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1 Adjustment problems facing Polish agriculture

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THE POLISH ECONOMY

Poland is a large but poor agricultural and industrial nation with a population of 38 million. Up to 1990, its economy was for the most part centrally planned, with state enterprises controlling 70% of the industrial sector and virtually all export activity. In terms of GNP per head of population, Poland was already lagging well behind Western Europe and compared badly with other Comecon states (Table 1). GNP per head of population in 1988 was estimated, using World Bank methodology, at 12.5% of that for the European Community (EC), while living standards as indicated by car ownership and telephone availability exceeded only those in Romania and the then USSR. Now the political and economic ties that linked Poland to its Eastern Bloc partners have been severed and a rapid attempt is being made to adopt a more open free-market economy.

Table 1

Eastern/Central European country statistics

	Poland	Hungary	Czechoslovakia	Bulgaria	Romania
Population (millions, 1988)	38.0	10.6	15.6	9.0	23.0
GDP (billion US$, 1988)	207.2	68.8	118.6	50.7	94.7
GDP per capita (US$)	5 453	6 491	7 603	5 633	4 117
Living Standards per '000 pop (1987)					
Cars	74	153	182	127	11
Telephones	122	152	246	248	111
Real GDP growth (%)					
–1990	-12		-3	-12	
–1991	-10		-12/14	-15	

Source: EC review of OECD statistics.

The Solidarity-led government that took power in September 1989 inherited a very difficult economic situation. Inflation was rising rapidly and would eventually top 600%. The budget deficit at around 8% GDP was also increasing as state enterprises increasingly demanded greater and greater subsidisation. The foreign debt at US$40.4 billion was the highest in Eastern/Central Europe and totally out of control, with debt service five times export earnings.

Since the free elections of 1989, Polish governments have tried to regain control of the budget by introducing strict monetarist policies. Trade has been liberalised, the Polish zloty devalued, and bankruptcy procedures introduced to allow the worst state enterprises to fail. In 1990 bank interest rates were raised to around 100%, and state subsidies severely reduced. Economic activity as measured by GNP is estimated to have fallen by 12% in 1990 and by 10% in 1991. A further contraction in activity is occurring in 1992 although the rapid growth in the private sector, much of which is not recorded, is partly compensating. Nevertheless, unemployment has risen fast from virtually zero to over 10% of a total workforce estimated at 17.3 million. As a result, Poland's present government is under severe pressure to ameliorate its hard monetarist approach and slow down the rate of adjustment of the free market.

THE STRUCTURE OF POLISH AGRICULTURE

Agriculture is a significant sector of the Polish economy, accounting for 13% of GDP, 12% of exports, and 28% of the workforce. At present some 40% of Poland's population is rural of which about 30% work on farms. The country has been a substantial net exporter of livestock, meat, dairy products, fruit and vegetables, together with sugar, oilseeds and fish. Gross agricultural exports amounted to US$1.5 billion in 1989 (FAO, 1989). Out of the total national area of some 31 million ha, Polish agriculture extends to 19 million ha, mostly arable (Table 2). Although there was little change during the 1980s, there is now

Table 2

Land use - Poland ('000 ha)

	1980	1985	1990
Agriculture total	18 947	18 844	18 720
including Arable	14 621	14 511	14 388
Orchards	280	264	272
Meadows	2 503	2 518	2 475
Grazing	1 543	1 551	1 585
Forestry total	8 684	8 728	8 754
Other	3 637	3 696	3 794
Total Poland	31 268	31 268	31 268

Source: GUS, 1991.

evidence of shifts out of arable cropping as farmers respond to the cost-price pressures of the last two years.

The private sector dominates Polish agriculture, accounting for 76% of the farmed land (Table 3), with the remainder in the socialised sector of state farms - mainly on the poorer land - and in co-operatives and agricultural associations. The private sector accounts for 84% of the agricultural workforce, and the size of these private farms averaged 5.2 ha in 1989. By contrast, most of the socialised farms are large, with an average of 2850 ha for the 1231 state farms in 1989 and 352 ha for co-operatives. Only 8% of the private farms exceed 15 ha in area although these comprise 24% of the area privately farmed and average 18 ha per unit (Table 4). Thus, there are no large-scale units in the private sector.

The socialised farming sector is made up mainly by state farms (19% of all agricultural land), formed from the post-war expropriation of land together with much land in Western Poland which was located in Germany prior to World War II. Producer co-operatives are the other form of socialised agriculture (4% of all land) which, until the recent reforms, was regarded as a transitional step towards full state ownership. Producer co-operatives therefore had a similar pattern of management to state farms although this has now changed since the legal amendments of January 1990; their assets belong to the members and there is more democracy in management.

Table 3

Polish agricultural land and units, by sector

	1980		1985		1990	
Agricultural Land	'000 ha; % in brackets					
State Farms	3 698	(20)	3 531	(19)	3 490	(19)
Co-operatives	755	(4)	695	(4)	696	(4)
Agric. Associations	273	(1)	75	(0)	54	(0)
Total Socialised	4 828	(25)	4 419	(23)	4 240	(24)
Private	14 119	(75)	14 425	(77)	14 228	(76)
Number and Size of Units	No.	Mean Area (ha)	No.	Mean Area (ha)	No.	Mean Area (ha)
State Farms	947	3 904	1 258	2 807	1 231	2 849
Co-operatives	2 399	315	2 340	297	2 004	352
Agric.Associations	889	307	447	168	173	329
Private ('000)	2 897	4.9	2 844	5.1	2 729	5.2

Source: GUS, 1990 and 1991.

Table 4

Size structure of Polish agricultural private sector, 1989

Class	Very small	Small	Medium	Large
Area farmed (ha)	1–5	6–10	11–15	15 +
No.of units ('000)	1 108	692	293	183
% of numbers	49	30	13	8
Area (Mha)	2.7	4.4	3.2	3.3
% of area	20	32	24	24
Mean size (ha)	2.4	6.4	10.9	18.0

Source: Institute of Agricultural and Food Economics, Warsaw, 1989.

Socialised structures are also prominent in farm input sectors. There are about 1600 co-operative banks, while machinery services were supplied by 2000 machinery rings, and inputs and consumer goods were supplied by 2000 self-aid co-operatives. There were also some 2000 production co-operatives which together cultivated over 750 000 ha of land. Over the past three years, the number of co-operatives has fallen, but there has also been a very sharp reduction of 'agricultural associations' or 'circles' such that they are now unimportant in the national picture. Private farms have remained relatively static in structure up to the present, although some consolidation may be expected in the future.

The importance of the socialised sector in terms of output is shown in Table 5 - 33% of wheat production, 30% of pigs, 33% of sheep but only 9% of potatoes. Since these large farms (state and co-operative) are mechanised and use more fertilisers than the private sector (Table 4), crop yields are generally higher (Table 5).

Returning to the private sector, Poland has 50% of the total number of farmers in the whole of the EC with 2.3 million individual farms exceeding one hectare. An estimated further 400 000 units are under one hectare. Farms are also heavily fragmented with an average of three parcels per farm family. Cadastral surveys suggest that 4 million people own Poland's 2.7 million farm units; family farms often include land owned by at least two owners from the same family. In the last year, some growth has occurred in the annual letting of land for crop production.

There has been considerable stability in the structure of the private sector over recent years for reasons of food security and lack of alternative employment. Changes in the near future are likely to be slight for the same reasons. However, the economic pressures on family farms may lead to more dichotomy - small units will continue for subsistence and as a family base, but the middle-sized units may be sold (or let) to larger farms as they expand to gain scale economies.

Table 5

Agricultural production, by sector, Poland 1989

	Socialised	(%)	Private	(%)
Crops ('00 t)				
Wheat	2 760	(33)	5 702	(67)
Rye	1 049	(17)	5 167	(83)
Barley	1 188	(30)	2 721	(70)
Oats	493	(23)	1 692	(77)
Potatoes	3 045	(9)	31 345	(91)
Sugarbeet	2 349	(16)	12 025	(84)
Livestock ('000 head)				
Cattle	1 924	(18)	8 809	(82)
Pigs	5 630	(30)	13 205	(70)
Sheep	1 439	(33)	2 970	(67)
Horses	26	(3)	947	(97)
Inputs				
Labour ('000)	677		3 559	
Horses ('000)	26		947	
Tractors ('000)	115		1 017	
Area per tractor (ha)	35		14	
Fertiliser nutrients/ha	258		136	
Crop Yields (qt/ha				
Wheat	49.2		34.9	
Rye	33.2		26.4	
Barley	37.8		31.6	
Oats	29.7		26.6	
Potatoes	202		184	
Sugarbeet	319		344	

Sorce: GUS, 1990 and 1991.

Most private farms are mixed, carrying a range of cereals, roots, fruit and vegetables, with dairy cows, pigs and sometimes beef cattle, using grazing, fodder and crop by-products. Although there are few specialised farms, there are stronger orientations of production in certain areas, such as in milk, fruit, tobacco and hops. Levels of technology vary greatly between crops, regions and subsistence/commercial units, but for wheat, sugar beet, fruit and milk production, modern techniques are widespread in terms of varieties, crop protection, feeding and breeding. Mechanisation levels are, on average, very low, with only about 800 000 private farmers owning tractors. However, farmers who were able to purchase machines in the past are often over-mechanised

especially for crop harvesting. Some growth in machine contracting (formal and informal) is now evident. Family labour is plentiful, although there are demanding peak periods at spring and harvest. Most farms are well-equipped with buildings although on a small scale and requiring heavy labour inputs.

Thus the private farm systems are complex and labour-intensive. They reflect farmers' risk aversion and the importance of supplying the household with food and security (one estimate has suggested that 30% of production is consumed on farm of origin). These farms give considerable social stability and are a buffer against unemployment; and this role will continue to be very important in future.

AGRICULTURAL PRODUCTION

Agriculture was the first sector to feel the effects of liberalisation of the economy. It was felt that, since farming was predominantly private, it would be better able to withstand the effects of the free market. The commercialisation of agriculture began in late 1989, and in January 1991 the stabilisation programme was introduced further exposing businesses to market forces.

Initially, agricultural producers benefited from sharp rises in product prices as controls were lifted. But, later in 1990, there was a downward pressure on real prices as domestic demand fell in response to the sharp fall in real incomes, and as competing food imports entered the country under the new liberal trade rules. In addition, the re-unification of Germany caused the loss of this former export market for Polish agricultural products. More importantly, in 1991, the collapse of the USSR and the decline in its economy led to a virtual exclusion of Polish exports which previously had been important for producers of grain, pigs and fruit.

At the same time as these dramatic events affected the demand for Polish agricultural products, the economy as a whole suffered the hyperinflation of 1989 (260%) and 1990 (580%). This not only decreased the real incomes of farmers (and most Polish people), but caused substantial increases in the real prices of 'industrial' inputs to agriculture such as fertilisers, fuel, chemicals, manufactured protein feeds and equipment. Between 1989 and 1990, the terms of trade moved heavily against farmers (see Table 6) and this trend would have continued during 1991 and this year 1992. Real incomes declined and borrowing farmers faced unprecedented interest rates. In 1991, inflation fell to 70% where it has stayed for most of the current year, but the pressure on farm economics remains. Agricultural output prices grew at half the rate of input prices in 1990, and by three quarters in 1991. Real incomes in agriculture declined by 20-23% between 1990 and 1991 (GUS, 1991).

Total agricultural production has fallen as a result of these changing price relationships but only by 1.4% in 1990, though more in 1991. There is evidence that, up to 1991, the output from the private sector remained stable. However, state farms moved closer to widespread insolvency and production fell due to the inability to acquire sufficient inputs. Both agricultural sectors went into 1992 considerably weakened, and there was a reduction in the use of fertiliser and

Table 6

Price relations in Polish agriculture

	Amounts of production to purchase inputs		
	1984-88	1989	1990
Wheat (quintals) for:-			
1 Ursus C 330 tractor	249	202	363
1 qt 34% N fertiliser	0.38	0.41	0.78
1 qt 19% superphosphate	0.13	0.20	0.62
100 l diesel oil	1.5	1.7	2.6
1 ton cement	2.2	2.3	4.7
1 qt Provit protein concentrate	1.0	1.4	3.2
Milk (litres) for:-			
1 Ursus C 330 tractor	24 758	17 144	46 712
1 qt 34% N fertiliser	37	35	101
1 qt 19% superphosphate	13.4	17.0	80.0
100 l diesel oil	147	149	337
1 ton cement	220	196	605
1 qt Provit protein concentrate	101	123	412

Source: GUS, Warsaw, 1992.

fuel, and cropped areas fell. 1992 produced one of the worst droughts on record (ended only in early September) and crop yields have suffered considerably, with cereal yields down by 20-25% compared with 1991. The situation was most severe on the lighter soils of the west and northwest where rye was severely affected. These regions are also the main location of state farms.

This year also saw further declines in Poland's processing industries (predominantly state-owned), and the market for vegetables and especially fruit has been extremely depressed. Some soft fruit crops had no processing outlets this year and were sold very cheaply on the fresh market or were unharvested. The weak domestic market for all foods and the recession in farm incomes have caused a decline in the numbers of all livestock except pigs which have shown some recovery. In virtually all sectors (cereals, sugar, fruit, vegetables, milk, meat, eggs), output has declined in 1992 - perhaps to levels more in line with domestic demand for a country in severe recession. Cereal and sugar production are, however, too low for comfort, and prices have risen sharply (on the free market for wheat, and by the state-run industry for sugar). Imports of cereals and sugar may be necessary during 1992-93.

In summary, the state farm sector is in severe financial difficulties, with production, input use and employment falling. Investment is negligible and the present system is not sustainable even in the short term. The progress to privatisation of state farms is slow but great difficulties will arise due to the loss of jobs, housing and benefits. In future in the poorer areas, some state farms may well be fallowed or afforested.

The private sector has been more resilient to the events of the past three years, but there is considerable hardship, and many farmers with large loans face impossible debt service costs. Government and the banks have installed a rescue package of subsidised interest rates for the heaviest farmer-borrowers. Land prices have fallen and rents being paid for cropping land are low. Investment levels are extremely low and the capital stock is being run down. The increase in cereal prices now evident (early September) will give a minor boost to some farmers' incomes. Despite these difficulties, the private sector will retain its present structure and patterns of production are unlikely to change sharply, although there will be more fallow in future and the replanting of fruit stock has stopped. Input levels are likely to stay low, and there seems little scope for any rise in investment. But, for most farmers, there are few alternatives in a country facing further rises in the current official unemployment rate of 13%. Most will stay on their farms, tighten belts and hope for equilibrium in future. But, it seems that there cannot be any return to the former days of guaranteed outlets and prices. For improvements in the market situation, the processing industries need restructuring (loss of jobs, commercial management and better marketing) and refinancing to become competitive, even on the domestic scene.

FOOD PROCESSING

Although agricultural production in Poland is dominated by the private sector, marketing and processing have been roles undertaken by large state organisations or co-operatives under state control with local or national monopolies. The co-operative sector used to employ more than one million people, with more than 8000 marketing co-operatives, 400 regional unions and 17 national unions. Although monopolies have officially been abolished, many local *de facto* monopolies still exist, particularly for milk, oilseed rape, sugarbeet, grain and in some areas for meat and processed fruits. This situation has resulted in a lack of cost efficiency, obsolete equipment and poor quality. The persistence of local monopolies has suppressed the pressure on agribusinesses to reduce costs and rationalise operations, often resulting in excessively high margins, to the detriment of producers. Part of the resistance to change can be attributed to weak or inappropriate management which is unaware of marketing in a competitive environment.

The current situation is that most self-help and machinery co-operatives are in a state of near-collapse. Co-operative unions have also been dismantled, but the issue of ownership of assets has yet to be settled. Horticultural and dairying co-operatives, which in some regions can be the only marketing channels, are in a much better situation.

The livestock sector fulfils a key role in Polish agriculture, accounting for 46% of agricultural output value and 50% of agricultural exports. Marketing, slaughtering and processing both for local and export markets is still predominantly handled by PEKPOL, the national livestock and meat processing and marketing organisation. The marketing chain is still under monopolistic

control and is considered as inefficient with poor product quality due to very low hygiene standards, and inadequate quality control and grading systems. Part of the problem, particularly in the beef sector, is that production is dominated by small-scale farmers with no specialist beef breeds. Therefore beef is of low quality and is less favoured on the domestic market where pigmeat dominates.

Grain production in Poland is around 25 million tonnes (Mt), of which 9 Mt are wheat. Approximately 60% of wheat production is transformed into flour, and 40% used for pig and poultry feed. For all grains it is estimated that 45% is retained on farm for feed or seed. The former state monopoly PZZ was the major operator in grain marketing and owned 80% of storage and milling facilities. This has now been broken down into 41 local organisations, many of which still have a monopolistic position on the market. PZZ organisations procure mainly from local co-operatives. The overall storage capacity is considered inadequate and insufficient. In abundant harvest years, farmers have to resort to storing on farm in facilities that are old and inefficient, resulting in high losses and poor grain quality. However, awareness among farmers of good storage and drying processes is growing, albeit slowly, and more enterprising farmers are beginning to build new stores and convert old buildings into grain stores for other farmers in the area.

The small-scale structure of dairy production, which has 1.1 million farmers with less than 3 cows, or 78% of the total number of dairy farmers, has resulted in a lack of on-farm cooling equipment, and severely hampers the establishment of an efficient collection system. The dairy industry is controlled by 320 dairy co-operatives with over 700 processing plants, but the lack of competition among processing plants has resulted in excessive margins. The influx of imported milk, which is produced to higher hygiene and quality standards and sells for double the price of domestic milk, is an additional threat. The poor quality of local milk is related to insufficient sanitary standards, inadequate processing equipment and a lack of awareness by processors of the importance of milk quality for holding on to existing markets.

The horticultural sector is very important to Poland, which produces some 3% of the world's strawberries and 10% of world blackcurrant production. Marketing of horticultural produce has been dominated by 140 co-operatives (70%) which serve the processing and export markets, and by direct sales by farmers on urban markets (30%). The export of fresh and processed product has been traditionally significant with the former Soviet Union (FSU) as the dominant market. All horticultural exporting was controlled by Hortex which was also the dominant fruit processor. Since 1990, private exporting agencies have emerged although the state agencies still dominate.

WHOLESALE MARKETING

There is no tradition in Poland of rural or urban wholesale markets, since most transactions used to take place between farmers and co-operatives. Therefore there has been nowhere where supply and demand could meet freely and prices

be established. This situation is being rectified with the emergence in Warsaw and other large cities of unplanned markets which combine wholesaling and retail functions, mainly for fruit and vegetables. So far, they channel only a small part of the cities' supply but are becoming increasingly crowded and handle increasing quantities of imported produce which is of better quality and easier to sell. However, often these markets lack good access and storage facilities, and farmers may have to wait hours to find a parking space and must keep the produce in their vehicles for several days until it is all sold.

This lack of an organised network of agricultural markets in both rural and urban areas, particularly at the wholesale level, is one of the most critical constraints in the effective restructuring of the agricultural marketing system in Poland. Farmers have only limited access to buyers, and price formation mechanisms do not function properly. This hampers the development of specialised modern market operators and a modern retail sector. It also puts local produce at a competitive disadvantage with imported produce which has a shorter and more easily identified marketing chain. This is of course a situation not unknown in Western Europe.

The shortcomings of the agricultural marketing and processing sector in Poland can therefore be summarised into a number of key issues. There is an obvious lack of local markets, with few links between them, so that market prices show significant variations from one region to another which are unknown to farmers. With the disbanding of the former state co-operatives and enterprises, there has been considerable disruption of the former marketing channels. Although new market opportunities are opening, these may be unknown to farmers, and this results in a considerable loss of time as farmers try to find the most favourable outlet. The entry of new market operators is being constrained by the lack of finance, know-how, market visibility and by the organisational problems in the restructuring of co-operatives.

These shortcomings have resulted in a severe crisis. In some agricultural sectors, there are market gluts due to reduced demand (related to the decline in per capita income), the loss of traditional export markets (particularly the FSU) the abolition of export subsidies and the influx of imports. This growth in imports suggests that local production cannot satisfy market demand, because quality standards are too low, or that producers and processing industries have failed to adapt fast enough to market evolution.

There is still as yet no nationally co-ordinated market information system, although several government institutions are currently involved in a non-systematic manner in the collection of market and price data. However, as there are no organised markets, it is extremely difficult to know to what extent price data are reliable.

Farmers are complaining about increasing marketing problems and low prices, and this is now becoming a major political issue. In response, the Government has created a price stabilisation device, the Agricultural Markets Agency (ARR). Its role is to purchase surplus product off the market and resell

when prices are higher. Its budget in 1991 amounted to 2.3 billion zl (£85 000) and the agency has a staff of 100 employees. In 1991, the Agency purchased 39% of grains, 9% of sugar, and 35% of potato starch, and also beef, pork, wool and honey. These operations had a limited impact, but did reduce regional price differences. Import duties have also been increased and negotiations are under way to allow better access to new export markets such as the EC and other Eastern European countries. However, these measures will fail to improve the agricultural marketing situation without a coherent strategy for the restructuring of the marketing system.

Key elements of this strategy must include:

* the establishment of new market facilities for agricultural products at all levels;
* acceleration of the restructuring of the agricultural co-operatives through a legal framework;
* establishment of a new market information system for the entire marketing chain from farmers through to retailers;
* definition of appropriate grades and quality standards;
* facilitating the entry of new market operators through credit for equipment, training and improved market information;
* lowering the cost of credit for storage of agricultural produce.

The successful completion of this strategy is dependent on the improvement of the knowledge system concerning agricultural marketing, such as market information, extension and advice to farmers and market operators. This will involve the co-operation of a number of organisations such as the extension service, research institutes, universities, government departments, trade organisations and the agribusiness sector itself. Work has already been started in this field, and EC's TEMPUS programme has played a significant part in the training of university lecturers and extension workers (see Appendix). The Know-how fund has also facilitated the movement of technological and management expertise to Eastern Europe.

The food-processing sector itself will have other difficulties which have to be addressed if it is to compete with the increasing number of imported food products in Polish shops. Consumers, as yet, have not developed brand loyalties and the stock in a recently opened supermarket in Warsaw was described as being *'tidal, with lines coming and going like shoals of fish in an ocean current'.* Customers buy what they can when they can get it and supermarkets have no shortage of importers willing to supply produce. Most supermarkets in Poland operate like Western discount stores with no formulated stocking policy. However, as the economy stabilises and the distribution network improves, suppliers will become more regular, and price and stability of supplies will be crucial.

The Polish food-processing industry will require credit or incentives for other companies outside Poland to invest in this sector. This credit will allow Polish companies to replace old, obsolete and inefficient equipment with more modern plant. There also needs to be an infusion of technological and management know-how as well as a significant amount of staff training to adapt the workforce to a market economy. There is no doubt that, as the Polish economy grows, there will be an increasing demand for better-quality and more processed food. Polish food companies at present do not have the facilities to fund this investment themselves given interest rates in excess of 60%. This allows tremendous opportunities for Western European companies to become involved in the Polish food sector through joint ventures, or more likely through management and technological inputs.

CURRENT AGRICULTURAL TRENDS

The Polish agricultural outlook for 1992, as formulated by the Institute of Agricultural and Food Economics, Warsaw (Table 7), is for a 4-8% decline in overall production from 1991. The supply of grains is projected to total about 26 Mt, a 14% fall from the previous year, partly due to lower production (-11%, at 24.5 Mt), and partly to lower beginning stocks. Both area and yield declines are noted, though less for wheat than feed grains. Imports of grain may double (from low 1991/92 levels). Prices seem likely to rise as a result of emerging shortages, and imports to recover from low recent levels. Sugar production has been declining steeply in recent years as exporting has become more difficult, but may have stabilised (at around 11 Mt beet, 1.6 Mt sugar). Potato production has

Table 7

Agricultural production outlook, Poland, 1992

	Mt	% Change from 1991
Grains	24.5	-11
- Wheat		-7
- Feedgrains	15.9	-13
Sugar (white)	1.6	+6
Potatoes	31-33	
Live cattle		-18
Live hogs		+2
Red meat		-4
- Beef		-10
- Lambs		-?
Poultrymeat		0

Source: Institute of Agricultural and Food Economics, Warsaw.

also fallen due to lower use of fertilisers and declining demand from the pig and spirits sectors: prices rose significantly last winter, but will depend on exports to the FSU.

Trends in the specialist crop sector of Polish agriculture have been particularly obscured by the 1992 drought. However, the latest (possibly optimistic) statistics (*Aqra Europe*, 11 Sept. 1992, from ZMP) indicate a 14% drop in overall vegetable production, with falls of 20% or more in the protected crops - an indication of continued disruption to the more organised and intensive forms of agriculture. Amongst fruits, strawberries have been particularly badly hit, with perhaps half the crop lost. However, other important export crops such as sour cherries and blackcurrants have been abundant, partly as a result of considerable expansion in tree and bush numbers in recent years. The economic outturn thus depends on the market situation in western Europe - where the signs are not good - and on the credit situation.

In the livestock sector, a mixed picture for 1992 is emerging. With the removal of marketing and consumer subsidies, low profitability for milk production has meant considerable recent declines, although dairy prices have stabilised, and producers may begin to rebuild their herds. The beef sector is still adjusting to the rather violent restructuring of the cattle herd, to drop in consumer demand, and to loss of EC markets. Pork production increased by 10.5% in 1991, and may gain a further 4.6% this year. The sheep sector, which has almost no domestic market for meat, is conditioned by demand for wool and for meat exports, both of which point to a slight decline.

Looking to the future, a number of external factors will govern Polish farm production apart from its own internal adjustments to the feed-livestock balance, and to various types of disinvestment and de-intensification. The most important of these factors are:

* the rate of domestic economic recovery, which will determine levels of consumer demand and the relative attractions of urban and rural (un)employment;

* the exchange rate of the zloty with western currencies;

* demand from the former USSR for basic foodstuffs.

On these external factors, as well as its own internal resources and flexibility, the future strength of Polish agriculture depends.

FUTURE CHALLENGES

Previous sections have identified many of the areas in which adjustment by Polish farm and food sectors to a capitalist and market-oriented economy will be necessary. Upstream activities involving primary production, i.e. farming and input supply, have been heavily controlled in Poland. State control of input

supply deters new entrants until the conditions of a more open competitive market become clearer. Within farming, uncertainty deters the amalgamation of small Polish farms while privatisation and re-distribution of land ownership reduces interest elsewhere. In more stable conditions such as we now see in the East German Ländern, new entrants are rushing in: Scottish farmers are now growing carrots there for EC distribution, and recent tenders for the sale of plant, equipment and farms (as published in the *Farmers Weekly*) will only increase the number of new entrants. Likewise, in Poland, considerable interest exists in primary production. Our own experience in Poland has identified interests in land management (state farms), stock management, forestry and forestry products, animal feed, fertiliser and agricultural machinery, fruit, vegetables (potatoes) and poultry. There is no shortage of ideas: the essential component of enterprise. With more stability and certainty, some at least of these ideas will come to realisation.

Unless Central and East European economies are fated to relapse into state-controlled self-sufficiency, one of the greatest challenges is the relationship of their agricultural industries with their neighbours, particularly Western Europe. Currently, this relationship is dominated by the interim Association Agreements signed after considerable delay between the EC and three countries - Hungary, Poland and Czechoslovakia - in December 1991, and put into operation in March this year.

The Agreements define a number of concessions on both sides - primarily by the EC towards the Eastern states, but with EC-financed sales from Central Europe to the FSU to be deducted from trade quotas - for the next five years, with possible extensions thereafter. The main agricultural decisions concern 20 % per year reductions in EC import duties and levies for a number of livestock products, within quotas scheduled to increase by 10 % per year (Table 8).

Table 8

Polish livestock exports to EC, 1990 and Post-Agreement

('000 t)	1990	Year 1	Year 2	Year 3	Year 4	Year 5
Beef	1.5	4.0	4.4	4.8	5.2	5.6
Sheep	20.4	6.6	7.2	7.8	8.4	9.0
Pigmeat	3.7	7.0	7.7	8.4	9.1	9.8
Broilers	1.5	6.0	6.6	7.2	7.8	8.4
Geese	10.0	12.6	13.8	14.9	16.1	17.2
Milk Products		6.0	6.0	6.0	6.0	6.0

Source: Balogh A and Halmai P (1992), data taken from *Aqra Europe* 13 December 1991 and Eurostat.

The Agreements certainly represent recognition by the EC that trade between East and West is important to a future Europe. Nevertheless, as with the global North-South relationship, this basic economic activity has to compete with

other priorities, such as debt reduction, know-how transfer, even academic exchanges. The Community was unwilling to bite deeply into its protectionism last year, and some sensitive farm products - sugar, feed grains, and most dairy products - were omitted from the concessionary list. In addition, doubts exist as to how far the Eastern States can fulfil all their quotas (Balogh and Halmai, 1992). Moreover, the system by which trade quotas are to be distributed to suppliers *within* the exporter states - whether by licence or by competitive tender, for example - will determine the forces of structural adjustment that will actually exist as a result of the agreement.

Since last winter, internal EC agreement has been reached on reform of the Common Agricultural Policy (CAP). Since the CAP has presented a formidable barrier to East-West economic relationships in the past, these reforms - involving substantial reductions in CAP support prices - are potentially of major significance to countries such as Poland. However, a number of factors suggest that their importance in the present context might be over-rated. First, the CAP reforms have been focused on cereals and oilseeds - sectors where the Association Agreements have offered few advances. Indeed, EC farming resources are likely to be switched into other channels such as horticulture and livestock which will be competitive with the prospective imports. Second, the EC's threshold prices have been maintained at levels much higher than the reduced internal target and intervention prices, thus minimising the improvement in market access offered to external countries. Third, the reforms may reduce the preferential position just awarded to the three Association countries. Overall, the net impact of the CAP reforms on the agricultural trade situation of Poland will depend on the reductions in EC supply brought about by the complex re-orientation of the CAP from market support to direct payments.

Looking further ahead, can anything be said about the prospects for actual Polish accession to the Community? In the medium term, circumstances will be affected first by the outcome of the GATT negotiations and second by the entry applications of Sweden, Austria and other countries earlier in the queue. A less protectionist CAP, with import access guaranteed under Dunkel-like conditions, would be a different proposition from an expanded fortress-exporter. Much also depends on the EC's development of its reformed CAP. If the compensatory payments are kept at high levels, strict regulation of eligibility and supply seem inevitable, and on both financial and administrative grounds this would be difficult to translate eastwards. On the other hand, gradual reduction of the direct payments in the EC and concentration of 'farm' support on environmental and social grounds could be adapted - no doubt gradually - to Polish conditions.

Poland may not be a typical Central European country; indeed, its citizens (like those of all other Central European states) would feel insulted if that were suggested. But it does provide an interesting example of the problems facing a previously centrally-planned economy as liberalisation proceeds. Its physical and agronomic conditions are perhaps not as favourable in a technical sense to farm production as those of Hungary and Czechoslovakia. However, from an

economic point of view, its still largely private though poorly structured agriculture has perhaps better prospects of success than the more monolithic structures of other Central European countries.

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APPENDIX

Aberdeen Polish Programmes

Aberdeen first became closely involved in Polish agriculture in 1991 after over a year of exploration and discussions. The Agricultural and Rural Economics Department of the Scottish Agricultural College, Aberdeen, was awarded a TEMPUS contract by the EC to support the development of agriculture economics, farm and agribusiness management training in the Polish agricultural universities at Warsaw and Lublin. EC partners included the University College, Cork, Ireland, Wageningen Agricultural University, Netherlands, Giessen University, Germany and Wolverhampton Polytechnic, UK.

With this contract, Aberdeen and its other EC partners have given two Polish universities the opportunity to revise their course structures and content. Key staff have been introduced to new teaching methods - especially the use of case studies, and an extensive range of new courses developed. A focus for the first year of activity was the preparation and presentation by Polish partners of a 4-week summer school in farm and agribusiness management. Course participants were made up of bankers and agricultural extension officers. This course, or parts of it, will be incorporated into undergraduate teaching and used extensively for the training of the agribusiness community. It is, of course, only a part of an extensive retraining exercise now taking place in Poland, financed and supported by various bodies and organisations.

Aberdeen has now been contracted to undertake a similar activity in the Czech and Slovak republics and in Hungary. The philosophy underlying these links is not merely academic. In Central and Eastern Europe, agricultural universities and colleges need to be close to agriculture and agribusiness, as in the UK, and teaching activities with Eastern/Central European partners should be supplemented by consultancies, training research and extension.