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4 The food balance in the former Soviet Union

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INTRODUCTION

The food supply problem in the states of the former Soviet Union (FSU) has been at the centre of the international political stage now for the past two years. Prior to January 1992 the problem appeared to be that the food chain was simply unable to meet the food requirements of the 290 million FSU consumers; prime amongst the causes of this were the large losses incurred during the transport, storage, processing and distribution of food estimated at between 25 and 30% of the gross value of agricultural output. However, over the course of 1992, and in particular from price liberalisation inaugurated by Russia in January 1992 and followed soon after by other states of the FSU, the food supply problem in the FSU has for many food products been transformed. Price liberalisation and macro-stabilisation have impoverished large sections of the FSU population and hence demand for most food products has fallen quite dramatically resulting in improved food availability for those who can afford the higher market prices. The food supply problem now appears to be one primarily of poverty rather than of the inability of domestic production to meet domestic effective demand. True, there are still great inefficiencies in production and distribution but these represent efficiency losses which if overcome would result in large exportable surpluses.

In the context of these developments this paper analyses the changing face of the food problem in the newly independent states of the FSU over 1991 and 1992 with particular emphasis placed upon the consumer market.

THE TRADITIONAL SOVIET FOOD PROBLEM

That the Soviet food chain, in the period up until 1992, was unable to meet the food requirements of Soviet consumers is now beyond question. Despite the fact that official Soviet statistics show per capita food consumption on a par with developed market economies (*Agropromyshlennyi Kompleks SSSR,* 1988), shortages of food of the types and qualities demanded by the Soviet consumer

were evidenced by the almost constant queues outside Soviet state food shops and by the fact that the Soviet diet, although on a calorific par with developed market economies, had a very high sugar and fat content and was deficient in essential nutrients (*Food supply and demand in the former USSR*, 1992).

The fact that the Soviet regime was unable to meet the food requirements of its 290 million consumers is at first sight somewhat surprising given the enormous agricultural potential of the country. The FSU, the largest country in the world in terms of land area, had in 1988 some 602 .8 million hectares of land in agricultural production, 226.1 million hectares of this being classified as arable (*Narodnye Khozyaistvo*, 1989). Table 1 shows that agricultural production per capita in 1989 was on a par with that in developed market economies. Per capita production of milk and potatoes was in fact well above that in the west. In addition the FSU was by far the world's largest producer of agricultural machinery, annually producing half a million tractors and 60 000 grain combines, compared to production in the US of 86 000 and 9000, respectively (*Narodnye Khozyaistvo*, 1989).

Table 1

International comparison of agricultural production in 1989 (kg per capita per annum)

	USSR	US	UK	France	FRG	China
Sugarbeet	340	94	140	66	329	9
Meat	71	121	66	113	96	26
Milk	381	266	259	515	413	4
Potatoes	252	68	112	107	132	27
Grain	690	1159	404	1059	443	338

Source: Author's calculations from *Narodnye Khozyaistvo* (1989) & *Naselenie SSSR* (1988).

All these impressive production figures do however hide the reality of the FSU food chain as an acutely backward system, unable to make the best use of the resources available to it. The failure of that system to meet the food requirements of its population can be identified as being primarily a result of the failures of:

i) Planning

It is now generally accepted that the market is far superior to the central planning mechanism in organising production and in allocating resources efficiently. In the organisation of Soviet agriculture fundamental mistakes were made by planners. Amongst these were the over-centralisation of agriculture into large state and collective farms with the centre taking too many of the lower level production decisions. Planners saw agriculture as simply another industrial sector without understanding that the unpredictability of the weather makes

agriculture a special case requiring substantial micro-level decision making. The obvious example of this was the tendency for the state to set farms a date for beginning the harvest campaign, which was wholly inappropriate as only farmers could know this and not planners based in Moscow. Planners were also obsessed with quantitative targets at the expense of efficiency. One example of this was the tendency to build excessively large-scale grain storage facilities which enabled the fulfilment of planned investment and construction targets, which were based on building a certain volume of storage space in a specified time, but which produced inefficiencies in the transportation of grain. Thus, as a consequence it is common for regions or oblasts to have just one massive central grain silo with the result being that the average grain haul from the farm to first storage is excessively high, which puts extra strain on the already inadequate transport network and hence results in increased losses of grain between the farm and the regional grain silo.

ii) Pricing

Unlike in market economies where market prices act to guide resource allocation, in the centrally planned Soviet economy prices assumed little meaning but simply acted as accounting tools to ensure some notional financial balance was achieved. As a result, factor and product prices were highly distorted which produced dis-equilibrium conditions in both factor and product markets. Food prices were, for example, held artificially low in line with the Soviet states' objective to keep food prices cheap in industrial centres so as to ensure the continued support of the industrial workforce for the regime. The price of bread, sugar and fish, for example, remained constant from 1960 until 1986. The result was however to ensure excess food consumption (demand) and wastage on the part of the population which encouraged food shortages. Frequently it is cited that livestock producers fed bread direct to animals as the retail price of bread was lower than that of feed!

iii) Property rights

The social ownership of productive assets and the levelling of wages and salaries associated with the socialist principles of the Soviet state produced very low material incentives for workers and managers to work efficiently. In part this explains the large losses incurred during the storage, transport and distribution of food. As production was owned by the state no individual benefited by reducing losses and hence few workers and managers were interested in taking measures to reduce wastage rates. In regard to the incentive of farms to produce, procurement prices for output were kept artificially low, hence there was little incentive to increase production. At the same time the financial system allocated extra resources to loss-making farms ensuring a low level of enterprise efficiency as farmers knew larger losses would earn them extra resources. This process of allocating loss-making farms extra resources stems from the widely held belief in Soviet policy-making circles that loss-making farmers were unable

to farm efficiently as they did not possess adequate resources, hence production on these farms could only be improved by increasing material inputs. At the same time more efficient farms were starved of resources all to the detriment of efficiency.

As a result of these problems the food chain, while able to produce per capita food production levels on a par with developed market economies (Table 1), was unable to distribute this production to the final consumer. Figures on the losses of food in the Soviet food chain are quite astounding. On average 25-30 % of the gross value of agricultural production was thought to be lost in storage, transport and distribution. For grains the losses were reported to be approximately 20-25%, but for more perishable crops such as potatoes the losses were perhaps as high as 60 % and for fruits as much as 70 %. Using the record 1990 grain harvest as an example, initial crop development reports suggested a harvest of almost 300 million tonnes (Mt) cleaned weight (compared with a 190 Mt average for 1986-91). The final harvest figure was however just 218 Mt and much of this loss of 80 Mt or 28 % of the harvest was attributed to losses through wastage.

THE FOOD SUPPLY SITUATION IN 1991

Production

While the Soviet food chain was highly inefficient, it did work up to a point. Wastage rates were high but the Soviet consumer had from the 1950s onwards grown accustomed to being able to obtain a minimum basket of basic staple food products through the state distribution system at a very low retail price. However, through the course of 1991, as the centrally-planned Soviet system collapsed even this relatively minimal level of food security disappeared. Prime amongst the causes of this were: the collapsing system of central planning which had been put under strain by the decentralising reforms associated with '*perestroika*'; the increasing financial bankruptcy of the state budget caused by this very same process of decentralisation which reduced the ability of the state to collect taxes (see McKinnon, 1991); and the political disintegration of the FSU after the abortive August 1991 coup. Trading relations between enterprises and republics began to collapse in 1991 and produced a great fall in economic activity within the FSU zone which acutely impacted on agriculture. Table 2 shows estimates of the decline in both general economic activity, represented by Net Material Product (NMP) and agricultural production in the republics of the FSU in 1991 and estimates of the decline in NMP in the FSU states in 1992. Overall NMP declined by 11 % in the CIS as a whole in 1991 with the decline in agriculture being of the order of 15 %.

Under the old central planning mechanism all inputs were allocated to farms through the Union-level central supply agencies and output was sold directly to the state. Faced by an increasingly bankrupt state which was unable to guarantee payment either to farms for production or to input suppliers for machinery,

Table 2

Performance of FSU economies in 1991 and 1992 (decline in NMP in the economy at large and in agriculture)

	Economy		Agriculture
	1991	1992	1991
CIS	11	10-15	15
Armenia	17	15-20	0
Azerbaijan	5	15-20	14
Belarus	14	10-15	9
Kazakhstan	10	10-15	12
Kyrghyzstan	14	10-15	12
Moldova	16	15-17	6
Russia	16	15	9
Tajikistan	13	10-15	11
Turkmenistan	15	10-15	20
Ukraine	17	15-20	6
Uzbekistan	7	5-10	7
Georgia	11	10-15	15
Baltics			
Estonia	6	5-10	
Latvia	9	10	12
Lithuania	11	15-20	7

Source: Various including IMF, CIS Goskomstat, SovEcon.

fertiliser etc, the whole central procurement and input supply system all-but ground to a halt. As a result, for the first time farms had to act, more often than not unwittingly, as private businesses and find, for themselves, inputs and markets for output. Deteriorating trading relations between the republics, brought about by the collapse of the USSR central economic and political administration and the onset of inflation (90 % plus over 1991), made this more difficult for agricultural enterprises. In the ever-changing environment farms and farm enterprises found it acutely difficult to find inputs and to find buyers who could guarantee payment for their products.

Alongside the economic collapse poor agro-meteorological conditions ensured that the 1991 grain harvest in the CIS region was the lowest for a decade, at just 154.3 Mt (160 Mt for the FSU, i e including the Baltic states), compared to the average for the USSR in the period 1986-91 of 190 Mt. The reasons for the poor grain harvest were primarily related to drought which severely affected production in the more marginal grain producing regions, for example, in Western Siberia and in Kazakhstan. Production in Kazakhstan declined to a ten-year low of just 11.9 Mt compared with 28.5 Mt in 1990.

Poor agroclimatic conditions and the deteriorating economic environment also affected the production of other arable crops which fell quite significantly in 1991. Sugarbeet production in the USSR declined by 19 % to just over 66 Mt.

Potato and vegetable production was around the same level as in 1990 due primarily to the great expansion in private plot production as the population attempted to cushion themselves against the expected price liberalisation.

Table 3 shows the decline in livestock production in the CIS and Baltic regions between 1990 and 1991 and also for 1992 (which will be discussed later). Throughout the FSU region production of all livestock products declined between 1990 and 1991. In Russia, for example, meat and milk production declined by 7 %. The fall in production in 1991 was primarily due to the worsening terms of trade between livestock product prices and input prices.

Table 3

Livestock production in the states of the FSU 1990-92 ('000 tonnes)

	Meat			Milk			Eggs		
	1990	1991	1992	1990	1991	1992	1990	1991	1992
CIS									
Armenia	96	93		432	403		518	476	
Azerbaijan	194	179	90	970	950		985	959	
Belarus	1 160	1 049	828	7 457	7 280	5 841	3 657	3 718	
Kazakhstan	1 738	1 698	1 262	5 642	5 555	4 215	4 185	4 075	
Kyrghystan	298	280	221	1 185	1 130	802	714	663	
Moldova	350	290	221	1 512	1 292	1 150	1 129	1 061	
Russia	10 111	9 386	8 000	55 715	51 971	47 000	47 470	47 132	45 000
Tajikistan	122	100	76	575	587	475	592	454	
Turkmenistan	118	117	93	436	443	429	327	294	
Ukraine	4 358	4 029	3 158	24 508	22 409	20 584	16 287	15 188	14 287
Uzbekistan & Georgia	521	509	430	3 034	3 275	3 002	2 453	2 396	1 900
	174	137		660	602		769	619	
Baltics									
Estonia	200	195	145	1 208	1 092	750	547	560	440
Latvia	293	281	261	1 893	1 741	1 647	819	761	598
Lithuania	492	421	401	3 157	2 916	2 200	1 273	1 235	1 100

Note: Meat is calculated in deadweight, milk includes milk products and eggs are calculated in million eggs.

Source: CIS Goskomstat, published in UN-FAO (1992)

State procurements

As a result of lower agricultural production and also due to the fall in the confidence of farmers in the state procurement agencies' ability to guarantee payment for procured output, state procurements declined substantially in 1991. State procurements of grain fell from an annual average of 68 Mt over the period 1986-90 to just 42 Mt in 1991, a fall of over one-third. State procurements of meat and meat products in the FSU declined from a yearly average of 14.4 Mt (deadweight) in the period 1986-90 to just under 11 Mt in 1991. Similarly procurements of milk products fell to 65 Mt compared to an average of 75 Mt annually between 1986 and 1990. Given that the system of state procurement

remained the principal source of food supplies for the network of state shops which still predominantly met the consumption needs of the population of the FSU the decline in procurement resulted in serious food shortages in the winter of 1991/2.

Food imports/food aid

Shortages of hard currency meant that the FSU states were unable to make up for the shortfall in domestic supplies by significantly increasing food imports. Improved availability of credits from the developed market economies did however mean that grain imports increased in the 1991/2 harvest season to 38 Mt compared to 26 Mt in the 1990/1 harvest season. Imports of meat products and milk products rose by 7 and 24 % by volume, respectively. Imports of meat, however, increased to just 6.5 % of domestic meat production and most milk imports consisted of dried milk which made up an insignificant proportion of total domestic milk consumption.

Faced by the worsening food supply situation, much publicity was given in the Western media to the Western food-aid programme which aimed to alleviate the extent of the food-supply crisis. However, throughout the FSU states, there was some disappointment at the actual level of food aid given by the developed market economies. In Russia, for example, in 1991 the government requested the following:

	000' tonnes
Meat	2 500
Animal fats	330
Powdered milk	320
Vegetable oils	160
Sugar	1 400
Flour	1 525
Groats	630
Pasta	158
Babyfood	500 000 tins

Source: Russian Ministry of Social Protection

In the event, between 1990 and August 1992 Russia received just 500 000 t of food aid, which amounted to only 20 kg of food aid per pensioner in Russia over this period. Of this Germany provided almost 40 %, the UK 15 % and the USA just 10 %.

Demand/food consumption

Food shortages in the winter of 1991/2 were compounded by the fact that retail prices in state shops remained subject to state regulation despite the limited price rises introduced in April 1991 by the Pavlov administration. State prices for food products remained below market levels which hence encouraged excess consumption and hoarding on the part of the population. Hoarding of food products reached a crescendo in December 1991 when almost all food products were stripped from the shelves of state shops as consumers braced themselves for price liberalisation in January 1992. The problem was made more acute by the fact that the government announced the imminent rise in food prices some time in advance of January 2nd 1992. In fact, initially food prices were to be liberalised on December 16th 1991 but this was later postponed due to political pressure until January 2nd. The result was to produce a dual wave of hoarding, first in anticipation of the first date and then immediately prior to January 2nd 1992.

FOOD AVAILABILITY IN 1992

The difficult economic environment in 1992

Understanding the current food supply situation in the FSU states is difficult without first understanding the general environment in which both producers of agricultural and food commodities and consumers operate. 1992 has been characterised by chronic hyperinflation and a continued decline in production throughout the CIS region. In 1992 the decline in the NMP is estimated to be of the order of 10-15 % (see Table 2). Inflation has been fuelled by rising state budget deficits as the collapse of the central planning mechanism has meant that the tax collecting mechanism in most FSU states has all but collapsed. In Russia, despite the introduction of income and value-added taxes, the budget deficit for 1992 is estimated to be approaching 17 % of GDP and other republics have similar out-of-control deficits. In Ukraine the state budget deficit has reportedly reached 44 % of GDP (*Financial Times*, 27th November 1992). The absence of a bond market means that fiscal deficits have simply been monetarised causing extreme inflationary pressures. The collapse in production, which itself is partly a result of the impact of inflation on the value of the currency as a medium of exchange, has meant that fewer goods are available hence further fuelling the inflationary spiral. Inflation in Russia in the first 9 months of 1992 is estimated to be at least 1300 % (*Ekonomika i Zhizn'*, 1992) and of a similar magnitude in the other republics and the outlook is for inflation to continue at a high level throughout 1992-3.

For farms and food industry enterprises the economic environment in 1992 is extremely unstable which makes rational economic decision-making difficult. The lack of a stable monetary medium with which to carry out trade between republics and enterprises has resulted in an increasing payment crisis and hence a decline in agricultural/food trade and production. In the first nine months of

1992, compared to the same period of 1991, production of milk declined by 13%, meat production by 22 % and egg production by 13 % (*Ekonomika i Zhizn'*, 1992).

Improved agro-meteorological conditions have however increased grain yields in the CIS and production as a whole looks set to reach approximately 187 Mt as can be seen in Table 4. Much of the improvement is as a result of the better harvest in Kazakhstan which at approximately 28 Mt will be more than double the 1991 harvest. Production in Russia is also much improved on the poor 1991 harvest with estimates suggesting production of 101 Mt, compared to 89 Mt in 1991.

The presence of hyperinflationary conditions is however making the prediction of grain availability in 1992 somewhat difficult. All FSU governments continue to subsidise the prices of a number of staple food products, typically bread, milk and some basic meat products and hence state procurement of a number of food products remains. This is the case for grains. The Russian Grain Procurement

Table 4

Grain production in the FSU 1990-92 (million tonnes, clean weight)

	1990	1991	1992
Armenia.	0.3	0.3	0.3
Azerbaijan	1.4	1.3	1.2
Belarus	7.0	6.3	6.5
Kazakhstan	28.5	11.9	28.0
Kyrghyzstan	1.5	1.4	1.7
Moldova	2.5	3.2	3.2
Russia	116.7	89.1	101.0
Tajikistan	0.3	0.3	0.3
Turkmenistan	0.3	0.3	0.6
Ukraine	51.0	38.6	42.0
Uzbekistan	1.9	1.9	2.2
CIS Total	211.5	154.6	187.0
& Georgia	0.7	0.5	0.5
Estonia	0.9	0.9	0.5
Latvia	1.6	1.3	0.9
Lithuania	3.3	3.3	1.6
Total Baltics	5.8	5.5	3.0
Total FSU	218.0	160.6	190.5

Source: Various, including CIS Goskomstat, Ministries of Agriculture of Estonia, Latvia and Lithuania.

Agency set itself the target to procure from farms 29 Mt, compared with actual grain procurements in 1991 of 23.6 Mt. In order to achieve this higher level of procurement throughout the 1992 season the state offered to pay farms prices which it suggested would be close to world market levels. As an additional incentive for farms to sell to the state it was suggested that farms which sold more than their procurement target to the state would be supplied with subsidized inputs. However, the prices offered to farms, on average 12 000 roubles/t in Russia (in August 1992 the rouble was trading in the Russian inter-bank market at US$ 0.005 which gives a US dollar price for grain of $60), have proved to be inadequate to entice farmers to sell to the state procurement agency. With inflation running at over 1300 % for 1992 as a whole and by at least 30 % per month as of mid-1992, farmers have an obvious incentive to try and hold on to grain for as long as possible as a hedge against inflation. This has in fact occurred and state grain procurements have been slow and are unlikely to reach more than 23 Mt for the year as a whole. By October 19th 1992 grain procurements had reached just 22.5 Mt. In the Ukraine the problem is more acute as the state has paid farmers just 7000 roubles/t for grain and hence it seems unlikely that they will reach 11 Mt out of their procurement target of 17 Mt.

Throughout the FSU region it seems likely that farmers will store as much grain as possible on-farm even though storage facilities are inadequate as the undoubted losses that will ensue are likely to be offset by the gains to be made by selling unspoilt grain later for a higher price. The overall impact of this is that grain losses will increase and hence prices will be forced to rise along with import requirements. A factor which may in fact work in favour of state procurements of grain in 1992 is the acute cash shortage facing farmers, so that they may have to sell grain to the state simply to obtain finance to purchase necessary inputs. In addition, farmers have little alternative to selling to the state at low procurement prices as there remains a shortage of alternative market outlets for grain. As yet the system of private commodity exchanges is relatively under-developed and handles under 10 % of grain sales.

Despite the difficult economic environment overall food availability has improved in 1992, so much so that there are now large unsold stocks of some food products, in particular processed livestock products, eg butter, cheeses and processed meat products. The main reasons for the sudden transformation in the food market are: a fall in wastage rates as the legalisation and hence spread of private property rights has increased the link between work effort and material rewards; and crucially the introduction of significant price liberalisation in Russia in January 1992 and the domino-like effect this produced in other states of the FSU has reduced demand for food products. From the existing state subsidized low price level in January 1992 prices leaped by on average 3 times as can be seen in Table 5 which shows price rises in Russia. While Russia has gone furthest in liberalising food prices the trends shown in Table 5 match quite closely those observed in other republics. The high level of price inflation, in

Table 5

Price dynamics in the food market in 1992 (as a percentage of previous month)

	Jan	March	June	July	July as a % of Dec 1991	Oct as a % of Dec 1991
Meat and meat products	486.8	100.9	108.2	108.7	703.6	1056
Milk products and cheese	630.9	111.3	117.5	102.8	1287.4	
Vegetable oils	285.4	120.5	120.9	102.6	924.0	
Eggs	370.5	100.5	97.1	99.0	535.2	
Sugar	342.3	100.1	121.6	102.5	1175.7	
Bread and confectionery	303.4	114.8	153.5	112.6	935.0	
Vegetable products	163.9	113.3	118.5	134.8	519.6	

Source: Russian Ministry of Economy, published in UN-FAO (1992).

general, alongside the way in which incomes of the population have lagged behind inflation, has resulted in a fall in real purchasing power on the part of consumers shown in Table 6 which reveals that over the period December 1991 to October 1992 incomes of the Russian population rose by only 510 % while the cost of a minimum basket of food products rose by 1220 %. As a result of this fall in real purchasing power on the part of the population of FSU states significant income and substitution effects in food consumption have occurred. Overall food consumption has fallen with consumers reducing consumption of relatively expensive livestock products, and in particular of milk products, and increasing consumption of cheaper bread and vegetable products. In Russia for example, consumption of milk products over 1992 has declined by almost one-third and consumption of meat products by between 15 and 20 %. Consumption of sugar is also falling quite significantly in 1992 as sugar prices have risen quite dramatically due to shortages caused by the fall in imports of sugar from Cuba. The shortage of sugar in 1992 is likely to cause some considerable hardship for FSU consumers in the coming year as it is traditionally used as a preservative for allotment production from private household plots, which provides perhaps as much as 20-30 % of food needs over the winter months. Consumption of bread products is expected to increase by more than 4 % in Russia in 1992. In other republics consumption of bread products is expected to rise by as much as 10 % which should increase the import requirement for food grains in 1992.

For agriculture and the food industries the fall in demand for food has produced a 'scissors crisis' as agricultural product price rises are failing to keep

Table 6

Changes in the income of the population and the cost of the food basket (roubles per capita)

	Dec 1991	Jan	Feb	Mar	Apr 1992	May	June	Oct
Money incomes per capita per month	820	802	1173	1517	2323[1] (1883)	2022	2763	5000
Money incomes per capita as % of December 1991	100	98	143	185	283[1] (229)	247	337	610
Cost of food basket per month	184	708	788	851	883[1]	1029	1204	2428
Cost of food basket as with Dec 1992=100	100	385	428	462	480	559	654	1320
Cost of food basket as a % of per capita incomes	22.4	88.3	67.2	56.1	38.0[1] (47.0)	51.0	43.6	48.6

[1] includes compensation payments which had been frozen.

Source: Russian Ministry of Economy, published in UN-FAO (1992)

pace with the general rate of price inflation and hence the rise in input costs. In Russia, for example, in the first nine months of 1992 retail food prices rose 11-fold, prices of non-food products rose 14-fold, industrial goods prices 17-fold, while farm gate prices increased by just 8.3 times. For livestock producers the problem has been more serious as livestock procurement prices have risen just 5.1 times which compares with the 25-fold increase in the price of grain, the main source of feed (*Ekonomika i Zhizn'*, 1992). Despite the large rise in grain prices, arable farmers are also in some financial trouble as they received payment for crops from the 1991 harvest season last year at 1991 prices and have been trying to purchase inputs with less real income. As a result of all of these factors all farmers are extremely short of cash, are reducing input use, and are finding it increasingly difficult to pay workers. In Russia by July 1992 agricultural workers were owed 65 billion roubles in unpaid salaries, the equivalent of about three months' salary per agricultural worker.

The agricultural situation in the Baltic states is particularly serious in 1992 as the region is being badly affected by both the drought which has reduced grain yields by as much as one-half at the same time as the current recession in the

livestock sector has reduced demand for livestock products which are the main agricultural export of this region. Livestock producers are being caught by rising input prices and an increasingly uncertain market for production. The Baltic states traditionally exported a large proportion of domestic production to the CIS zone and in particular to Russia. In 1989 for example, Estonia exported 25% of domestic butter production, 42 % of cheese production, 16 % of meat production and 15 % of milk production to the FSU market. Similarly Latvia in the same year exported 440 000 t of milk products and 38 000 t of meat to the FSU market and Lithuania exported over 1 Mt of milk to Russia in 1990. As CIS meat-processing enterprises have grown increasingly short of cash they have been unable to pay Baltic farmers for production. By June 1992 Lithuanian food-processing plants were reportedly owed a sum of US$ 3 billion by CIS states in unpaid accounts for livestock product deliveries. As a result exports of livestock products from the Baltic region to the CIS have collapsed in 1992. Exports of meat from Estonia, for example, have fallen to just 1 % of domestic production and similar falls are also reported for Latvia and Lithuania. Baltic livestock producers have also been faced by a similar fall in domestic demand for livestock production and hence, faced by feed shortages and the loss of markets, farms are being forced to reduce livestock numbers and livestock production as can be seen in Table 7.

Table 7

Livestock production and livestock inventory in the Baltic States 1991 & 1992

	Estonia		Latvia		Lithuania	
	1991	1992[4]	1991	1992[4]	1991	1992[4]
000' tonnes						
Meat[1]	302	224	435	404	651	620
Milk	1 092	750	1 741	1 647	2 916	2 200
Eggs[2]	560	440	761	598	1 235	1 100
000' head[3]						
Cattle	708	624	1 383	1 245	2 197	1 933
of which						
Cows	264	233	531	478	832	732
Pigs	798	500	1 247	1 122	2 179	1 918
Sheep & Goats					62	60
Poultry	5 229	4183	10 395	7 500	16 994	14 955

[1] Liveweight
[2] Million eggs
[3] Livestock figures refer to end of year.
[4] Estimated by FAO mission

Source: Baltic Ministry of Agriculture figures, published in UN-FAO (1992)

Table 8

Livestock inventory in the CIS (& Georgia), 1st January 1992

	Arm	Azer	Bel	Geo	Kaz	Kyrg	Mold	Rus	Taj	Turk	Ukr	Uzb
000' Head												
Cattle												
1990	690	1 915	7 166	1 427	9 819	1 215	1 112	58 841	1 349	820	25 195	4 180
1991	640	1 832	6 975	1 298	9 756	1 205	1 061	57 043	1 352	829	24 623	4 581
1992	584	1 787	6 577		9 592	1 183	1 001	54 677	1 391	829	23 721	4 965
92/90	0.85	0.93	0.92		0.98	0.97	0.90	0.93	1.03	1.01	0.94	1.19
Of which:												
Cows												
1990	260	716	2 439	588	3 327	507	402	20 760	539	319	8 528	1 645
1991	251	711	2 362	552	3 367	506	395	20 557	557	331	8 378	1 856
1992	215	706	2 314		3 490	511	397	20 564	586	343	8 258	2 041
92/90	0.83	0.99	0.95		1.05	1.01	0.99	0.99	1.09	1.07	0.97	1.24
Pigs												
1990	329	202	5 204	1 028	3 264	445	2 045	39 982	210	269	19 947	743
1991	311	157	5 051	880	3 224	393	1 850	38 314	183	267	19 427	716
1992	268	131	4 703		2 976	346	1 753	35 384	128	253	17 759	649
92/90	0.81	0.65	0.90		0.91	0.78	0.86	0.88	0.61	0.94	0.89	0.87
Sheep & goats												
1990	1 291	5 514	424	1 833	36 223	10 483	1 338	61 305	3 359	5 399	9 003	8 786
1991	1 186	5 419	444	1 618	35 657	9 968	1 282	58 195	3 292	5 481	8 418	9 320
1992	1 047	5 352	424		34 556	9 467	1 289	55 255	3 355	5 312	7 835	9 702
92/90	0.81	0.97	1.00		0.95	0.90	0.96	0.90	1.00	0.98	0.87	1.10
Poultry												
1990	11 714	30 343	49 763	24 002	59 286	15 207	25 003	653 643	8 860	7 926	255 120	37 340
1991	9 352	29 051	50 617	21 760	59 899	13 906	24 625	659 808	8 217	7 390	246 104	36 026
1992	11 051	27 836	51 703		59 932	13 363	23 716	652 211	5 865	7 725	243 615	36 967
92/90	0.94	0.92	1.04		1.01	0.88	0.95	1.00	0.66	0.97	0.95	0.99

Source: UN-FAO, 1992.

While problems for livestock producers are particularly acute in the Baltic states similar trends towards a contraction in livestock numbers and production are occurring in the CIS states as can also be observed from Tables 3 and 8. However, despite this overall decline in production there are some quite interesting dynamics at work within the livestock market as revealed in Table 9 which shows production of livestock products dis-aggregated. Particularly in Russia, production of lower value-added products such as whole milk has fallen much more rapidly than has production of higher value-added products such as butter. The explanation for this trend appears to lie in the increasing price differential that is developing in state procurement prices between different livestock products. The problem is partly the result of the continued use of state regulation of cheaper livestock products, eg whole milk, which is holding these prices down while free prices operate for processed higher value-added products such as processed sausage, cheese etc. Processors are as a result able to obtain higher profit margins from the production of butter and cheeses than of whole milk. In addition, in times of hyper-inflation butter and cheeses are storable and hence can be used as a hedge against inflation. This tendency towards increased production of processed livestock products is already impacting on food availability in state shops which are now relatively well stocked with butter and cheeses but often appear short of cheaper whole milk products. For the consumer the situation is difficult as the prices of butter and cheeses, even in state shops, are beyond all but the wealthiest, which in part explains the improved availability as demand has fallen. While market logic suggests that excess supply should put downward pressure on these prices, in the FSU market logic does not seem to apply especially given the highly monopolised retail network. Processors and retail outlets simply prefer to hold prices high and hold on to unsold stock as a hedge against anticipated future hyperinflation.

Table 9

Production of livestock products in the CIS (first 6 months of 1992 as a percentage of the corresponding period in 1991).

	Meat	Butter	Whole milk
Armenia	11	120	26
Belarus	80	69	90
Kazakhstan	69	68	83
Kyrghyzstan	64	84	49
Russia	73	100	52
Tajikistan	50	84	68
Turkmenistan	86	90	94
Uzbekistan	64	100.5	74

Note: Figures relate to production in state enterprises only and therefore this may explain the large reduction in meat output in Armenia which has privatised most state and collective farms.

Source: CIS Goskomstat, published in UN-FAO (1992)

The fall in meat production has particularly acute in the state processing sector as can be seen in Table 9. This can in part be explained by a further trend that has developed in the livestock sector in 1992 with farmers increasingly diverting production through private distribution channels. Thus currently both livestock farmers and processors are making large losses due to the increasing differential between factor and product prices. State processors have the ability, because of their monopsonistic position in the market, to pay low prices to farmers for procured output so improving their own margins. There is some evidence that this is in fact occurring. Table 10 shows price dynamics for livestock products at different market levels in Russia between January and June 1992 (supported by the figures produced in *Ekonomika i Zhizn'*, (1992) revealed earlier in this paper). It can be observed that the rise in wholesale and retail prices has generally been above those at the farm gate. Faced by deteriorating real farm-gate prices, farmers have increasingly resorted to paying workers 'in kind' with livestock products, allowing workers to re-sell this production on local private markets at higher prices. This would in part explain why over the course of 1992 the price margin between the state retail network and private collective farm or city markets has narrowed. For consumers this is again a worrying trend as increasingly they are finding it difficult to purchase

Table 10

Price dynamics of livestock products in Russia (% change on previous month of 1992)

	Feb	March	April	May	June
State purchase prices for farms:					
Milk	100.4	93.0	101.8	104.5	106.1
Cattle and birds	110.0	106.4	106.6	99.5	102.6
Wholesale price from processing industry:					
meat	112.7	104.9	101.5	104.0	111.9
butter, cheese and milk	110.3	107.7	122.2	108.0	113.8
Milk conserves	188.3	111.5	116.0	108.8	125.2
Retail price in state and co-operative trade including public catering:					
Meat products	105.4	103.6	108.1	107.2	112.0
Milk and milk products	114.1	118.7	123.7	110.3	120.6
Cheese	114.0	107.8	112.3	107.2	104.7

Source: Russian Ministry of the Economy, published in UN-FAO (1992).

cheaper livestock products in the state distribution system and are being forced to shop on private markets through this almost 'back door' process of privatisation. Household expenditure surveys show that in Russia in 1992 consumers buy almost all fresh beef, pork and lamb on private markets as these products are simply unavailable in the state distribution network. As with milk products, processors are increasingly turning to the production of processed higher value-added meat products, such as sausage, which are now in plentiful supply in the state retail network but at a high price.

Identification of 'risk groups'

The result of price liberalisation has been to produce a situation where there are still food shortages but these are now more a reflection of poverty rather than of actual shortages of food, as, as market relations are introduced, consumers are beginning to show their preferences through the price mechanism. While the movement to some kind of market equilibrium might seem preferable the fact that large numbers of FSU consumers are undoubtedly suffering some considerable hardship is of some concern both from the moral and the political perspective: political in that the large numbers currently in abject poverty could produce social unrest and hence political instability and possibly an end to the whole process of market reform.

However, identifying the number of people in the FSU that are currently suffering real hardship from the rise in food prices is difficult as data on income distribution by different sections of the population and consumption levels of different income groups are not generally available for all except the more economically advanced republics. Bearing in mind that by October 1992 the minimum food basket was calculated to cost 2428 roubles per month, with the average per capita monthly income being around 5000 roubles, 30 % of the Russian population lived in families with a per capita monthly income less than half the average level, ie below 2500 roubles (*Ekonomika i Zhizn'*, 1992). These sections of the population must surely be currently undergoing some considerable hardship resulting in a significant fall in food consumption. One particularly good survey of household expenditures and budgets in Latvia concluded that in the first quarter of 1992 compared to the same period in 1991 the bottom income group, consisting of those with a per capita income below 500 roubles per month experienced a fall in calorific intake of 26 % to just 1789 kilocalories per day. This group did however consist of just 2 % of the Latvian population. More worrying, however, was the fact that the next income group with monthly incomes between 500 and 1000 roubles per head (29 % of the Latvian population) saw calorific intake fall by 12 % to just over 2000 kilocalories per capita per day over the same period (UN-FA0, 1992). Given that Latvia is one of the wealthier FSU states and a large producer of surplus food products these data suggest that similar if not more serious reductions are occurring in other republics. In particular, the populations of the Trans-Caucasian republics and the Central Asian states must be at risk given they have a lower per capita

income than the FSU average, have a large percentage of the population under the age of 16 and also in the case of the Trans-Caucasian republics a large proportion of the population displaced as refugees as a result of inter-ethnic conflict. In the FSU as a whole some 5 million persons are currently classed as refugees due to civil war and inter-ethnic conflict.

Throughout the FSU region certain sections of the population can be identified as being at risk from under-nourishment in 1992/3. In particular, as mentioned above those on fixed state benefits eg pensioners, the disabled, single-parent families and the unemployed have experienced a real fall in living standards. Of this last group in Russia in September 1992 there were an estimated 500 000 people registered as unemployed which is a surprisingly low number, being less than 3 % of the working population. This can be explained by the fact that the unemployment benefit system is as yet under-developed with payments often being either not paid or being delayed and thus there is little incentive for those unemployed to actually register. However, as enterprise restructuring proceeds the number of unemployed is set to rise rapidly as has occurred in Central and Eastern Europe. Assuming a moderate 10 % rate of unemployment, which seems reasonable given trends in other former centrally-planned economies, this suggests that in Russia alone within one year some 7-8 million people could be unemployed and in the FSU as a whole some 14-15 million people. Given the problems in paying unemployment benefit to the current low number of unemployed and the poor state of government finance in all of the FSU states this suggests that a very large number of people could be in real danger of extreme poverty and perhaps even hunger in the coming year. Also at risk are those currently employed in state enterprises but who have not been paid for some considerable time. This group has grown as the Russian Central Bank has tried to reduce monetary emissions through simply not supplying or reducing supplies of banknotes to the regions and republics of the FSU which remain in the rouble zone.

The problem of the poor in the FSU appears to most acute in large urban areas where price inflation has been highest. Table 11 reveals food price differentials between regions of Russia. These data are derived from weekly surveys of food prices in 140 Russian cities conducted by the Russian Ministry of the Economy and show some considerable price variation between cities. Apart from reflecting variations in monopolistic tendencies between regions, the highest rate of food price inflation is in regions where wages are highest, eg in large industrial centres where workers have been able to force high wage rises from employers. In the Ukraine, for example, steel workers and coal miners have been particularly successful in forcing high wage claims, so much so that the wages of a coal miner in May 1992 were some 5 times that of an agricultural worker. In addition quite obviously cities have large populations and relatively few farming opportunities. In these regions the problem is a familiar one of too much money chasing too few food products and hence price inflation ensues. However, throughout the FSU the level of state benefit has constantly lagged behind the

Table 11

Regional price differentials for food products between various cities of Russia (on 28th July 1992).

1. Butter, average price 175.19 roubles

City	Minimum price (roubles)	City	Maximum price (roubles)
Ul' yanovsk	79.22	Petropavlovsk-Kamchatskii	280.0
Noril'sk	100.0	Apatity	270.0
Naberezhye Chelny	120.0	Yakutsk	250.0

2. Vegetable oil, average price 48.12 roubles

City	Minimum price (roubles)	City	Maximum price (roubles)
Ul' yanovsk	15.0	Petropavlovsk-Kamchatskii	141.11
Tambov	18.37	Yakutsk	121.46
Chelny	21.50	Kyzyl	104.33

3. Milk, average price 8.60 roubles

City	Minimum price (roubles)	City	Maximum price (roubles)
Vladikavkaz	1.40	Apatity	18.0
Kyzyl	1.56	Irkutsk	17.39
Nal'chik	1.62	Vorkuta	17.00

4. Sugar, average price 53.08 roubles

City	Minimum price (roubles)	City	Maximum price (roubles)
Shebekino	7.0	Irkutsk	102.0
Lipetsk	7.0	Taishet	100.0
Elets	7.0	Yakutsk	95.0
Orel	9.5	Ulan-Udz	95.0

5. Wheat bread, average price 10.99 roubles

City	Minimum price (roubles)	City	Maximum price (roubles)
Nalchik	1.8	Perm	20.0
Taganrog	2.4	Obninsk	20.0
Shahkty	2.43	Angarsk	20.0
Rostov on Don	2.48	Severodvinsk	20.0
		Taishet	19.2

Source: Russian Ministry of Economy.

retail price index and hence those living on benefits in these large urban centres are those in most danger. Meanwhile those in rural areas generally benefit from lower food prices and most have access to agricultural land on which to grow a significant proportion of their own food needs.

IMPORT REQUIREMENTS AND POLICY IN 1992/3

Grains

Despite the improvement in grain production in the CIS states it seems likely that there will be a continued need to import grain in the 1992/3 season. One primary reason for this is the likelihood that state procurements of grain will be lower than even the low 1991 level due to the impact of inflation on the willingness of farmers to sell to state procurement agencies.

A further large question mark with regard to the need for grain imports in 1992 remains the impact that the recession in the livestock sector will have on the demand for feed grains, which constitutes the largest proportion of grain consumption in the FSU zone, where around 140 Mt of feed grains are consumed annually. The fall in livestock numbers is likely to be largest in the Baltic states due both to the shortfall in domestic grain production and to the decreasing demand for livestock products. Here livestock numbers may well decline by 20 % in the year to July 1993 and feed use by a similar amount. Given the lower level of over-production in other republics it seems unlikely that such a drastic reduction in livestock numbers will in fact occur outside the Baltic region. A fall in livestock numbers of between 8 and 12 % seems more reasonable, with feed use falling by perhaps as much as 10 % as farms rationalise feed use due to higher feed prices. Thus feed demand in the FSU zone as a whole can be expected to fall by approximately 14 Mt in 1992/3 which should reduce import requirements quite significantly.

Increased domestic production of grain alongside the fall in feed use suggests an import requirement for the CIS region in 1992/3 of approaching 25 Mt which is lower than 1991/2 but still rather high. In part the continued high import requirement can be explained by the fact that in 1991/2, production was at a ten-year low in the CIS region and that while imports were only 38 Mt, the actual requirement, had grain credits been available, might have been nearer to 50 Mt. To account for the shortfall stocks were drawn down considerably in 1991/2. Over the course of 1992/3 the newly independent states of the FSU can be expected to want to replenish grain stock levels hence the higher import requirement.

Import requirements for other food products and the need for a clearly defined aid/welfare strategy

Given the great fall in demand for livestock products in the FSU large-scale imports of these products would appear to be inappropriate as they will only serve to distort domestic markets still further. There are admittedly regional shortages of livestock products but an aid programme should seek to co-ordinate the flow of domestic livestock production from surplus to deficit regions within the FSU. Currently such flows are being disrupted by the general breakdown of trade across the FSU zone and by the growing inter-enterprise debt crisis. In this, a triangular trade policy would appear to be the most appropriate with international donors purchasing excess domestic production from surplus regions, eg from the Baltic states, and then transporting these to deficit regions. This policy would serve both to alleviate food shortages and to support the livestock sector which is in deep recession.

The FSU zone is desperately short of facilities for production of ecologically clean baby foods and studies of nutritional standards of the FSU population typically show infants to be severely short of vitamins, proteins etc. Hence the large-scale importation of baby foods in 1992/3 would appear to be a priority. In addition sugar is currently in deficit. Given its importance in preserving private plot production and the fact that production is about on a par with 1991 there will be a need for substantial sugar imports in 1992/3.

In addition to the general requirements for food imports a broader welfare programme needs to be developed to alleviate the widespread poverty currently afflicting large sections of the FSU population. Given that the FSU states themselves lack the financial resources to develop such schemes, western donors should consider funding such programmes directly. Schemes which match those developed by the EC by targeting food aid to disadvantaged groups would appear to be most appropriate as they limit budgetary outlays while at the same time helping those most in need. A food giveaway programme to the needy would probably not serve to distort local markets as currently those on low state benefits in the FSU are outside the scope of effective demand.

CONCLUSIONS

Despite the dramatic turnaround in the availability of food in the FSU states, a large section of the population is experiencing a significant fall in food consumption due to the macro-economic impacts of economic reform. Farms and food industry enterprises have fared little better with the fall in demand for food putting downward pressure on the rate of food price inflation and causing a significant widening of the terms of trade between agriculture/food and other sectors of these economies. Farm and food enterprise profitability is falling rapidly, which is making the restructuring of the sector more difficult. In particular, current attempts to introduce private family farms are faltering as increasing numbers of new private farmers are going out of business. Only

when the economies of the FSU begin to stabilise the macroeconomic environment and, of particular importance, only when inflation is brought to rein will conditions begin to improve. However, governments in the region have thus far had little success in the field of improving the macro-economic environment for consumers or for farmers. Given the continued political and economic chaos in the region the outlook for 1992/3 is for inflation to continue rising, GDP to continue the downward trend and real incomes to fall still further. Demand for food and agricultural production is unlikely to pick up in this environment and hence agriculture and the food industries will remain in deep recession.

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NOTE

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