	99.7
Share of food and non-alcoholic beverages in household consumption expenditures, % ²⁾	25.1	25.7	23.7	23.0	22.9	21.8	21.6	20.8	20.4	21.4	21.6	21.4	20.7	19.8	.	.
Agricultural land, th. ha																
Agricultural land, total	4288	4285	4283	4282	4281	4280	4279	4280	4284	4282	4280	4277	4273	4269	4265	.
Cultivated agric. land (excl. meadows, pastures)	3246	3211	3202	3200	3185	3170	3125	3118	3128	3122	3109	3102	3095	3090	3084	.
Arable land, total	3219	3184	3175	3173	3158	3143	3098	3091	3101	3096	3082	3075	3068	3062	3055	.
Sown area, th. ha																
Grain total	1652.2	1620.6	1586.3	1606.9	1660.3	1581.3	1586.5	1696.3	1680.8	1586.6	1647.5	1626.8	1562.1	1459.7	1609.4	1611.5
Wheat	823.1	799.7	758.7	783.2	812.2	832.0	801.3	834.1	914.0	867.6	972.7	927.3	848.8	648.4	863.2	820.4
Rye	124.4	89.2	65.7	67.0	78.9	79.4	64.1	75.7	72.2	55.2	44.2	41.0	35.3	41.9	59.2	46.9
Maize	44.9	34.9	33.4	29.7	29.9	27.3	29.9	35.0	29.2	33.0	39.3	54.3	70.6	85.4	89.9	98.0
Barley	552.5	588.7	634.8	638.3	641.3	560.2	604.1	653.5	580.5	543.7	493.4	497.9	488.1	550.0	469.0	521.5
Oats	78.4	75.8	67.9	68.0	76.7	60.1	66.1	77.8	58.8	54.4	51.0	49.4	61.0	77.4	58.6	51.7
Other crops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Oilseeds, total	130.0	162.6	167.5	193.7	250.5	326.4	280.0	274.1	352.6	468.5	408.7	436.6	409.7	421.3	382.4	399.5
Sunflower	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rape	105.1	127.8	136.5	167.4	190.7	252.3	228.8	229.8	265.6	350.4	325.3	344.1	313.0	251.0	259.5	267.2
Soybeans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flax for oil, castor plant	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table A1 contd.

Table A1 (contd.)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sugarbeet	118.8	119.0	124.5	107.2	91.2	93.7	104.1	94.5	85.5	59.1	61.6	77.8	77.5	77.3	71.1	65.6
Potatoes ³⁾	109.7	113.9	110.7	104.9	76.8	78.0	86.5	72.8	72.1	71.5	69.2	54.3	46.9	45.0	36.0	36.1
Vineyards ⁴⁾	15.8	15.7	15.6	15.2	15.7	15.6	15.6	15.5	15.5	15.5	15.5	15.6	10.8	11.8	13.0	14.3
Fruits – productive sown area	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Fruits incl. melons	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vegetables	33.7	35.2	33.2	35.3	34.3	35.0	36.8	34.1	34.6	34.8	32.3	26.2	17.6	17.2	.	.
Pulse	35.5	48.1	77.3	84.0	62.0	52.8	48.9	45.2	52.0	40.2	34.6	33.3	28.0	24.1	21.5	29.1
Tobacco	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hops ⁴⁾	11.4	11.3	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.3	11.3	11.2	6.0	5.9	5.8	5.7
Crops production, th. tonnes																
Grain total	8947	7845	6565	6468	6777	6602	6644	6983	6669	6928	6454	7338	6771	5762	8784	7660
Wheat	4624	4081	3413	3304	3713	3823	3727	3640	3845	4028	4084	4476	3867	2638	5043	4145
Rye	558	353	240	256	276	262	204	259	261	202	150	149	119	159	313	197
Maize	98	150	104	157	91	113	169	285	201	261	304	409	616	476	552	703
Barley	3157	2833	2512	2419	2419	2141	2262	2485	2093	2137	1629	1966	1793	2069	2331	2195
Oats	374	302	208	263	208	187	214	247	180	179	136	136	168	234	227	151
Other crops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Oilseeds, total	341	406	331	417	512	736	586	608	779	1073	944	1079	823	601	1108	959
Sunflower	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rape	304	348	293	377	452	662	521	561	680	931	844	973	710	388	935	769
Soybeans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flax for oil, castor plant	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sugarbeet	4017	4009	3872	4308	3240	3712	4316	3722	3479	2691	2809	3521	3833	3495	3579	3496
Potatoes ³⁾	1755	2043	1969	2396	1231	1330	1800	1402	1520	1407	1476	1130	1106	841	862	1013
Wine grapes ⁴⁾	81	79	78	51	65	43	70	36	55	67	67	68	57	67	70	63
Fruits	407	479	392	444	370	361	388	415	400	386	456	318	419	350	436	306
Vegetables	557	593	428	514	475	504	563	499	509	527	447	386	309	275	322	273
Pulse	109	140	180	202	150	131	121	94	122	106	76	83	56	54	72	79
Tobacco	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hops ⁴⁾	9	10	9	9	9	10	10	7	5	6	5	7	6	6	6	8
Yield per hectare, kg, (wiiv calc.)																
Grain total	5415	4841	4139	4025	4082	4175	4188	4117	3968	4367	3917	4511	4334	3948	5458	4753
Wheat	5618	5103	4498	4219	4572	4595	4651	4364	4207	4643	4199	4827	4556	4068	5842	5052
Rye	4486	3957	3653	3821	3498	3300	3183	3421	3615	3659	3394	3634	3371	3802	5292	4195
Maize	2183	4298	3114	5286	3043	4139	5652	8143	6884	7894	7735	7532	8725	5576	6135	7170
Barley	5714	4812	3957	3790	3772	3822	3744	3803	3606	3930	3302	3949	3673	3761	4969	4210
Oats	4770	3984	3063	3868	2712	3111	3238	3175	3061	3290	2667	2753	2754	3018	3876	2924
Other crops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table A1 contd.

Table A1 (contd.)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Oilseeds, total	2623	2497	1976	2153	2044	2255	2093	2218	2209	2290	2310	2471	2010	1427	2899	2400
Sunflower	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rape	2892	2723	2147	2252	2370	2624	2277	2441	2560	2657	2595	2828	2267	1545	3602	2880
Soybeans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flax for oil, castor plant	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sugarbeet	33813	33689	31100	40187	35526	39616	41460	39386	40690	45533	45601	45257	49452	45215	50344	53312
Potatoes ³⁾	15998	17937	17787	22841	16029	17051	20809	19258	21082	19678	21329	20810	23582	18689	23956	28084
Wine grapes ⁴⁾	5127	5032	5000	3355	4140	2756	4487	2323	3548	4323	4323	4359	5283	5698	5376	4393
Fruits	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vegetables	16528	16847	12892	14561	13848	14400	15299	14633	14711	15144	13839	14733	17557	15988	.	.
Pulse	3070	2911	2329	2405	2419	2481	2474	2069	2346	2637	2197	2492	2000	2231	3349	2704
Tobacco	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hops ⁴⁾	789	885	789	789	789	877	877	614	439	531	442	625	1072	926	1079	1376
Fertilizers in use, 100% nutrients, th tons ⁵⁾																
Nitrogen - N	297.4	226.0	180.2	203.2	229.3	190.1	205.8	202.9	200.2	213.0	225.8	227.2	191.8	216.4	.	.
Phosphate - P ₂ O ₅	104.8	66.9	47.8	53.1	61.2	51.2	50.4	45.8	40.3	39.8	44.4	45.5	41.4	45.9	.	.
Potassium - K ₂ O	92.1	54.5	36.7	36.5	42.9	37.2	35.8	32.8	27.7	26.4	30.9	31.6	30.6	30.8	.	.
Fertilizers in use, 100% nutrients, kg per ha ⁶⁾																
Nitrogen - N	73.3	56.6	55.8	67.1	66.8	58.9	64.4	64.5	63.0	67.4	71.0	75.7	65.2	73.7	.	.
Phosphate - P ₂ O ₅	25.8	16.7	14.8	17.7	18.2	15.9	15.7	14.6	12.6	12.6	14.0	15.3	14.1	15.8	.	.
Potassium - K ₂ O	22.7	13.6	11.4	12.1	12.2	11.5	11.2	10.4	8.4	8.4	9.7	10.6	10.4	10.5	.	.
Livestock inventories, th. heads, as of March ⁷⁾																
Cattle	3506	3360	2950	2512	2161	2030	1989	1866	1701	1657	1574	1582	1520	1474	1428	1397
Cows	1236	1195	1036	932	830	768	751	702	647	642	615	611	596	590	573	574
Pigs	4790	4569	4609	4599	4071	3867	4016	4080	4013	4001	3688	3470	3441	3363	3127	2877
Sheep	430	429	342	254	196	165	134	121	94	86	84	88	96	103	116	140
Animal production																
Meat prod. total, (live weight), th. tonnes	1465	1324	1300	1296	1123	1229	1209	1180	1157	1147	1084	1104	1103	1082	1041	836
Beef and veal	515	436	403	390	313	323	310	294	247	237	208	209	201	198	184	162
Pork	740	680	704	750	682	726	727	680	670	639	584	584	585	580	547	422
Lamb	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Poultry	210	208	193	156	128	180	172	206	241	271	292	312	317	304	310	252
Other meat	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Milk production, total, mn litres	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cow's milk production, mn litres ⁸⁾	4802	4125	3699	3350	3134	3031	3039	2703	2716	2736	2708	2702	2728	2646	2602	2476
Eggs total, mn pcs	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hen's eggs, mn pcs ³⁾	3682	3500	3485	3100	2999	3047	2948	3322	3615	3307	3064	3190	2931	2841	1859	1709
Wool (unscoured), tonnes	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Animal productivity ⁴⁾																
Milk yield, litres per cow	3949.3	3712.1	3790.7	3823.5	3963.9	4117.2	4288.8	4366.2	4836.8	5021.7	5254.6	5589.2	5717.9	5756.0	6006.2	.
Egg yield, pieces per hen	252.9	245.3	250.4	241.9	243.2	260.7	268.0	283.6	280.9	277.1	277.0	272.7	277.1	275.2	269.3	.

Table A1 contd.

Table A1 (contd.)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Food consumption, per capita																
Meat and meat products, kg	96.5	88.4	86.6	84.3	81.2	82.0	85.3	81.5	82.1	83.0	79.4	77.8	79.8	80.6	80.5	.
Beef and veal, kg	28.4	22.8	20.7	20.1	18.7	18.8	18.5	16.4	14.6	14.0	12.5	10.4	11.3	11.6	10.4	.
Pork, kg	50.0	47.8	48.8	48.1	46.7	46.2	49.2	45.8	45.7	44.7	40.9	40.9	40.9	41.5	41.1	.
Mutton, kg	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Poultry, kg	13.6	12.8	12.5	11.7	11.6	13.0	13.6	15.3	17.9	20.5	22.3	22.9	23.9	23.8	25.3	.
Other meat, kg	4.5	5.0	4.6	4.4	4.2	4.0	4.0	4.0	3.9	3.8	3.7	3.6	3.7	3.7	3.7	.
Fish, kg	5.4	3.8	4.6	4.5	4.8	4.9	5.2	5.5	5.3	5.2	5.4	5.4	5.3	5.3	5.5	.
Milk and dairy products (excl. butter), litre	256.2	242.7	214.4	190.1	191.9	187.8	199.2	195.2	197.1	207.3	214.1	215.1	220.6	223.4	230.0	.
Milk and dairy products (incl. butter), litre	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Milk fresh, litre	91.5	87.2	74.4	72.8	77.3	64.6	58.5	57.7	58.1	58.4	57.8	58.8	60.1	56.8	59.8	.
Yoghurt, kg	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cheese, kg	7.7	7.4	6.8	6.1	6.6	6.5	8.4	8.6	8.8	9.3	10.5	10.2	10.6	11.3	12.0	.
Butter, kg	8.7	6.1	5.5	5.3	5.2	4.5	4.2	4.1	4.0	4.0	4.1	4.2	4.5	4.5	4.6	.
Eggs, pieces	340.0	328.0	328.0	318.0	308.0	290.0	276.0	311.0	319.0	297.0	275.0	286.0	279.0	256.0	247.0	.
Cereal products, kg	155.5	161.4	163.4	164.5	162.7	160.8	149.8	141.3	136.2	135.2	136.3	137.4	145.8	142.3	142.4	.
Vegetable oils and fats, kg; wiiw calc.	12.8	13.5	13.8	14.5	15.0	15.4	15.8	16.2	16.7	16.4	16.3	16.1	16.0	15.7	16.0	.
Sugar and sugar products, kg	51.0	48.6	46.3	45.0	45.7	46.4	47.0	46.4	44.9	44.3	43.3	46.3	48.8	50.5	50.0	.
Sugar, kg	44.0	42.3	39.5	38.9	38.6	38.9	39.5	39.1	37.6	37.1	36.1	39.0	41.5	43.0	42.6	.
Potatoes, kg	77.9	84.2	84.1	84.0	78.0	76.5	77.2	76.0	76.1	75.9	77.0	75.3	76.0	73.6	73.0	.
Fruits, kg	59.7	64.4	69.5	72.7	71.5	72.1	73.5	71.5	72.5	75.6	75.0	70.1	73.5	76.2	83.8	.
Vegetables, kg	66.6	73.6	69.7	74.2	75.8	78.0	79.5	81.1	82.2	85.3	82.9	82.1	78.7	80.0	79.8	.
Alcoholic beverages, 100%, litre; wiiw calc.	8.9	9.1	9.4	9.2	9.4	9.4	9.5	9.8	9.8	9.9	9.9	9.9	10.0	10.2	9.8	.

Notes: 1) From 1996 including tobacco, from 2000 including non-alcoholic beverages. - 2) Employees' households only. - 3) From 2004 agricultural sector only. - 4) From 2002 agricultural sector only. - 5) Excluding individual farmers. - 6) Hectare of cultivated agricultural land; wiiw calculation. - 7) From 2001 agricultural sector only; from 2002 according to livestock census as of 1 April. - 8) Including feeding milk; in 2006 agricultural sector only.

Source: wiiw Database incorporating national statistics.

Table A2

Hungary: Selected indicators of agriculture

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Gross agricultural output (GAO)																
Total, HUF mn	446285	447949	398416	426671	534966	709466	923719	1002271	1064575	1082594	1162657	1365006	1371714	1369093	1542049	.
Crops, HUF mn	220632	255808	205391	228930	296335	389537	550107	563460	546685	604066	598179	681123	696124	768176	986984	.
Livestock, HUF mn	225653	192141	193025	197741	238631	319929	373612	438811	517890	478528	564478	683883	675590	600917	555065	.
Total, 1990=100	100.0	93.8	75.0	67.7	69.8	71.6	76.1	73.6	74.1	74.4	69.6	80.6	77.3	73.8	90.6	80.4
Crops, 1990=100	100.0	102.5	76.1	69.1	75.9	77.3	84.9	84.0	80.9	82.8	70.9	93.7	86.6	81.1	120.5	103.9
Livestock, 1990=100	100.0	84.4	73.8	66.1	63.3	65.5	66.6	62.6	66.5	65.4	67.9	66.9	66.3	64.6	58.1	53.9
Price indices, 1990=100																
Producer input prices ¹⁾	18.6	24.6	26.6	31.9	37.7	46.6	62.6	72.9	78.7	86.1	100.0	111.7	113.5	120.3	131.0	130.4
Producer output prices	25.7	25.8	29.1	34.7	41.9	53.0	70.9	77.4	79.6	81.6	100.0	106.0	104.4	110.6	104.6	105.3
Consumer prices (food)	100.0	121.9	145.6	188.1	232.1	304.3	356.9	419.4	479.8	493.7	539.1	613.5	646.6	664.1	707.2	724.9
Price indices, previous year=100																
Producer input prices ¹⁾	145.5	132.6	108.0	120.0	118.1	123.7	134.3	116.5	107.9	109.5	116.1	111.7	101.6	106.0	108.9	99.5
Producer output prices	128.5	100.3	112.9	119.3	120.7	126.5	133.7	109.2	102.8	102.6	122.5	106.0	98.5	105.9	94.6	100.7
Consumer prices (food)	135.2	121.9	119.4	129.2	123.4	131.1	117.3	117.5	114.4	102.9	109.2	113.8	105.4	102.7	106.5	102.5
Share of food in household consumption, expenditures, %	.	33.4	.	33.7	34.0	34.5	33.1	33.3	33.1	29.9	28.6	29.6	28.9	25.2	24.4	.
Agricultural land, th. ha																
Agricultural land, total ²⁾	6473.1	6459.7	6135.7	6129.1	6122.0	6179.3	6184.4	6194.6	6192.7	6186.3	5853.9	5865.4	5867.3	5864.7	5863.8	5863.9
Cultivated agric. land (excl. meadows, pastures) ²⁾	5287.5	5286.6	4971.7	4972.5	4974.0	5031.3	5036.1	5046.5	5044.9	5039.2	4802.7	4804.2	4804.2	4803.1	4804.2	4807.0
Arable land, total	4712.8	4714.2	4706.9	4712.5	4714.4	4715.9	4712.7	4710.8	4709.6	4708.0	4499.8	4516.1	4515.5	4515.5	4510.3	4513.1
Sown area, th. ha ³⁾																
Grain total	2778	2778	2658	2708	2895	2749	2807	2937	2835	2402	2764	3081	2954	2886	3002	2904
Wheat ⁴⁾	1221	1152	846	986	1059	1108	1193	1247	1183	734	1024	1206	1111	1114	1174	1130
Rye	92	93	70	68	88	77	59	67	62	40	43	51	49	46	47	43
Maize	1082	1106	1159	1121	1204	1033	1053	1059	1023	1115	1193	1258	1206	1145	1190	1196
Barley	297	358	478	429	423	393	325	370	369	334	325	368	371	341	331	316
Oats	48	50	51	53	56	53	48	52	52	71	58	61	64	68	70	62
Other crops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Oilseeds, total	462	479	500	432	459	553	584	548	507	741	441	453	575	614	614	.
Sunflower	347	389	428	389	416	491	473	440	427	521	299	320	418	511	480	508
Rape	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Soybeans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flax for oil, castor plant	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table A2 contd.

Table A2 (contd.)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sugarbeet	131	161	108	95	105	124	118	98	80	66	58	66	55	52	62	61
Potatoes	44	48	52	56	57	57	62	64	53	56	47	36	34	31	31	25
Vineyards – productive sown area	111	110	112	107	101	100	100	99	99	99	89	82	83	93	93	93
Fruits – productive sown area	.	73	72	76	71	73	72	72	73	74	73	76	76	81	102	103
Fruits incl. melons	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vegetables	116	112	82	83	102	119	107	118	109	112	90	101	115	117	103	85
Pulse	146	123	120	97	63	67	61	61	62	59	32	31	26	26	24	.
Tobacco	9	10	9	9	8	7	6	6	6	8	6	5	6	5	6	.
Hops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Crops production, th. tonnes																
Grain total	12561	15797	9981	8520	11709	11269	11308	14121	13005	11376	10037	15047	11706	8770	16779	16127
Wheat ⁴⁾	6198	6008	3453	3021	4874	4614	3910	5258	4895	2638	3693	5197	3910	2941	6007	5079
Rye	232	223	136	113	193	171	98	153	129	80	87	121	95	67	128	112
Maize	4500	7745	4405	4044	4761	4680	5989	6828	6143	7149	4984	7858	6121	4532	8332	9017
Barley	1369	1555	1723	1138	1558	1408	921	1330	1305	1042	901	1299	1046	810	1413	1196
Oats	163	135	147	96	131	139	112	138	132	180	97	150	138	102	217	157
Other crops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Oilseeds, total	858	1015	857	734	743	903	1056	737	875	1231	710	895	1067	1174	1576	.
Sunflower	684	813	765	682	667	789	868	540	718	793	484	632	777	992	1186	1102
Rape	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Soybeans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flax for oil, castor plant	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sugarbeet	4763	5867	2928	2182	3370	4199	4677	3691	3361	2934	1976	2903	2274	1812	3527	3503
Potatoes	1226	1219	1212	1057	946	1099	1308	1140	1148	1199	864	908	752	582	784	616
Wine grapes	863	653	561	528	536	482	608	650	652	496	640	771	476	497	789	536
Fruits	1444	1332	1151	1271	1049	684	980	883	834	822	1038	917	699	724	1038	732
Vegetables	2036	1993	1401	1336	1419	1644	1597	1548	1796	1972	1500	1858	1850	1943	2033	1547
Pulse	316	281	251	148	144	152	110	118	140	118	54	69	54	33	67	.
Tobacco	14	18	13	11	12	11	10	11	13	16	11	9	11	11	11	.
Hops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Yield per hectare, kg (wiiv calc.)																
Grain total	4522	5686	3755	3146	4045	4099	4029	4808	4587	4735	3632	4883	3962	3039	5589	5553
Wheat ⁴⁾	5076	5215	4082	3064	4602	4164	3277	4217	4140	3596	3605	4311	3521	2641	5117	4494
Rye	2522	2398	1943	1662	2193	2221	1661	2270	2081	2033	2007	2382	1963	1457	2753	2605
Maize	4159	7003	3801	3607	3954	4530	5688	6448	6008	6413	4179	6246	5076	3959	7001	7540
Barley	4609	4344	3605	2653	3683	3583	2834	3595	3536	3123	2773	3535	2823	2377	4269	3785
Oats	3396	2700	2882	1811	2339	2623	2333	2646	2561	2544	1671	2470	2157	1488	3124	2520
Other crops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Oilseeds	1857	2119	1714	1699	1619	1633	1808	1346	1725	1662	1611	1974	1855	1912	2567	.
Sunflower	1971	2090	1787	1753	1603	1607	1835	1228	1682	1521	1618	1976	1859	1941	2472	2169

Table A2 contd.

Table A2 (contd.)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sugarbeet	36359	36441	27111	22968	32095	33863	39636	37663	41960	44582	34369	44186	41043	35124	56981	57063
Rape	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Soybeans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flax for oil, castor plant	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Potatoes	27864	25396	23308	18875	16596	19281	21097	17945	21821	21254	18490	25025	22124	18607	25321	24546
Wine grapes	7775	5921	5017	4952	5296	4815	6095	6567	6577	5031	7214	9384	5751	5344	8461	5768
Fruits	.	18147	15920	16834	14827	9421	13592	12199	11399	11171	14201	12076	9182	8940	10135	7094
Vegetables	17552	17795	17085	16096	13912	13815	14925	13155	16523	17654	16629	18373	16143	16676	19779	18296
Pulse	2164	2285	2092	1526	2286	2269	1803	1933	2249	2012	1687	2222	2042	1291	2829	.
Tobacco	1556	1800	1444	1222	1500	1571	1667	1758	1953	1963	1810	1679	2055	2151	1869	.
Hops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Fertilizers in use, 100% nutrients, th tons																
Nitrogen - N	358	140	148	161	222	191	203	206	248	262	258	275	303	289	299	.
Phosphate - P ₂ O ₅	127	23	21	25	27	29	34	42	39	39	45	58	62	67	75	.
Potassium - K ₂ O	186	33	20	21	31	27	33	37	41	45	52	62	72	83	87	.
Fertilizers in use, 100% nutrients, kg per ha ⁵⁾																
Nitrogen - N	67.7	26.5	29.8	32.4	44.6	38.0	40.3	40.8	49.2	52.0	53.7	57.2	63.1	60.2	62.2	.
Phosphate - P ₂ O ₅	24.0	4.4	4.2	5.0	5.4	5.8	6.8	8.3	7.7	7.7	9.4	12.1	12.9	13.9	15.6	.
Potassium - K ₂ O	35.2	6.2	4.0	4.2	6.2	5.4	6.6	7.3	8.1	8.9	10.8	12.9	15.0	17.3	18.1	.
Livestock inventories, th. heads, end of year																
Cattle	1571	1420	1159	999	910	928	909	871	873	857	805	783	770	739	723	708
Cows	630	559	497	450	415	421	414	403	407	399	380	368	362	350	345	344
Pigs	8000	5993	5364	5001	4356	5032	5289	4931	5479	5335	4834	4822	5082	4913	4059	3853
Sheep	1865	1808	1598	1252	947	977	872	858	909	934	1129	1136	1103	1296	1397	1405
Animal production																
Meat prod. total, (live weight), th. tonnes	2220	1976	1726	1513	1405	1402	1499	1394	1428	1443	1566	1453	1543	1583	1433	1319
Beef and veal	250	263	261	191	148	128	120	115	99	102	117	98	94	111	98	75
Pork	1290	1183	947	833	749	711	838	722	710	790	793	689	742	798	683	646
Mutton	35	26	28	28	23	19	20	17	16	16	16	18	18	17	19	19
Poultry	592	464	446	419	447	510	492	517	581	513	616	622	659	630	606	551
Other meat	53	40	44	41	38	34	29	23	22	23	24	26	27	24	22	28
Milk production, total, mn litres	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cow's milk production, mn litres	2763	2418	2234	2020	1878	1920	1918	1931	2045	2045	2081	2080	2068	1977	1845	1839
Eggs total, mn pcs	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hen's eggs, mn pcs	4679	4443	4164	4211	3877	3467	3273	3388	3388	3190	3171	3277	3397	3433	3265	3017
Wool (unscoured), tonnes	7337	4218	4526	4092	3875	3274	3243	2959	3046	3387	3369	3917	4027	4100	4703	4857
Animal productivity																
Milk yield, litres per cow	4935	4663	4737	4613	4660	4893	4846	4985	5362	5310	5335	5516	5994	5992	5970	6128
Egg yield, pieces per hen	186	188	189	188	191	191	199	207	203	202	217	213	212	212	212	212

Table A2 contd.

Table A2 (contd.)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Food consumption, per capita																
Meat and meat products, kg	73.1	71.5	73.0	67.5	65.9	62.5	59.4	58.1	60.9	60.5	70.2	67.5	72.3	68.6	68.8	.
Beef and veal, kg	6.5	7.4	7.4	7.9	8.0	6.8	5.1	4.8	4.3	4.1	4.3	3.9	4.3	4.1	3.9	.
Pork, kg	38.8	37.6	36.0	31.7	29.4	27.1	27.0	26.2	26.6	28.3	28.0	25.2	28.4	27.5	28.8	.
Mutton, incl. horsemeat, kg	0.4	0.5	0.7	0.6	0.6	0.5	0.5	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.2	.
Poultry, kg	22.8	20.9	23.2	22.3	22.9	24.0	23.2	23.6	26.4	24.2	33.7	34.2	35.1	33.2	32.3	.
Other meat, kg	4.6	5.1	5.7	5.0	5.0	4.1	3.6	2.9	3.1	3.5	3.8	4.2	4.2	3.5	3.6	.
Fish, kg	2.7	2.6	2.9	3.0	3.1	2.7	2.5	2.7	2.8	2.8	3.0	2.9	3.1	3.3	3.4	.
Milk and dairy products (excl. butter), litre	169.9	167.4	159.1	144.2	140.0	132.1	136.4	156.4	149.6	151.7	160.6	144.2	143.1	138.3	155.2	.
Milk and dairy products (incl. butter), litre	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Milk fresh, litre	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Yoghurt, kg	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cheese, kg	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Butter, kg	1.7	1.8	1.7	1.5	1.4	1.5	1.6	1.2	1.1	0.9	0.9	1.2	1.1	1.3	.	.
Eggs, pieces ⁶⁾	389.0	356.0	338.0	365.0	338.0	297.0	266.0	266.0	265.0	274.0	275.0	284.0	301.0	288.0	292.0	.
Cereal products, kg	110.4	102.6	105.6	97.4	91.3	88.2	84.6	88.1	84.1	90.4	94.1	95.3	87.8	88.3	89.2	.
Vegetable oils and fats, kg; wiiw calc.	11.8	11.7	12.6	13.7	14.6	15.0	14.7	15.4	16.3	13.5	18.0	17.8	17.6	18.6	.	.
Sugar and sugar products, kg	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sugar, kg	38.2	35.0	39.5	35.8	34.2	37.3	39.8	39.4	41.3	37.7	33.2	32.9	32.6	32.8	32.7	.
Potatoes, kg	61.0	55.3	56.0	59.3	58.2	60.3	66.2	65.3	67.4	68.0	64.0	68.2	65.3	64.5	.	.
Fruits, kg	72.3	70.4	72.5	76.2	69.6	57.7	63.6	61.8	67.5	70.4	108.5	100.0	91.6	86.8	.	.
Vegetables, kg	83.3	83.8	84.8	84.3	85.8	90.7	89.2	97.5	94.3	91.2	109.2	109.9	111.7	113.7	.	.
Alcoholic beverages, 100%, litre; wiiw calc.	11.1	10.7	10.5	10.5	10.4	9.9	10.2	10.3	9.9	9.9	10.0	11.0	11.1	11.1	11.1	.

Notes: 1) From 1996 according to Eurostat agricultural price methodology. - 2) From 1992 part of gardens are registered as non-cultivated. - 3) From 1993 harvested area. - 4) Including durum wheat. - 5) Hectare of cultivated agricultural land; wiiw calculation. - 6) Up to 1991 converted from kg to pieces.

Source: wiiw Database incorporating national statistics.

Table A3

Poland: Selected indicators of agriculture

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Gross agricultural output (GAO)																
Total, PLN mn	8847.6	11146.6	17157.6	24181.2	29202.2	43347.4	51039.7	51660.1	54692.2	51080.4	55985.4	60319.5	55706.0	56263.6	69747.7	64482.9
Crops, PLN mn	4475.4	5287.0	8913.0	14105.3	15241.3	25388.4	30117.2	26900.9	29824.5	27933.8	29790.2	31591.3	29416.9	29700.7	38594.7	31938.2
Livestock, PLN mn	4372.2	5859.6	8244.6	10075.9	13960.9	17959.0	20922.5	24759.2	24867.7	23146.6	26195.2	28728.2	26289.1	26562.9	31153.0	32544.7
Total, 1990=100	100.0	98.4	85.9	91.7	83.2	92.1	92.7	92.5	98.0	92.9	87.7	92.8	91.0	90.3	97.1	94.6
Crops, 1990=100	100.0	97.2	76.6	94.4	80.3	90.1	91.6	87.8	95.9	87.6	82.5	89.6	83.6	78.8	92.0	83.8
Livestock, 1990=100	100.0	99.6	95.5	84.9	84.3	91.6	90.9	95.8	97.9	97.0	91.9	94.2	97.4	102.1	99.3	104.7
Price indices, 1990=100																
Producer input prices ¹⁾	100.0	173.1	239.6	325.6	409.9	512.4	617.4	704.5	772.1	828.5	923.0	982.9	1001.6	1022.7	1110.6	1137.3
Producer output prices ¹⁾	100.0	129.4	206.7	274.1	375.8	478.4	553.5	605.0	606.2	595.3	682.8	708.8	656.3	653.0	727.5	737.6
Consumer prices (food)	100.0	146.1	200.0	267.2	355.4	451.4	535.3	602.8	649.2	657.0	725.9	763.7	759.1	751.5	798.9	816.4
Price indices, previous year=100																
Producer input prices ¹⁾	764.3	173.1	138.4	135.9	125.9	125.0	120.5	114.1	109.6	107.3	111.4	106.5	101.9	102.1	108.6	102.4
Producer output prices ¹⁾	378.7	129.4	159.8	132.6	137.1	127.3	115.7	109.3	100.2	98.2	114.7	103.8	92.6	99.5	111.4	101.4
Consumer prices (food)	674.7	146.1	136.9	133.6	133.0	127.0	118.6	112.6	107.7	101.2	110.5	105.2	99.4	99.0	106.3	102.2
Share of food and non-alcoholic beverages in household consumption expenditures, %	48.0	42.0	39.0	39.1	39.9	39.7	37.8	35.7	33.7	31.2	31.6	31.0	29.5	27.8	28.1	.
Agricultural land, th. ha ²⁾																
Agricultural land, total	18720	18674	18664	18642	18648	18622	18474	18457	18443	18435	18413	18392	16899	16169	16327	15906
Cultivated agric. land (excl. meadows, pastures)	14660	14636	14620	14595	14593	14576	14349	14321	14379	14401	14330	14314	13338	12900	12962	12519
Arable land, total	14388	14360	14337	14305	14300	14286	14087	14059	14114	14134	14063	14046	13067	12650	12685	12222
Sown area ²⁾																
Grain total	8531	8716	8321	8506	8481	8571	8720	8899	8844	8701	8814	8820	8294	8163	8377	8329
Wheat	2281	2437	2405	2477	2407	2407	2480	2555	2631	2583	2635	2627	2414	2308	2311	2218
Rye	2314	2290	2034	2213	2436	2452	2415	2298	2291	2243	2130	2002	1560	1479	1549	1415
Maize	59	70	56	55	50	48	69	77	85	104	152	224	319	356	412	339
Barley	1174	1237	1198	1167	1032	1048	1130	1242	1138	1107	1096	1071	1051	1016	1014	1113
Oats	747	686	667	642	618	595	625	626	561	572	566	531	605	527	520	539
Other crops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Oilseeds, total	525	483	437	363	398	634	301	334	488	572	452	461	452	461	565	569
Sunflower	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rape	500	468	417	348	370	606	283	317	466	545	437	443	439	426	538	550
Soybeans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flax for oil, castor plant	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table A3 contd.

Table A3 (contd.)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sugarbeet	440	361	376	399	400	384	453	419	400	372	333	318	303	286	297	286
Potatoes	1835	1733	1757	1761	1697	1522	1342	1306	1295	1268	1251	1194	803	766	713	588
Vineyards	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Fruits - productive sown area	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Fruits incl. melons	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vegetables	255	274	269	276	291	279	237	237	255	242	248	240	171	198	208	222
Pulse	318	330	352	217	159	148	147	145	149	149	141	109	100	109	108	119
Tobacco	28	28	23	19	25	19	19	17	20	21	14	13	10	10	17	.
Hops	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	.
Crops production, th. tonnes																
Grain total	28014	27811	19962	23417	21763	25905	25298	25399	27159	25750	22341	26960	26877	23391	29635	26928
Wheat	9026	9270	7368	8243	7658	8668	8576	8193	9537	9051	8503	9283	9304	7858	9892	8771
Rye	6044	5900	3981	4992	5300	6288	5653	5299	5663	5181	4003	4864	3831	3172	4281	3404
Maize	290	340	206	290	189	239	350	416	497	599	923	1362	1962	1884	2344	1945
Barley	4217	4257	2819	3255	2686	3278	3437	3866	3612	3401	2783	3330	3370	2831	3571	3581
Oats	2119	1873	1229	1493	1243	1495	1581	1630	1460	1447	1070	1305	1486	1182	1431	1324
Other crops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Oilseeds, total	1233	1057	769	606	777	1401	468	611	1121	1157	971	1082	968	826	1666	1474
Sunflower	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rape	1206	1043	758	594	756	1377	449	595	1099	1132	958	1064	953	793	1633	1450
Soybeans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flax for oil, castor plant	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sugarbeet	16721	11412	11052	15621	11676	13309	17846	15886	15171	12564	13134	11364	13434	11740	12730	11731
Potatoes	36313	29038	23388	36270	23058	24891	27217	20776	25949	19927	24232	19379	15524	13731	13999	10369
Wine grapes	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Fruits	1416	1873	2386	2706	2111	2115	2783	2887	2517	2387	2246	3413	3018	3309	3521	2922
Vegetables	5628	6019	4774	6138	5369	5928	5423	5283	6287	5626	5889	5575	4702	5091	5590	4785
Pulse	609	680	380	411	215	268	277	260	289	317	264	211	229	238	271	254
Tobacco	59	57	45	36	43	40	38	32	38	44	30	24	21	22	29	.
Hops	2	2	2	2	2	3	3	3	2	3	3	2	2	3	3	.
Yield per hectare, kg (wiiv calc.)																
Grain total	3284	3191	2399	2753	2566	3022	2901	2854	3071	2959	2535	3057	3241	2865	3538	3233
Wheat	3957	3804	3064	3328	3182	3601	3458	3207	3625	3504	3227	3534	3854	3405	4280	3954
Rye	2612	2576	1957	2256	2176	2564	2341	2306	2472	2310	1879	2430	2456	2145	2764	2405
Maize	4915	4857	3679	5273	3780	4979	5072	5403	5847	5760	6072	6080	6150	5292	5689	5733
Barley	3592	3441	2353	2789	2603	3128	3042	3113	3174	3072	2539	3109	3206	2786	3522	3217
Oats	2837	2730	1843	2326	2011	2513	2530	2604	2602	2530	1890	2458	2456	2243	2752	2456
Other crops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table A3 contd.

Table A3 (contd.)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Oilseeds, total	2349	2188	1760	1669	1952	2210	1555	1829	2297	2023	2148	2347	2142	1792	2949	2590
Sunflower	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rape	2412	2229	1818	1707	2043	2272	1587	1877	2358	2077	2192	2402	2171	1862	3034	2635
Soybeans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flax for oil, castor plant	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sugarbeet	38002	31612	29394	39150	29190	34659	39395	37914	37928	33774	39441	35736	44337	41049	42862	40990
Potatoes	19789	16756	13311	20596	13588	16354	20281	15908	20038	15715	19370	16230	19333	17926	19634	17629
Wine grapes	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Fruits	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vegetables	22071	21967	17747	22239	18450	21247	22882	22291	24655	23248	23727	23229	27497	25712	26875	21552
Pulse	1915	2061	1080	1894	1352	1811	1884	1793	1940	2128	1872	1936	2290	2183	2509	2134
Tobacco	2107	2036	1957	1895	1720	2105	2000	1882	1900	2095	2143	1846	.	.	.	.
Hops	952	850	1045	1200	1000	1304	1304	1227	1095	1316	1316	1200	1091	1409	1318	.
Fertilizers in use, 100% nutrients, th tons																
Nitrogen - N	735	619	683	758	836	852	890	891	862	861	895	862	832	895	919	.
Phosphate - P ₂ O ₅	410	223	232	243	278	302	309	310	308	297	318	320	303	322	333	.
Potassium - K ₂ O	607	293	277	281	315	357	376	403	387	369	402	392	377	405	420	.
Fertilizers in use, 100% nutrients, kg per ha ³⁾																
Nitrogen - N	50.1	42.3	46.7	51.9	57.3	58.5	62.0	62.2	59.9	59.8	62.5	60.2	62.4	69.4	70.9	.
Phosphate - P ₂ O ₅	28.0	15.2	15.9	16.6	19.1	20.7	21.5	21.6	21.4	20.6	22.2	22.4	22.7	25.0	25.7	.
Potassium - K ₂ O	41.4	20.0	18.9	19.3	21.6	24.5	26.2	28.1	26.9	25.6	28.1	27.4	28.3	31.4	32.4	.
Livestock inventories, th. heads, as of June																
Cattle	10049	8844	8221	7643	7696	7306	7136	7307	6955	6555	6083	5734	5533	5489	5353	5483
Cows	4919	4577	4257	3983	3863	3579	3461	3490	3542	3418	3098	3005	2873	2898	2796	2795
Pigs	19464	21868	22086	18860	19466	20418	17964	18135	19168	18538	17122	17105	18629	18605	16988	18112
Sheep	4159	3234	1870	1268	870	713	552	491	453	392	362	343	345	338	318	316
Animal production																
Meat prod. total,(live weight), th. tonnes	4493	4533	4313	3940	3593	3912	4108	4021	4307	4356	4112	4107	4378	4776	4565	4699
Beef and veal	1533	1321	1033	868	799	792	822	844	892	798	718	643	599	667	670	660
Pork	2341	2579	2652	2532	2225	2575	2657	2429	2601	2671	2501	2419	2601	2833	2538	2540
Lamb	96	104	83	52	25	18	14	9	8	8	7	6	5	6	6	.
Poultry	474	490	460	412	475	478	557	677	742	819	834	994	1134	1228	1309	1452
Other meat	49	39	85	76	69	49	58	62	64	60	53	45	39	42	42	.
Milk production, total, mn litres	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cow's milk production, mn litres	15371	14022	12770	12271	11866	11303	11355	11770	12229	11915	11543	11538	11527	11546	11477	11575
Eggs total, mn pcs	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hen's eggs, mn pcs	7597	6508	6116	5581	5793	6308	7056	7661	7276	7462	7621	8081	8925	9168	9250	9640
Wool (unscoured), tonnes	14783	10738	6596	4172	3101	2323	1963	1733	1476	1374	1322	1339	1317	1218	990	.
Animal productivity																
Milk yield, litres per cow	3151	3082	3015	3075	3121	3136	3249	3370	3491	3510	3668	3828	3902	3969	4082	4147
Egg yield, pieces per hen	157	157	157	154	158	163	170	172	168	176	182	187	208	203	198	208

Table A3 contd.

Table A3 (contd.)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Food consumption, per capita																
Meat and meat products, kg	68.6	73.2	70.3	67.5	62.6	63.4	64.7	61.7	64.7	66.8	66.1	66.6	69.5	72.1	71.8	.
Beef and veal, kg	16.4	15.6	12.6	11.4	9.0	8.7	8.6	8.3	8.1	7.8	7.0	5.5	5.2	5.8	5.3	.
Pork, kg	37.6	42.0	42.2	40.6	37.2	39.1	40.1	35.4	37.6	39.6	38.7	38.2	39.2	41.2	39.1	.
Mutton, kg	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Poultry, kg	7.6	8.2	9.1	9.4	10.6	10.2	10.2	12.4	13.1	13.9	14.5	17.0	19.8	19.7	22.2	.
Other meat, kg	2.0	2.5	2.0	2.0	1.7	1.4	1.5	1.3	1.3	1.4	1.2	1.1	1.1	1.0	0.7	.
Fish, kg	5.4	6.2	6.4	6.7	6.7	6.5	6.6	6.7	.	.	.	.	.	.	.	.
Milk and dairy products (excl. butter), litre	241.0	231.0	217.0	209.0	202.0	195.0	196.0	194.0	205.0	196.0	191.0	185.0	182.0	181.0	174.0	.
Milk and dairy products (incl. butter), litre	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Milk fresh, litre	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Yoghurt, kg	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cheese, kg	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Butter, kg	7.8	6.3	5.2	4.5	3.9	3.7	3.9	4.3	4.4	4.6	4.2	4.3	4.6	4.7	4.4	.
Eggs, pieces	190.0	175.0	173.0	157.0	146.0	154.0	175.0	189.0	177.0	182.0	186.0	196.0	211.0	214.0	211.0	.
Cereal products, kg	115.0	116.0	119.0	122.0	120.0	120.0	120.0	120.0	119.0	119.0	119.0	119.0	120.0	120.0	119.0	.
Vegetable oils and fats, kg; wiiw calc.	7.6	8.4	10.4	11.8	12.8	14.4	15.3	16.9	17.1	17.9	17.6	18.4	19.5	17.6	19.7	.
Sugar and sugar products, kg	44.1	35.4	36.3	41.3	39.4	41.9	39.7	43.7	41.7	42.5	41.2	40.8	43.6	40.5	37.6	.
Sugar, kg	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Potatoes, kg	144.0	140.0	144.0	147.0	136.0	135.0	135.0	134.0	135.0	131.0	132.0	130.0	131.0	130.0	129.0	.
Fruits, kg	28.9	37.2	40.7	45.2	34.6	40.9	49.7	53.0	54.3	53.7	51.1	57.1	56.7	54.5	55.0	.
Vegetables, kg	119.0	126.0	116.0	122.0	116.0	120.0	116.0	116.0	128.0	120.0	120.0	121.0	111.0	110.0	111.0	.
Alcoholic beverages, 100%, litre; wiiw calc.	5.8	6.1	5.9	6.0	6.0	5.7	5.7	6.0	6.0	5.9	5.9	5.4	5.6	6.5	6.8	.

Notes: 1) Individual farmers. - 2) From 2002 according to agricultural census May 2002. - 3) Hectare of cultivated agricultural land; wiiw calculated.

Source: wiiw Database incorporating national statistics.

Table A4

Slovakia: Selected indicators of agriculture

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Gross agricultural output (GAO)																
Total, SKK mn ¹⁾	.	.	.	33085	37608	38880	39158	40393	38287	35062	33557	39924	40126	35790	41006	.
Crops, SKK mn ¹⁾	.	.	.	14311	15899	15729	16678	16399	14227	12753	10606	15287	15345	12804	17219	.
Livestock, SKK mn ¹⁾	.	.	.	18774	21709	23151	22480	23994	24060	22309	22951	24637	24781	22986	23787	.
Total, 1990=100	100.0	90.9	71.2	65.4	68.6	70.1	71.5	70.8	66.6	64.9	56.9	62.6	63.6	62.0	62.7	.
Crops, 1990=100	100.0	107.2	76.1	62.3	67.0	67.6	72.1	66.7	66.5	69.8	51.0	63.5	66.6	59.8	67.4	.
Livestock, 1990=100	100.0	78.4	67.4	67.8	69.8	72.1	71.1	74.0	66.6	61.2	61.5	61.9	61.3	63.7	59.1	.
Price indices, 1990=100																
Producer input prices	100.0	168.9	180.9	221.6	238.5	257.4	281.6	311.4	324.0	337.2	367.9	402.2	397.7	416.8	429.5	433.2
Producer output prices	100.0	104.4	111.2	127.4	141.2	145.8	153.7	162.3	161.8	158.9	170.4	183.7	182.4	173.7	177.3	173.0
Consumer prices (food)	100.0	147.3	157.6	190.1	222.4	251.3	261.4	276.3	292.3	300.2	315.8	333.5	338.2	349.7	366.5	361.4
Price indices, previous year=100																
Producer input prices	106.9	168.9	107.1	122.5	107.6	107.9	109.4	110.6	104.1	104.1	109.1	109.3	98.9	104.8	103.0	100.9
Producer output prices	100.4	104.4	106.5	114.6	110.8	103.3	105.4	105.6	99.7	98.2	107.2	107.8	99.3	95.2	102.1	101.3
Consumer prices (food)	111.0	147.3	107.0	120.6	117.0	113.0	104.0	105.7	105.8	102.7	105.2	105.6	101.4	103.4	104.8	98.6
Share of food and non-alcoholic beverages in household consumption expenditures, % ²⁾	24.3	26.2	25.0	23.0	25.8	26.0	25.5	25.4	24.3	23.5	22.6	20.8	20.6	20.0	20.4	.
Agricultural land, th. ha																
Agricultural land, total	2448	2449	2447	2446	2446	2446	2444	2445	2444	2442	2441	2439	2438	2437	2435	2433
Cultivated agric. land (excl. meadows, pastures)	1640	1639	1615	1611	1611	1607	1603	1599	1595	1586	1575	1565	1556	1553	1554	1552
Arable land, total	1509	1509	1486	1483	1483	1479	1476	1472	1469	1461	1450	1441	1433	1430	1431	1429
Sown area, th. ha ³⁾																
Grain total	825.2	812.2	808.9	845.1	873.7	857.0	833.9	858.4	870.4	739.5	812.4	825.6	819.1	794.0	815.5	794.6
Wheat	418.2	408.2	354.4	398.1	442.9	437.8	417.6	415.0	431.7	297.7	405.2	448.9	405.8	306.9	367.8	373.0
Rye	46.3	38.3	23.6	23.2	31.2	31.2	29.0	29.7	34.4	30.5	31.5	38.2	38.0	25.2	32.5	24.2
Maize	150.7	133.6	156.4	154.4	137.9	127.4	128.7	138.7	118.2	129.5	145.0	122.6	140.4	146.0	147.8	154.1
Barley	190.6	208.9	252.0	247.9	239.6	235.2	228.7	245.2	252.9	248.7	199.4	186.4	194.7	269.3	222.0	204.2
Oats	13.1	14.0	14.6	14.2	13.6	16.2	19.0	19.4	19.6	24.0	20.9	17.0	20.5	30.4	24.5	19.2
Other crops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Oilseeds, total	71.7	96.8	70.5	74.7	87.6	125.4	135.6	140.3	142.4	229.6	173.9	180.7	201.6	208.9	196.7	213.5
Sunflower	28.9	44.2	35.1	31.9	33.9	47.6	53.3	47.4	67.1	96.7	68.9	63.5	62.3	131.0	90.0	91.1
Rape	31.8	38.4	27.1	37.9	44.7	67.6	76.4	87.4	61.2	115.3	91.7	106.6	123.7	52.2	91.5	106.2
Soybeans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flax for oil, castor plant	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table A4 contd.

Table A4 (contd.)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sugarbeet	51.3	48.4	45.4	32.9	33.4	34.9	42.2	48.3	37.7	34.6	31.7	31.5	30.9	32.0	35.5	33.2
Potatoes	55.2	54.7	51.3	47.1	41.4	41.3	40.9	32.6	29.3	27.2	27.1	26.2	26.1	25.7	24.2	19.1
Vineyards	24.4	23.5	23.8	23.0	22.9	23.4	22.7	20.1	19.5	19.0	17.5	13.2	13.2	13.1	12.0	13.1
Fruits - productive sown area	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Fruits incl. melons	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vegetables	30.1	33.0	31.6	32.5	34.3	36.5	38.9	40.5	40.5	47.0	45.1	44.8	40.0	.	.	.
Pulse	45.0	52.4	65.5	66.3	52.7	50.7	43.9	35.4	34.7	31.7	19.2	11.8	12.6	16.6	14.8	16.4
Tobacco	3.0	2.9	2.6	1.9	1.3	1.1	0.7	0.7	1.0	0.8	1.1	1.2	1.1	1.1	0.9	0.9
Hops	1.4	1.3	1.3	1.3	1.2	1.1	1.0	0.8	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3
Crops production, th. tonnes																
Grain total	3617	4004	3552	3152	3700	3490	3322	3741	3488	2829	2201	3212	3194	2490	3793	3585
Wheat	2083	2124	1697	1528	2145	1938	1713	1886	1789	1187	1254	1800	1554	930	1765	1608
Rye	178	131	76	69	96	89	71	84	96	69	64	113	96	62	124	69
Maize	370	711	676	674	521	597	750	819	637	779	440	616	754	601	862	1074
Barley	914	960	1038	823	874	794	718	869	875	724	397	613	695	804	916	739
Oats	47	44	41	36	35	42	41	49	47	48	25	32	43	58	56	38
Other crops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Oilseeds, total	141	214	133	126	155	236	253	269	236	378	260	373	395	326	478	453
Sunflower	56	101	79	64	55	81	105	68	107	125	117	119	117	253	196	195
Rape	76	97	48	58	94	149	143	196	113	237	134	241	257	53	263	235
Soybeans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flax for oil, castor plant	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sugarbeet	1581	1501	1326	1107	1110	1175	1695	1668	1331	1405	962	1287	1346	1172	1599	1733
Potatoes	779	669	658	857	399	441	777	504	412	385	419	323	484	392	382	301
Wine grapes	140	120	119	81	101	59	92	71	76	65	61	72	45	66	57	54
Fruits	164	165	140	175	123	92	146	133	156	120	128	38	80	89	61	.
Vegetables	497	552	459	535	483	498	560	595	593	685	469	406	364	369	.	.
Pulse	96	117	158	123	160	108	89	67	71	57	23	27	30	25	38	35
Tobacco	5	5	3	2	2	2	1	1	1	1	2	2	2	2	1	1
Hops	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Yield per hectare, kg (wiiv calc.)																
Grain total	4383	4930	4391	3730	4235	4072	3984	4358	4007	3826	2710	3891	3899	3136	4651	4512
Wheat	4981	5203	4788	3838	4843	4427	4102	4545	4145	3988	3096	4010	3830	3032	4798	4311
Rye	3844	3420	3220	2974	3077	2853	2462	2835	2791	2262	2032	2958	2526	2472	3825	2834
Maize	2455	5322	4322	4365	3778	4686	5828	5903	5393	6018	3037	5024	5369	4119	5835	6970
Barley	4795	4596	4119	3320	3648	3376	3140	3542	3459	2910	1989	3289	3570	2986	4126	3621
Oats	3588	3143	2808	2535	2574	2593	2158	2536	2398	2000	1196	1882	2098	1905	2269	1996
Other crops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table A4 contd.

Table A4 (contd.)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Oilseeds, total	1967	2211	1887	1687	1769	1882	1866	1916	1654	1645	1495	2062	1957	1560	2432	2124
Sunflower	1938	2285	2251	2006	1622	1702	1970	1424	1599	1294	1703	1868	1876	1929	2182	2144
Rape	2390	2526	1771	1530	2103	2204	1872	2247	1853	2056	1460	2257	2080	1015	2871	2213
Soybeans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flax for oil, castor plant	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sugarbeet	30819	31012	29207	33647	33234	33668	40166	34534	35302	40604	30331	40857	43566	36616	45037	52187
Potatoes	14112	12230	12827	18195	9638	10678	18988	15460	14061	14136	15454	12328	18556	15268	15781	15768
Wine grapes	5738	5106	5000	3522	4410	2521	4035	3532	3877	3400	3491	5424	3417	5038	4708	4130
Fruits	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vegetables	16512	16727	14525	16462	14082	13644	14396	14684	14642	14583	10395	9065	9088	.	.	.
Pulse	2133	2233	2412	1855	3036	2130	2027	1893	2046	1798	1198	2288	2389	1482	2541	2126
Tobacco	1667	1724	1154	1053	1538	1818	1429	1429	1000	1250	1649	1596	1836	1789	1388	1113
Hops	855	1008	884	828	1245	883	758	909	1728	983	352	764	937	1016	1182	1392
Fertilizers in use, 100% nutrients, th tons ⁴⁾																
Nitrogen - N	146.3	90.2	64.9	68.7	69.6	74.5	88.0	81.8	65.4	72.7	76.0	88.3	81.3	79.9	81.3	.
Phosphate - P ₂ O ₅	71.4	28.8	16.5	16.6	17.7	20.0	24.5	20.5	13.1	15.7	17.6	18.5	17.7	16.2	18.1	.
Potassium - K ₂ O	69.0	26.9	13.7	13.8	14.9	16.6	20.5	17.1	10.6	12.9	17.6	17.6	18.1	15.4	17.2	.
Fertilizers in use, 100% nutrients, kg per ha ^{4) 5)}																
Nitrogen - N	89.2	55.0	40.2	42.6	43.2	46.4	54.9	51.2	41.0	45.8	48.2	56.4	52.2	51.4	52.3	.
Phosphate - P ₂ O ₅	43.5	17.6	10.2	10.3	11.0	12.5	15.3	12.8	8.2	9.9	11.1	11.8	11.4	10.4	11.6	.
Potassium - K ₂ O	42.1	16.4	8.5	8.6	9.2	10.3	12.8	10.7	6.6	8.2	11.2	11.3	11.7	9.9	11.1	.
Livestock inventories, th. heads, end of year ⁶⁾																
Cattle	1563	1397	1182	993	916	929	892	803	705	665	646	625	608	593	540	528
Cows	549	501	429	386	359	355	335	310	284	274	271	259	260	246	232	230
Pigs	2521	2428	2269	2179	2037	2076	1985	1810	1593	1562	1488	1517	1554	1443	1149	1108
Sheep	600	531	572	411	397	428	419	417	326	340	348	316	316	326	321	320
Animal production																
Meat prod. total, (live weight), th. tonnes	715	644	581	548	499	489	500	515	490	474	439	415	430	431	397	.
Beef and veal	213	208	173	177	127	112	115	121	108	93	82	66	72	69	67	.
Pork	376	328	313	294	290	287	295	291	267	259	241	225	227	232	201	.
Lamb, incl. goat	10	9	7	7	5	4	4	4	4	3	4	4	4	4	4	.
Poultry	116	99	88	70	77	86	86	99	111	118	112	121	127	126	125	.
Other meat	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Milk production, total, mn litres	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cow's milk production, mn litres ⁶⁾	1920	1526	1331	1214	1155	1151	1125	1116	1142	1073	1067	1052	1163	1109	1047	1068
Eggs total, mn pcs	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hen's eggs, mn pcs	1983	1825	1721	1527	1606	1608	1618	1579	1544	1166	1095	1086	1218	1218	1139	1132
Wool (unscoured), tonnes	2985	1281	1204	1200	1140	1065	1146	1226	1060	880	930	1064	872	893	873	.
Animal productivity																
Milk yield, litres per cow	3537	2887	2888	2953	3175	3292	3317	3604	3970	4101	4337	4654	4898	5029	5083	5380
Egg yield, pieces per hen	249	241	240	227	228	228	230	226	224	203	200	205	208	205	202	202

Table A4 contd.

Table A4 (contd.)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Food consumption, per capita																
Meat and meat products, kg	84.0	77.2	69.3	64.9	63.9	63.7	65.0	66.1	65.9	65.0	60.9	58.7	59.7	61.5	60.3	.
Beef and veal, kg	21.8	16.4	14.5	14.9	13.7	11.8	11.6	11.7	11.4	10.2	9.1	6.9	6.7	6.8	6.6	.
Pork, kg	44.5	42.1	39.9	36.2	36.4	36.8	37.3	37.2	36.9	35.9	33.1	31.8	31.3	32.3	30.8	.
Mutton, kg	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Poultry, kg	15.2	16.8	13.3	11.8	11.9	13.4	14.4	15.5	16.0	17.4	17.1	18.5	20.1	20.7	21.1	.
Other meat, kg	2.5	1.9	1.6	2.0	1.9	1.7	1.7	1.7	1.6	1.5	1.6	1.5	1.6	1.7	1.8	.
Fish, kg	4.4	3.6	4.0	3.8	4.1	4.1	4.1	4.5	4.7	4.2	4.3	4.5	4.4	4.2	4.3	.
Milk and dairy products (excl. butter), litre	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Milk and dairy products (incl. butter), litre	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Milk fresh, litre	107.6	98.8	90.0	84.6	75.8	72.0	71.5	73.6	74.6	71.5	69.4	65.8	65.1	62.1	57.7	.
Yoghurt, kg	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cheese, kg	6.2	5.6	5.0	4.9	5.2	5.7	6.0	6.3	6.1	6.1	5.7	6.3	6.9	7.2	6.6	.
Butter, kg	6.4	6.3	3.7	3.3	2.9	2.5	2.3	2.3	2.4	2.4	2.2	2.4	2.4	2.2	1.8	.
Eggs, pieces ⁷⁾	348.0	348.0	323.0	293.0	295.0	296.0	291.0	285.0	281.0	217.0	210.0	212.0	214.0	218.0	200.0	.
Cereal products, kg	155.7	156.1	150.8	151.7	160.0	168.1	161.9	158.2	152.1	145.5	143.0	141.3	138.4	136.9	135.7	.
Vegetable oils and fats, kg; wiiw calc.	11.9	11.6	12.1	12.6	13.6	14.6	14.9	15.5	15.3	15.5	16.4	16.9	17.5	16.9	16.1	.
Sugar and sugar products, kg	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sugar, kg	46.3	42.6	36.6	34.5	34.6	32.0	33.8	34.9	34.8	30.5	31.5	26.6	27.6	27.0	29.7	.
Potatoes, kg	85.8	90.8	77.7	89.0	74.2	74.3	78.4	78.6	75.2	71.7	68.1	64.3	74.8	66.3	65.9	.
Fruits, kg	51.3	56.7	60.4	63.3	66.7	69.8	70.3	71.2	73.5	67.1	69.6	64.3	61.9	65.9	60.7	.
Vegetables, kg	70.8	80.4	75.0	77.8	77.8	79.5	80.3	80.7	78.1	76.8	67.2	56.2	55.8	58.0	62.4	.
Alcoholic beverages, 100%, litre	14.2	14.3	13.0	12.2	9.6	9.7	10.1	10.3	9.8	10	9.7	9.1	8.8	7.4	9.4	.

Notes: 1) In enterprises with more than 25, from 1997 with more than 20 employees. - 2) Up to 1992 employees' household; from 1993 including non-alcoholic beverages - 3) From 2000 harvested area. - 4) Up to 1996 excluding individual farmers. - 5) Hectare of cultivated agricultural land; wiiw calculation. - 6) Including feeding milk. - 7) From 1999 according to new census on livestock and estimates for small breeders.

Source: wiiw Database incorporating national statistics.

Table A5

NMS-4: Agro-food exports, total

EUR million

		1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	Food and live animals	383	806	708	738	785	713	927	1010	1011	1143	1487	2028
	Beverages and tobacco	35	135	183	257	258	212	236	256	278	257	280	356
	Animal and vegetable oils, fats, waxes	28	26	31	32	37	26	35	42	32	32	33	59
	Agro-food export	447	966	922	1026	1079	951	1198	1308	1320	1432	1799	2443
	Export, total	7099	16504	17694	19811	23068	24640	31483	37251	40726	43051	53995	62961
	Share in % of total exports	6.3	5.9	5.2	5.2	4.7	3.9	3.8	3.5	3.2	3.3	3.3	3.9
Hungary	Food and live animals	1487	1786	1665	1964	1951	1730	1989	2432	2358	2361	2544	2909
	Beverages and tobacco	101	241	257	229	207	145	128	125	117	125	125	132
	Animal and vegetable oils, fats, waxes	88	69	79	160	130	103	85	58	59	82	95	105
	Agro-food export	1677	2096	2001	2354	2288	1978	2202	2614	2534	2568	2764	3146
	Export, total	7500	9972	10472	16910	20477	23491	30545	34082	36523	38041	44630	49761
	Share in % of total exports	22.4	21.0	19.1	13.9	11.2	8.4	7.2	7.7	6.9	6.8	6.2	6.3
Poland	Food and live animals	1171	1628	1970	2705	2529	2185	2576	2989	3140	3611	4634	6288
	Beverages and tobacco	55	126	104	92	85	95	131	157	133	157	279	444
	Animal and vegetable oils, fats, waxes	23	27	31	38	34	43	24	20	15	16	40	103
	Agro-food export	1249	1782	2104	2835	2648	2324	2732	3165	3288	3784	4953	6836
	Export, total	10705	17710	19488	22798	25145	25729	34383	40375	43400	47511	60014	71740
	Share in % of total exports	11.7	10.1	10.8	12.4	10.5	9.0	7.9	7.8	7.6	8.0	8.3	9.5
Slovakia	Food and live animals	.	334	264	287	307	291	326	386	429	480	673	977
	Beverages and tobacco	.	58	51	56	52	50	56	61	65	71	69	48
	Animal and vegetable oils, fats, waxes	.	7	10	13	18	13	16	20	23	28	45	41
	Agro-food export	.	399	325	356	376	354	397	468	517	579	787	1066
	Export total	2264	6634	7048	7299	9541	9602	12880	14115	15270	19318	22424	25746
	Share in % of total exports	.	6.0	4.6	4.9	3.9	3.7	3.1	3.3	3.4	3.0	3.5	4.1
NMS-4	Agro-food export	.	5242	5352	6571	6392	5607	6528	7555	7659	8363	10303	13491
	Share in % of total exports	.	10.3	9.8	9.8	8.2	6.7	6.0	6.0	5.6	5.7	5.7	6.4

Note: 0, 1 and 4 SITC commodity groups converted from NCU to EUR at the average official exchange rate.

Source: wiiw Database incorporating national statistics.

Table A6

NMS-4: Agro-food imports, total

EUR million

		1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	Food and live animals	454	1082	1269	1241	1268	1245	1410	1574	1758	1793	2261	2744
	Beverages and tobacco	69	153	195	252	221	213	207	213	214	236	334	394
	Animal and vegetable oils, fats, waxes	54	60	65	58	79	68	74	92	98	118	130	122
	Agro-food import	577	1295	1528	1552	1568	1526	1691	1880	2070	2147	2726	3261
	Import, total	7698	19406	22193	24014	25287	26386	34876	40675	43025	45243	54824	61606
	Share in % of total imports	7.5	6.7	6.9	6.5	6.2	5.8	4.8	4.6	4.8	4.7	5.0	5.3
Hungary	Food and live animals	429	564	562	701	762	699	879	1011	1111	1183	1608	1862
	Beverages and tobacco	54	63	80	92	90	95	75	85	93	107	175	225
	Animal and vegetable oils, fats, waxes	7	42	39	90	109	48	55	65	69	71	71	87
	Agro-food import	491	669	681	882	961	842	1010	1161	1273	1361	1854	2174
	Import, total	6771	11905	12912	18780	22871	26288	34856	37654	39939	42189	48550	52599
	Share in % of total imports	7.2	5.6	5.3	4.7	4.2	3.2	2.9	3.1	3.2	3.2	3.8	4.1
Poland	Food and live animals	360	1809	2517	2550	2643	2378	2775	3039	2912	2790	3431	4314
	Beverages and tobacco	101	168	199	265	269	348	216	259	333	194	306	426
	Animal and vegetable oils, fats, waxes	30	146	172	211	251	178	178	194	217	230	273	273
	Agro-food import	492	2123	2888	3027	3163	2905	3169	3492	3462	3214	4010	5012
	Import, total	6410	22491	29677	37484	41539	43151	53122	56223	58307	60288	71812	81530
	Share in % of total imports	7.7	9.4	9.7	8.1	7.6	6.7	6.0	6.2	5.9	5.3	5.6	6.1
Slovakia	Food and live animals	.	468	535	570	612	547	621	754	755	732	966	1306
	Beverages and tobacco	.	74	96	107	104	117	115	132	147	143	166	246
	Animal and vegetable oils, fats, waxes	.	14	15	19	24	20	33	47	33	37	50	51
	Agro-food import	.	556	647	696	741	684	769	933	936	911	1181	1603
	Import total	2513	6783	8878	9119	11635	10628	13860	16488	17517	19923	23683	27716
	Share in % of total imports	0.0	8.2	7.3	7.6	6.4	6.4	5.6	5.7	5.3	4.6	5.0	5.8
NMS-4	Agro-food import	.	4643	5745	6157	6433	5957	6640	7466	7741	7634	9771	12050
	Share in % of total imports	.	7.7	7.8	6.9	6.3	5.6	4.9	4.9	4.9	4.6	4.9	5.4

Note: 0, 1 and 4 SITC commodity groups converted from NCU to EUR at the average official exchange rate.

Source: wiiw Database incorporating national statistics.

Table A7

NMS-4: Agro-food trade with the EU-25

EUR million

		NMS-4: Agro-food exports to the EU-25			NMS-4: Agro-food imports from the EU-25			NMS-4: Agro-food trade balance with EU-25				
		2003	2004	2005	2003	2004	2005	2003	2004	2005		
Czech Rep.	Agro-food export, total	1432	1799	2443	Agro-food import, total	2147	2726	3261	Agro-food trade balance, total	-715	-927	-818
	of which export to EU-25	1154	1526	2077	of which import from EU-25	1631	2143	2656	of which trade balance with EU-25	-477	-617	-578
	Food and live animals	911	1253	1714	Food and live animals	1347	1766	2227	Food and live animals	-435	-514	-514
	Beverages and tobacco	216	242	307	Beverages and tobacco	178	262	322	Beverages and tobacco	38	-20	-14
	Animal and vegetable oils, fats, waxes share in % of total agro-food exports	27 80.6	30 84.8	56 85.0	Animal and vegetable oils, fats, waxes share in % of total agro-food imports	106 75.9	114 78.6	106 81.4	Animal and vegetable oils, fats, waxes	-79	-84	-50
Hungary	Agro-food export, total	2568	2764	3146	Agro-food import, total	1361	1854	2174	Agro-food trade balance, total	1207	911	972
	of which export to EU-25	1586	1856	2159	of which import from EU-25	1053	1552	1936	of which trade balance with EU-25	533	304	223
	Food and live animals	1473	1729	2004	Food and live animals	906	1335	1650	Food and live animals	568	394	354
	Beverages and tobacco	88	91	103	Beverages and tobacco	88	157	209	Beverages and tobacco	0	-66	-106
	Animal and vegetable oils, fats, waxes share in % of total agro-food exports	24 61.7	36 67.1	51 68.6	Animal and vegetable oils, fats, waxes share in % of total agro-food imports	59 77.3	60 83.7	77 89.1	Animal and vegetable oils, fats, waxes	-35	-24	-26
Poland	Agro-food export, total	3784	4953	6836	Agro-food import, total	3214	4010	5012	Agro-food trade balance, total	571	943	1823
	of which export to EU-25	2474	3571	5089	of which import from EU-25	1994	2529	3171	of which trade balance with EU-25	480	1042	1918
	Food and live animals	2419	3406	4758	Food and live animals	1694	2146	2696	Food and live animals	725	1260	2062
	Beverages and tobacco	50	142	256	Beverages and tobacco	120	176	254	Beverages and tobacco	-70	-34	2
	Animal and vegetable oils, fats, waxes share in % of total agro-food exports	5 65.4	24 72.1	74 74.4	Animal and vegetable oils, fats, waxes share in % of total agro-food imports	179 62.0	208 63.1	221 63.3	Animal and vegetable oils, fats, waxes	-174	-183	-147
Slovakia	Agro-food export, total	579	787	1066	Agro-food import, total	911	1181	1603	Agro-food trade balance, total	-333	-394	-537
	of which export to EU-25	435	696	950	of which import from EU-25	739	981	1372	of which trade balance with EU-25	-304	-285	-423
	Food and live animals	356	586	867	Food and live animals	571	777	1087	Food and live animals	-216	-192	-221
	Beverages and tobacco	53	66	43	Beverages and tobacco	134	157	238	Beverages and tobacco	-81	-91	-195
	Animal and vegetable oils, fats, waxes share in % of total agro-food exports	26 75.1	44 88.4	41 89.1	Animal and vegetable oils, fats, waxes share in % of total agro-food imports	33 81.1	47 83.1	47 85.6	Animal and vegetable oils, fats, waxes	-7	-3	-7
NMS-4	Agro-food export, total	8363	10303	13414	Agro-food import, total	7634	9771	12007	Agro-food trade balance, total	729	532	1406
	of which export to EU-25	5649	7649	10196	of which import from EU-25	5416	7205	9344	of which trade balance to EU-25	232	444	852
	share in % of total agro-food exports	67.5	74.2	76.0	share in % of total agro-food imports	70.9	73.7	77.8				

Note: 0, 1 and 4 SITC commodity groups converted from NCU to EUR at the average official exchange rate.

Source: wiiw Database incorporating national statistics; own calculation.

Table A8

NMS-4: Agro-food trade with the EU-25

		NMS-4: Agro-food exports growth			NMS-4: Agro-food imports growth			NMS-4: Agro-food export coverage ratio				
		2003 = 100			2003 = 100			exports in % of imports				
		2003	2004	2005		2003	2004	2005	2003	2004	2005	
Czech Rep.	Agro-food export, total	100	125.6	170.6	Agro-food import, total	100	127.0	151.9	Agro-food export, total	67	66	75
	of which export to EU-25	100	132.2	180.0	of which import from EU-25	100	131.4	162.9	of which export to EU-25	71	71	78
	Food and live animals	100	137.4	188.0	Food and live animals	100	131.1	165.4	Food and live animals	68	71	77
	Beverages and tobacco	100	112.2	142.2	Beverages and tobacco	100	147.2	180.8	Beverages and tobacco	121	93	95
	Animal and vegetable oils, fats, waxes	100	114.6	212.2	Animal and vegetable oils, fats, waxes	100	108.1	100.5	Animal and vegetable oils, fats, waxes	25	27	53
Hungary	Agro-food export, total	100	107.6	122.5	Agro-food import, total	100	136.2	159.7	Agro-food export, total	189	149	145
	of which export to EU-25	100	117.0	136.1	of which import from EU-25	100	147.4	183.9	of which export to EU-25	151	120	112
	Food and live animals	100	117.3	136.1	Food and live animals	100	147.4	182.2	Food and live animals	163	130	121
	Beverages and tobacco	100	103.3	116.9	Beverages and tobacco	100	178.4	237.8	Beverages and tobacco	100	58	49
	Animal and vegetable oils, fats, waxes	100	148.7	212.2	Animal and vegetable oils, fats, waxes	100	102.0	130.1	Animal and vegetable oils, fats, waxes	41	60	67
Poland	Agro-food export, total	100	130.9	180.6	Agro-food import, total	100	124.8	156.0	Agro-food export, total	118	124	136
	of which export to EU-25	100	144.4	205.7	of which import from EU-25	100	126.8	159.1	of which export to EU-25	124	141	160
	Food and live animals	100	140.8	196.7	Food and live animals	100	126.6	159.1	Food and live animals	143	159	177
	Beverages and tobacco	100	283.5	512.7	Beverages and tobacco	100	145.8	210.7	Beverages and tobacco	41	81	101
	Animal and vegetable oils, fats, waxes	100	497.4	1524.7	Animal and vegetable oils, fats, waxes	100	116.0	123.8	Animal and vegetable oils, fats, waxes	3	12	34
Slovakia	Agro-food export, total	100	135.9	184.1	Agro-food import, total	100	129.6	175.8	Agro-food export, total	64	67	66
	of which export to EU-25	100	160.0	218.4	of which import from EU-25	100	132.8	185.7	of which export to EU-25	59	71	69
	Food and live animals	100	164.7	243.7	Food and live animals	100	136.0	190.3	Food and live animals	62	75	80
	Beverages and tobacco	100	124.2	80.4	Beverages and tobacco	100	116.8	177.0	Beverages and tobacco	40	42	18
	Animal and vegetable oils, fats, waxes	100	168.1	154.8	Animal and vegetable oils, fats, waxes	100	141.2	142.2	Animal and vegetable oils, fats, waxes	79	94	86
NMS-4	Agro-food export, total	100	123.2	161.3	Agro-food import, total	100	128.0	157.8	Agro-food export, total	110	105	112
	of which export to EU-25	100	135.4	181.9	of which import from EU-25	100	133.0	168.7	of which export to EU-25	104	106	112

Note: 0, 1 and 4 SITC commodity groups converted from NCU to EUR at the average official exchange rate.

Source: wiiw Database incorporating national statistics; own calculation.

Table A9

NMS-4: Agro-food trade with the EU-15, 1997-2004**(A) NMS-4 agro-food imports from the EU-15**

	NACE rev.1	shares in total, in %							
		1997	1998	1999	2000	2001	2002	2003	2004
Growing of crops; market gardening; horticulture	1.1	26.02	22.21	22.12	22.98	23.64	22.73	23.05	20.64
Farming of animals	1.2	9.82	13.61	18.03	20.18	19.20	16.08	14.21	16.45
Forestry, logging and related services activities	2.0	0.58	0.82	1.07	1.02	1.03	0.91	0.93	0.73
Fishing, operation of fish hatcheries and fish farms	5	0.32	0.52	0.52	0.54	0.47	0.37	0.29	0.90
Agro – total		36.74	37.16	41.74	44.72	44.36	40.09	38.48	38.73
Meat products	15.1	10.85	9.85	6.57	8.40	6.56	7.54	6.94	9.36
Fish and fish products	15.2	3.32	3.45	2.72	2.56	2.64	3.04	2.77	2.57
Fruits and vegetables	15.3	4.58	4.28	3.78	3.31	3.42	3.71	3.89	4.00
Vegetable and animal oils and fats	15.4	10.20	11.47	9.51	9.82	11.53	12.81	11.91	11.08
Dairy products; ice cream	15.5	2.55	2.76	3.18	2.47	1.81	2.07	2.27	2.64
Grain mill products and starches	15.6	2.41	2.16	2.23	2.18	2.32	2.35	2.25	2.54
Prepared animal feeds	15.7	3.35	4.19	3.79	2.88	2.93	3.32	3.28	3.02
Other food products	15.8	20.29	18.65	19.03	17.26	18.22	19.25	20.95	18.87
Beverages	15.9	4.87	4.46	5.45	4.46	4.36	4.40	5.60	5.27
Tobacco products	16	0.83	1.57	2.00	1.95	1.86	1.42	1.66	1.90
DA-Agro-food – total		63.26	62.84	58.26	55.28	55.64	59.91	61.52	61.27
Agro and agro-food – total		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(B) NMS-4 agro-food exports to the EU-15 in % of imports (coverage ratio)

	NACE rev.1	1997	1998	1999	2000	2001	2002	2003	2004
Growing of crops; market gardening; horticulture	1.1	43.0	56.3	67.9	60.2	58.0	71.1	70.8	69.3
Farming of animals	1.2	90.8	54.9	38.5	27.9	29.6	36.8	48.2	38.4
Forestry, logging and related services activities	2.0	1232.3	772.1	759.5	605.4	562.5	656.0	793.9	691.2
Fishing, operation of fish hatcheries and fish farms	5	296.3	163.4	199.4	146.9	156.7	195.8	275.9	51.4
Agro – total		76.7	73.1	74.5	59.1	58.5	71.8	81.5	67.5
Meat products	15.1	169.5	164.7	262.0	189.5	256.0	206.3	271.7	163.5
Fish and fish products	15.2	80.8	97.8	155.5	143.4	136.6	106.5	142.5	117.0
Fruits and vegetables	15.3	300.3	312.0	400.6	419.8	412.5	394.6	437.9	301.4
Vegetable and animal oils and fats	15.4	16.9	11.8	15.2	14.4	11.9	8.7	10.9	11.3
Dairy products; ice cream	15.5	97.5	80.6	83.1	91.4	209.0	140.5	140.5	240.6
Grain mill products and starches	15.6	11.6	12.8	20.6	15.4	19.6	21.4	27.9	32.7
Prepared animal feeds	15.7	27.6	21.2	27.6	36.7	56.9	63.3	105.9	100.6
Other food products	15.8	26.6	26.1	25.2	31.9	34.3	38.4	45.2	65.1
Beverages	15.9	65.5	71.6	69.1	96.8	90.1	93.2	75.1	61.4
Tobacco products	16	4.8	2.6	2.3	5.7	3.4	5.0	8.2	60.0
DA-Agro-food – total		77.3	72.9	87.2	87.7	93.5	86.1	101.1	95.5
Agro and agro-food – total		77.1	73.0	81.9	74.9	78.0	80.4	93.6	84.7
Total		70.1	74.7	81.3	84.5	89.0	90.5	94.7	92.2

(C) NMS-4 imports from the EU-15 (EUR million)

Agro and agro-food total	3594.0	3894.2	3801.0	4607.9	5077.6	5162.8	4964.2	6003.3
Total of all goods	59403.9	68093.7	71365.1	87449.7	95193.1	100316.4	105263.0	114802.6

Source: Eurostat COMEXT Databank; wiw Database incorporating national statistics; own calculations.

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