6. Agricultural Policy

This chapter deals with some of the problems facing agriculture in industrialised countries and compares agricultural policy in the European Union (EU) with agricultural policy in Iceland.

6 – 1 Global Considerations in Agriculture

The first humans were collectors and hunters. Thousands of years ago it turned out that collecting and hunting did not suffice to ensure a stable food supply and agriculture (farming) was born as a profession. Agriculture provides food and fibres, and food production is currently the world's most important production because food is the only thing people (and animals) cannot live without, along with drinkable water and air to breathe. Management in agriculture is as old as agriculture itself. The prehistoric farmers faced decisions on what to produce and in which quantities. Without doubt they also had to decide on what to exchange with their neighbour and what to ask for in return. The family, village or tribal chief had to delegate work. Although modern industrialisation has introduced labour saving machinery and globalisation has involved states and groups of states in agricultural policy decisions, the fundamentals are still the same.

Agriculture has been criticized in many industrialised countries for being too expensive, where farmers have received large financial transfers from consumers and taxpayers. The EU and Iceland are no exception. Many industrialised countries have protected their agriculture from cheaper foreign imports by trade barriers. Furthermore, there has also been criticism of overproduction, which is often "dumped" on the world markets by using exports subsidies. In order to give a better understanding of why agricultural policies in many industrialised countries have developed as they have, with subsidies and high food prices, some words should be said on principles in agricultural economics.

Edgar Thomas wrote his book "An introduction to Agricultural Economics" in the late 1940s. Although there have been advances in economics and farming technology since then, the basic theoretical principles Thomas (1949) presents are still valid. In the first chapter he writes: "Farming is variously described as an art, as a science, as a business, as an industry, and as a way of life". Thomas continues by specifying that agricultural economics are concerned with farming as a

business and farming as an industry. He describes the factors of agricultural production; land, which is fixed by nature; capital, which can be added to if needed; and labour. Thomas does not discuss technology as a separate factor, but as a part of labour because it is labour saving. Thomas describes agriculture under a free market system. At the time only the Soviet Union had a communist system and the decade before Thomas wrote his book Stalin's collectivisation had failed badly, producing famine in parts of that country. According to Thomas, under the free competition system, the prices will be a function of supply and demand, producing equilibrium in food supply. But Thomas points out that there are differences of opinion about the efficiency with which the freely working price system works. Half a century later there are still different opinions on to what extent agriculture should be regulated or left to free market forces.

The territorial or geographical division of labour is the real reason why countries trade with each other. Thomas (1949) refers to the theory of comparative cost and comparative advantage, which states that it is in the interest of the world that countries should concentrate on the production of those goods and services in which they possess the greatest degree of comparative advantage. Applied to any particular country, this means that it is in its own interest to produce those items it can make more cheaply than buy from others, and to purchase from other countries those items it can buy more cheaply than make at home. We should point out that to a large extent agricultural policy makers in both Iceland and Europe appear to ignore the theory of comparative cost and comparative advantage, simply because there are other important factors in formulating agricultural policies than just economics.

In the introduction to "Agricultural Economics", with its large collection of contributing articles from other authors, Peters (1995) poses the question on how agricultural economics are approached. According to Peters, at many universities, the economics of agriculture are studied within the department of agriculture, rather than at the department of economics. This leads to that students tend to focus heavily on scientific and technical aspects of plant and animal husbandry, while receiving less knowledge on economics and how to apply economic theory to agriculture. Many of these students, who are principally agriculturists, become leaders in farming, agri-business and agro-politics and need to understand the broader economic context in which farming operates. Peters also mentions that agricultural economics are often looked upon as sector economics just like labour, transport, health, environmental and regional economics. Although Peters doesn't spend many words on it, he

also mentions the parallels between price fixing policies in the EU to similar discussions in former communist countries. In analysing European agricultural policies, we believe that it is important to bear in mind that the price fixing is a measure that distinguishes agricultural management policies from completely free market production.

Continuing to explain theory behind agriculture, Penson et al. (1996) find that by stating that agricultural economics is applying economic principles to agriculture is too narrow a definition. Wider economic, social and environmental issues must also be considered. It is not only the farming itself, but also the wider range of food and fibre[141] related activity that counts. Penson et al. mention the basics of agricultural economics: the natural resources (land), the human resources (labour) and manufactured resources (capital / machines), and discuss the basics of micro and macro level agricultural economics. They discuss the rationale behind government intervention: support and protect an infant industry, curb market powers of imperfect competitors when necessary to promote social good, provide food security, provide for consumer health and safety, and provide for environmental quality. They also discuss the international issues and contra-indications for government intervention: export subsidies, import tariffs, quotas on farmers, adequacy of food supply, and the movement towards free trade. Although not only applicable to agriculture and food and fibre supply, Penson et al. highlight the macroeconomic policy options: laissez-faire versus a Keynesian intervention. They also say that protectionism in agriculture stems from food security needs and draw attention to that some agricultural protection laws passed during the Great Depression in the 1930s are still in force. What Penson et al. note are key factors in explaining why agricultural policies tend to be more managed and agricultural production more controlled than most other economic factors in the society: there are indeed other factors in food and agricultural production than just economics.

Mounier (1992) shows how abstract agricultural economic theory has developed through the years. He describes four theoretical models used in studying agricultural economics, starting with the physiocratic model from the mid 1700s, which appeared following the mercantilist ideas, then the classical model, the Keynesian model and finally the neo-classical model. To summarise Mounier, the physiocrats find that riches of a country stem from production, such as agriculture, but not from trade

[141] Fibres means materials such as cotton and wool to make clothes, blankets, and carpets.

and accumulation of precious metals. In the classical model, agricultural output (production capacity) depends on the number of agricultural workers utilized and the average productivity of the agricultural worker. In the Keynesian model the agricultural output depends on the capital employed in agriculture and the average efficiency of the capital employed in agriculture. In the neo-classical model the total agricultural output depends on the relation between aggregate input and aggregate output and a function of the production factors, i.e. capital and labour, where the function can change pending the balance of the factors. Mounier finds that modern econometrics are not very suitable to measure agricultural production and the quantitative approach, using volume and productivity, cannot be measured independently without considering factors such as quality.

We believe that a model like the one presented by Albagli (2001) is perhaps better than the models presented by Mounier (1992). Albagli's model shows agricultural production, with inputs being work, climate, nature, the ground, capital and technology, and the output being the production, with an annual variation. We find that what differs between pure economic models, such as those presented by Mounier and the one presented by Albagli, are natural factors, climate and soil. We can point out that colder countries often use the climate to "justify" large-scale agricultural support, and by noting these factors, Albagli touches on some of the economic realities of agricultural production. Icelandic agriculture is more subsidized than the EU, and EU is more subsidized than most southern Less Developed Countries (LDC). Even within the EU Common Agricultural Policy (CAP), member countries with harsher and colder climate enjoy special provisions for their agriculture. In the colder and harsher regions, the economic case against protectionism is even more compelling, yet often these countries have one of the highest economic transfers to the food production sector, rather than simply moving over to cheaper imported food.[142] The different economic models used to study agriculture, such as those described by Mounier (1992) and Albagli (2001), may be very helpful from a pure economic viewpoint, but we find that the decision on agricultural policies is much more a political decision than a question of economics. Agricultural policy makers know the economic facts, but often decide not to adopt the cheapest solution.

[142] In this case it is interesting to compare Europe to North America. Canada has subsidized agriculture at a higher rate than the United States. Today the subsidies have been reduced (in relative terms) and there are no indications that Canadians as a nation are worse off.

Agriculture is more than economics of food production. As food production, it is a public utility, but it is also a social and rural policy. OECD (Agriculture and the Environment in the Transition to a Market Economy, 1994), points out that in most countries agricultural sectors have for a long time been strongly influenced by official policies, which include the achievement of adequate, safe and stable food supply, reasonable prices to consumers, satisfactory income to farmers, balanced regional development, thriving rural areas, and agricultural practices that are beneficial to the environment. OECD (Multifonctionnalité, Agriculture et alimentation, 2001) mentions the concept agreed on by ministers of agriculture in 1998, "that although the primary function of agriculture is the production of food and fibre, agriculture is also important in shaping the countryside, bringing environmental advantages such as conserving the soil, manage renewable natural resources and maintain biodiversity, and to contribute to viable social-economic life in many rural areas". With these words it is clear what OECD agricultural ministers agreed upon, and this is a political justification to continue agriculture in industrialised countries, despite it being more expensive than producing food in LDCs.[143] We fully agree that agriculture's primary function is to supply food and fibres, but we cannot completely agree with the opinion that agriculture brings environmental advantages. Although this is sometimes the case, where farmers cultivate the land, in some other cases agriculture has led to environmental damage, either unknowingly, or because of overexploitation of the land, not to mention environmental changes to the flora and fauna. Examples are the use of pesticides in industrialised countries where insects are an essential part of the nutrition for many small wild animals, and removing the rain forests in tropical countries to make space for cattle farming.[144]

Agricultural economics in a restricted sense are concerned about the business problems of the farm as a unit of industry, and in a social-economic sense it also deals with the relation of agricultural industry to other industries in the national and world economy, such as food processing factories, distribution and retailers (Thomas, 1949). Under the economic system of free competition, supply and demand is supposed to regulate production and prices automatically. If the supply is too little of one product the prices go up and more farmers are attracted to producing it, and vice versa, too large a supply, the prices drop, farmers' incomes

[143] OECD consumers and taxpayers must pay this extra price.
[144] With 6 billion (6 thousand millions) humans on the planet, and still growing, at one point human activity and pollution will reach a breaking point.

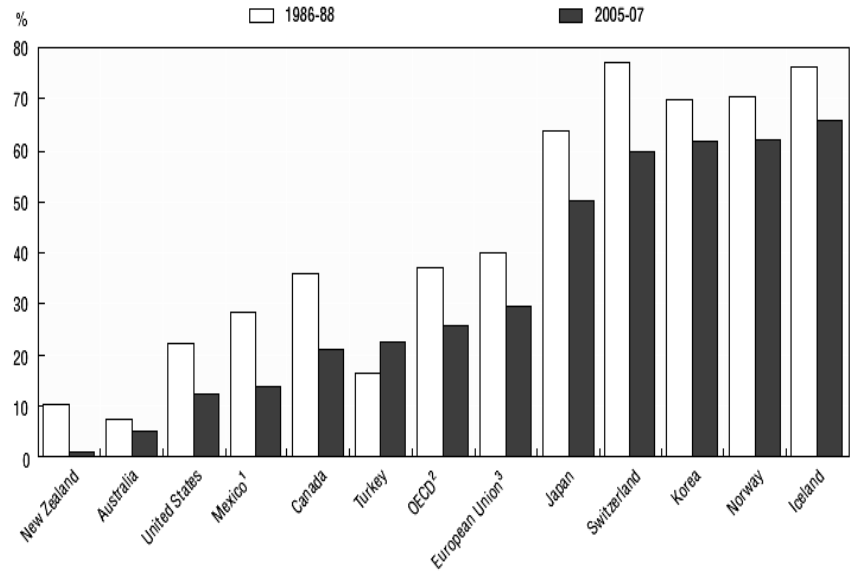
drop, and farmers are pushed into producing other products in search of better profits. But the OECD has pointed out, (Gestion des risques en matière de revenue dans le secteur agricole, 2000), that the lower the protection is, the higher will be the risk for the farmers. Such risk can lead to market failures and can be used to justify intervention, as was the case during the Great Depression. As a broad generalisation, policy objectives in the European OECD countries have tended to be addressed by market intervention and border measures, in particular import levies and export subsidies, supplemented by supply controls on output and, more recently, with direct payments, sometimes linked to land set aside and environmental requirements. The OECD has also highlighted the growing set of issues in international agricultural trade, such as different environmental standards between countries, giving the country with lower standards a competitive advantage. Trade barriers can also stem from differences in labelling, food safety standards and production methods, such as the use of growth hormones. We are of the opinion that agriculture, as food production, should be looked at as a public utility, similar to gas, water, electricity, and banking services, simply because those are services modern society cannot function without. Indeed, most public utility sectors are heavily regulated, if not state controlled.

The OECD has utilized measures such as Producer Support Estimate (PSE)[145], Consumer Support Estimate (CSE)[146] and Total Support Estimate (TSE)[147] to measure the amount of support or subsidy to the agricultural sector. In brief, this is the cost of transfers to the agricultural sector born by consumers' and taxpayers' budgets. The detailed definitions of PSE, CSE and TSE are shown in Annex 2 on pages 250-251. As an example, the total support to agriculture in the OECD countries amounted to approximately USD 300 billion[148] in the year 2000, or close to one-third of the total agricultural production. The variation is big, however, with New Zealand's PSE of 1-3% and Iceland, Norway and Switzerland with a PSE of 60-70%, the EU being at 30-40%. Adding to the PSE and CSE other transfers from agricultural policies in OECD countries, total transfers in the year 2000 were estimated at close to 1.3% of the OECD GDP.[149] This protectionism is coming under increased

[145] Some users of the term prefer to use the word "Subsidy Equivalent" instead of "Support Estimate". Since 1998 the OECD generally uses "Support Estimate". Annex 2 on pages 250-251 shows the definitions.
[146] Idem.
[147] Idem.
[148] Billion meaning thousand millions (1 000 000 000).
[149] Source : OECD.

scrutiny because it distorts international trade in agricultural products and supports agriculture at the expense of other national production. Figure 12, below, shows agricultural support (Producer Support Estimate, PSE[150]) as a percentage of value of gross farm receipts in selected OECD countries and Table 16 on pages 126-127 shows Total Agricultural Support Estimate (TSE[151]) in the OECD in 1995 and 2005.

Figure 12. Agricultural support (PSE)[152] as a percentage of value of gross farm receipts in selected OECD countries.



Note: Countries are ranked according to 2005-07 levels.

1. For Mexico, 1986-88 is replaced by 1991-93.
2. Austria, Finland and Sweden are included in the OECD total for all years and in the EU from 1995. The Czech Republic, Hungary, Poland and the Slovak Republic are included in the OECD total for all years and in the EU from 2004. The OECD total does not include the non-OECD EU member states.
3. EU12 for 1986-94 including ex-GDR from 1990; EU15 for 1995-2003; EU25 for 2004-06 and EU27 from 2007.

Source: OECD, PSE/CSE *database* 2008.

[150] Definition in Annex 2 on pages 250-251.
[151] Idem.
[152] Producer Support Estimate (definition in Annex 2 on pages 250-251).

Table 16. Total Agricultural Support Estimate in the OECD in 1995 and 2005, in millions. (Table continued on next page).

		1995	2005
Australia	USD	1 518	1 961
	EUR	1 161	1 578
	Percentage of GDP	0.4	0.3
Canada	USD	5 704	9 055
	EUR	4 363	7 286
	Percentage of GDP	1.0	0.8
European Union	USD	139 649	150 558
	EUR	106 825	121 142
	Percentage of GDP	1.6	1.1
Iceland	USD	160	277
	EUR	123	223
	Percentage of GDP	2.3	1.7
Japan	USD	97 613	54 098
	EUR	74 670	43 528
	Percentage of GDP	1.9	1.2
Korea	USD	28 562	26 786
	EUR	21 848	21 553
	Percentage of GDP	5.5	3.4
Mexico	USD	- 47	5 963
	EUR	- 36	4 798
	Percentage of GDP	0.0	0.8
New Zealand	USD	192	302
	EUR	147	243
	Percentage of GDP	0.3	0.3
Norway	USD	3 145	3 301
	EUR	2 406	2 656
	Percentage of GDP	2.1	1.1

Table continued on next page

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Switzerland	USD	7 436	6 102
	EUR	5 688	4 910
	Percentage of GDP	2.4	1.6
Turkey	USD	6 214	14 338
	EUR	4 753	11 537
	Percentage of GDP	3.7	3.9
United States	USD	67 930	105 459
	EUR	51 963	84 854
	Percentage of GDP	0.9	0.8
OECD	USD	362 900	375 560
	EUR	277 602	302 183
	Percentage of GDP	1.47	1.05

Source: OECD 2008

Figure 12 on page 125, and Table 16 (above and on the previous page) show that as a general rule agricultural support in OECD countries has declined over the last 10 years. Nevertheless, these amounts are considerable bearing in mind that agriculture in most OECD countries is only a very small part of the GDP. Iceland shows up with PSE and TSE well over both the EU and the OECD average.

It is a bit of a paradox that many industrialised countries restrict farm exports from many less developed countries and at the same time have ongoing aid programs to help the same countries. If industrialised countries stop their subsidies, both directly to farmers as well as for export, and let down their import duties, food in industrialised countries would be cheaper, but at the risk of being more reliant on imports. The explanations for not wanting cheaper food are simple. Politically, industrialised countries do not like to rely on having critical imports controlled by outsiders. Past examples show that this can be a serious risk, such as the oil from OPEC members, which was cut off for coercion purposes in 1973, and the gas from Russia, which was cut off during the frosts in January 2009 because of Moscow's dispute with Kiev. Relying on food imports is even less appealing than being dependant on foreign energy. In our opinion, from an industrialised country's viewpoint, if savings in food prices would have to be matched by an increase in national military-defence budgets to protect real or perceived vital food supplies, the economic benefit would be doubtful. This may be compared

to the technical, political, military, and economic effort the world spends on assuring and protecting oil supplies. The world's military and defence spending is a huge deadweight loss to the world economy, with costs close to 2-3% of GDP, which in most cases is more than spent on agricultural protection.

According to the FAO study, European Agriculture, Policy Issues and Options to 2000, (L'Agriculture Européenne: Enjeux et options a l'horizon 2000; published 1991, directed by Nikos Alexandratos), it is pointed out that both in Western Europe and in North America agricultural support policies have led to overproduction, imbalances on the markets, and commercial conflicts. According to FAO[153], agriculture's share in GDP in both Europe and North America is inferior to the manpower it employs, without an exception. In some cases the difference is a few percent, such as in Belgium and Luxembourg, where the farmer (agricultural worker) produced 80% of the average working capita, and in some cases, such as in Portugal and Spain, the average farmer (agricultural worker) produced only 33-35% of the average working capita, with Iceland being at 76-77%.[154] We find that these figures are important in showing that it should be possible to either increase labour efficiency in agriculture, or to employ some agricultural workers in other professions were their production share of GDP would be higher.

From an economic perspective, Winters (1995) points out that within OECD countries subsidized agriculture competes with non-subsidized industries for both capital and manpower. If agriculture is stimulated when there is full or almost full employment, other sectors contract. Agriculture may also attract proportionally more capital, at the expense of other production. He states that OECD countries' agricultural support increases OECD food prices, wastes resources by over-expanding agricultural output in high-cost areas and curtails it in low-cost ones, diverts resources from industry and services, reduces competitiveness in manufacture, discourages LDCs' agriculture by reducing world prices, and makes LDCs more volatile. He also points out the reasons and consequences of agricultural support, notably the aggregate economic welfare and welfare costs, distribution of income benefiting farmers and

[153] Tables 2.1 and 11.1 in L'Agriculture européenne: Enjeux et options a l'horizon 2000.

[154] FAO figures. However, Tables 23 and 24 on pages 165 and 166 in our study indicate that an Icelandic agricultural worker produced 63% of the average worker in 2005, 64% in 2000, 53% in 1990, and 65% in 1980.

landowners, national security, and that intervention leads to deadweight losses.

There are wide differences in the estimations on how big total losses from agricultural support are. Estimates for the same areas (EU and/or USA) vary from around zero and up to billions of Euros (Dollars) per year. Although there is a general welfare loss, landowners benefit from the support policies. As noted by Winters, the loss calculation from protectionism in agriculture is in its simplest form:

> (Producer gains) minus (Consumer losses) minus (Taxpayer losses) = deadweight loss for the economy as a whole.

Broader benefit/cost studies of international agricultural economics influence the policy debate. Winters (1995) notes that the quantification of the deadweight losses from agricultural support are relatively imprecise, but considers that in Europe losses of approximately 1% of EU's GDP looks plausible.

According to Gardner (1992), proponents of trade liberalisation have pointed out that something like USD 40 billion is a yearly world-wide deadweight loss caused by market interventions by countries which support farm product prices. But Gardner finds that these estimates lack a solid, integrated basis in theory and econometrics. Gardner says that the theory of agricultural policies has run increasingly toward emphasis on incomplete markets and other market failures which could justify intervention, but which is ignored in these studies, and the deadweight loss calculations are simulations from supply-demand models that are of questionable applicability. Gardner concludes that when accumulation of data is sufficient, economists are swayed regardless of theory and cast aside any theory obviously inconsistent with the data, but to be powerful, the data must be sufficient to tell its own story. According to Gardner, changes in opinion on the farm problem have occurred on the basis of data evidence, but econometric investigation did not make the difference. We have to agree with that data evidence cannot be changed and the theory must suit the facts. Nevertheless, estimating worldwide deadweight losses from agricultural support is not an easy task. We do, however, note that there is a deadweight loss. The question is more about how large it is, rather than if it is there.

In support of trade liberalisation, Rayner et al. (1993) discuss the net economic welfare gains from agricultural liberalisation. They find that unilateral liberalisation produces smaller gains than if all industrialised countries would liberalise. The figures they mention when

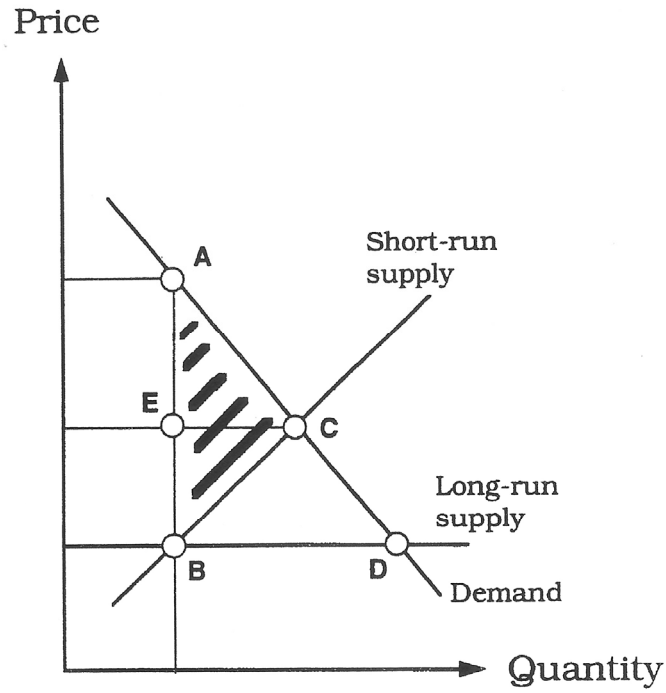
estimating the savings from liberalisation are measured in billions of dollars, which supports what others have said, that there are substantial savings to be made from agricultural trade liberalisation, although the actual estimated figure may vary. Interestingly, New Zealand liberalised their agricultural sector two decades ago, which resulted in increased efficiency without a collapse of markets. In line with Rayner et al. (1993), New Zealanders are unhappy with the lack of success World Trade Organisation (WTO) negotiations on freer world trade in agricultural products have had. Although New Zealand's production is now more efficient than before, it is difficult for them to compete internationally with subsidized production from other countries.

Gylfason (1995) points out that the average estimate of the total transfers from European consumers and taxpayers to farmers and landowners in the 1980s suggest a gross cost of 2% of the European GDP and a deadweight loss of about 1%. Gylfason (1995) finds that these figures are likely to be too low because they are based on short-run partial-equilibrium analysis that do not reflect the long-run consequences of favouring agriculture and thereby discriminating against other parts of the economy. Gylfason (1995) finds that when assessed with general-equilibrium techniques, the long-run gains from transferring labour, capital, and other resources from agriculture to industry, trade, and services, where productivity is higher, can in the long-run reach 3% of GDP. Gylfason (2003 Klagenfurt Conference and 2004 Empirica) points out that OECD consumers and taxpayers spend almost 1 billion Euros on agricultural protection per day. Gylfason (2008) also points out that the EU CAP is, nevertheless, less burdensome today than in the mid-1980s, but still costs over 1% of GDP.

Harberger's triangle[155] refers to deadweight loss caused by government intervention into a "perfect market" in the form of price floors, price caps, taxes, tariffs, or quotas. The triangle comes from a price/supply graph at the intersection of the supply and demand curves being cut short so that consumer surplus and producer surplus are also cut short. The loss of such surplus, not recouped by other means (e.g. tax revenue) is the deadweight loss. Gylfason (1995) shows how the deadweight welfare loss from a trade distortion is larger than initially expected (Figure 13 on next page).

[155] Named after U.S. economist Arnold Harberger.

Figure 13. Deadweight welfare loss from trade distortion



Source: Gylfason (1995)

In Figure 13 above, the short-run deadweight welfare loss is represented by the triangle ABC. However, when the long-run supply is theoretically indefinitely elastic, the deadweight welfare loss is the larger triangle ABD. Needless to say, such large deadweight losses are not limited to agricultural support policies, but apply to all interventions.

The World Bank has often received criticism (see e.g. Jones and Hardstaff (2005), "Denying democracy. How the IMF and the World Bank take power from the people"). The criticism is for being too much of an international businesslike capitalist institution heavily influenced by richer nations. The World Bank is aware of this image problem and this should not be seen in "black and white". The World Bank has undertaken academic research or promoted several studies on agricultural liberalisation and the views presented diverge drastically. Although agricultural liberalisation has been successful in some parts of the world, such as in New Zealand, not everybody thinks liberalisation is a universal success. Deininger and Olinto (2000) find the effects can be negative and mention African experiments (e.g. Zambia) as an example. Dorward et al.

(2005) also arrive at a similar conclusion that African agricultural liberalisation has not always been successful. In a European scenario, Matthews and Walsh (2005/2006) find that industrial liberalisation scenario generates positive gains to Ireland, while agricultural liberalisation would have a slightly negative effect on the overall economy. According to Matthews and Walsh (2005/2006) the negative effect from agricultural trade liberalisation on Ireland would arise because gains in allocative efficiency from lower agricultural protection would be offset by the loss of net transfers from the EU agricultural budget as export subsidies were eliminated. GATT/WTO talks have often been aimed at transparency and replacing non-tariff barriers with tariffs. Ingco (1995) notes that tariff barriers are a step forward and create transparency, but imposing too high tariffs does not solve trade problems and are therefore not always a good replacement for non-tariff barriers. Ingco (1997) finds that: (1) The changes in welfare are significantly affected by the structure of trade and distortions in the domestic economy. (2) Although many economies are hurt by increases in world prices, losses in terms of trade are small relative to total GDP. Only in a few countries does the estimated welfare change constitute more than 1 percent of GDP. (3) In several countries, the distortion effects are significantly larger than the terms-of-trade effects. In some cases, the distortion effects work in opposition to the terms-of-trade effects and are large enough to reverse the sign of the net welfare change. In short, removing policy distortions could convert the small loss in terms of trade to potential gains. Nevertheless, many less-developed, net food-importing countries did not use the WTO Uruguay Round to support domestic efforts at trade reform. As most studies show, most gains from multilateral liberalization come from the countries' own liberalization efforts, so countries that failed to liberalize their trade policy lost the opportunity for gains.

Mehta and Narsalay (1999) say that there is no consensus on the hypothesis that trade liberalisation on its own can lead to poverty reduction and it needs to be reiterated that in most developing and poor countries governments are often unstable and unable to implement pro-people policies due to corruption, nepotism, inertia, etc. Mirzaei (2006) says: "The impact of globalisation on poverty is a subject where there are strongly held views but relatively little detailed empirical evidence, particularly at the micro level. Some view globalisation as a panacea which will reduce inequality and contribute to the elimination of poverty on an international scale, while others are deeply suspicious of the process, believing that it will lead to further concentration of the benefits of growth, both inter- and intra-nationally. On both sides the links

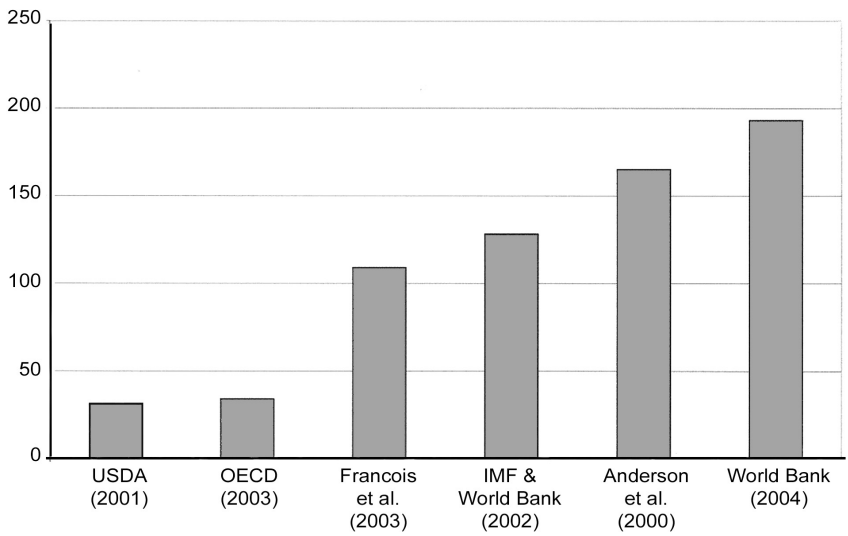
between globalisation and poverty outcomes are rarely established empirically, tending rather to be assumed a priori. Some of the most abject poverty in the world is concentrated in farming communities." Temu and Winter-Nelson (2001) note: "If commodity market liberalization is to improve incentives for production it must reduce the total costs of transforming products through space, form and time, and the costs of arranging transactions in complete agricultural systems. While liberalization often leads to reduced costs in output exchange, it can remove opportunities for linked input-output transactions that served to lower the costs of providing finance in state-controlled markets. Assessments of liberalization that focus on output exchange alone obscure or ignore the impact of rising transaction costs in finance." Winters (2000) and Winters (2002) notes that controversy rages about the link between trade liberalisation and growth. He notes that there are many opinions claiming that liberalisation is positive, but there is no absolutely clear link between liberalisation and poverty, neither one way nor the other. Liberalisation needs to be done with careful support policies in order to reach its aims.

Salazar and Martin (1993) are positive about agricultural liberalisation and find that by adopting the Dunkel package (Uruguay Round, GATT (now WTO)) global trade liberalization would give developing countries 60 billion USD gain a year or more, even without productivity gains stimulated by rising world prices for agricultural commodities.[156] With productivity gains taken into account, total gains from partial reform would be more than 130 billion USD per year for non-OECD economies. Hertel et al. (1999) are also positive on liberalisation. They find that the global economy would gain 60-70 billion USD per year from 40% cuts in market price support and domestic subsidies to producers. Van Tongeren, (2005) summarises the different findings as shown in Figure 14 on next page. The problem we find with Figure 14 is that it shows assessments made be economists in the more developed world. As shown above, it appears that some observers of and/or from Less Developed Countries (e.g. Deininger and Olinto (2000), Dorward et al. (2005), Mehta and Narsalay (1999), Mirzaei (2006)), are more hesitant about liberalisation than those who are from OECD welfare states (e.g.

[156] Here we should stop one moment and think. Are rising food prices a good thing? The answer is: For farmers and net food exporting countries, yes, as long as the rises are because of increased demand but not because of increasingly expensive input factors or taxation. However, rising food prices are never good for consumers. Some individuals can pay a high price in order to show net welfare gains for a society as a whole.

USDA, OECD, IMF, and the World Bank's economists). We ought to remind the reader of the uncomfortable fact that for many contemporary economists the words "hunger" and "food prices" are just academic expressions, perhaps because of the tremendous successes the food (overproduction) policies in the EU and the USA have had over the last half-a-century. Many of us were not born when these policies were introduced out of necessity.

Figure 14. Estimated yearly world welfare gains from full agricultural liberalisation (in billions of USD)



Source: Van Tongeren (2005)

With all this being said about waste of resources, we should recall that reduced protection and increased liberalisation have risks. In support of how serious food production and food shortages are, the publications initiated by Dreze and Sen (1989 and 1990) on hunger highlight many aspects of famine and chronic food shortages. Dreze and Sen discuss various political, economical and social effects of hunger. Their work is somewhat focussed on those parts of the world which were struggling to feed themselves during first decades of the second half of the 20th century in Asia and Africa. During that period there were famine problems amongst other in India, China and parts of Africa. Here it is interesting to note the difference between famines per se, and permanent malnourishment amongst the poor of a population. Food shortage does not necessarily mean no food at all. Food shortages push prices up and

the poor will starve or will be malnourished, as they cannot afford the variety of food human bodies need. In some countries it is also the family hierarchy that decides who in a poor family gets the biggest share of the nutrition available. We should perhaps add, however, that government intervention is no guarantee for food and nutrition, as the central planning of the communist regimes in the Soviet Union and China in the 20th century have shown.

In our opinion, low food prices are ideal, but guaranteed supply of food is of higher priority. We find that the most common causes of famines are: (1) war with its consequent disruption of production and supply (still rampant in parts of Africa, - and still within living memory in parts of Europe), (2) failed government policies (e.g. in the Democratic People's Republic of Korea[157] in the mid 1990s), (3) food and crop diseases (e.g. as the potato disease in Ireland in the mid 19th century), (4) when the food requirements of an increasing population exceeds the food production capacity of the land (which is not yet a worldwide problem, but increasingly a local problem in some less developed parts of the world[158]). Although local famines have happened throughout history, a global famine in modern history is unheard of. Food production in the world is unlikely to cease in one go, leading to extinction of life, and reduced food supply will only hit those with less financial means. Since governments generally feel responsible for the welfare of their citizens, they usually want to ensure that everybody gets food. If there is short supply of food, rationing can be introduced in order to ensure that not only the rich can eat, but to make sure that everybody gets something. Rationing is often accompanied or supplemented by an illegal black market with higher than official prices. In order to avoid the situation of short food supplies, most governments have taken measures to protect agriculture, and in particular that part of it which deals with food

[157] The Democratic People's Republic of Korea is commonly known as North Korea.

[158] Ice ages have come and gone, plagues and diseases have come and gone, and species have come and gone. The only new thing under the sun is the extremely rapid growth of the human population over the last 100 years. If this exponential population growth is not reined in through increased education and changed cultural attitudes, it will end in a disaster. When nature decides it is time for a mega-death of a species, it is not the nice way through birth control, but through death by starvation, disease and exhaustion. According to the UN Population Division, the human population was approximately 1 billion in 1800, 1 ½ billion in 1900, 6 billion in 2000, and is projected to be about 9 billion by 2050.

production. Steps such as those outlined in the treaty on the EU, or the Icelandic agricultural law, are examples of such precautionary measures.

Producing and storing food reserves costs money and this must be paid for. Individuals often store some food in their homes at their own private expense, and governments often maintain food reserves financed with taxpayers and consumers money. There cannot be much discussion on the necessity of maintaining some food reserves in order to prevent human catastrophes in case of natural or man made disasters, such as animal or crop diseases, draught, war, etc. But what is generally open to discussion is how big the reserves should be, and how to finance and dispose of overproduction. Financing a slight overproduction of food is similar to paying an insurance premium against disasters. In theory, supply and demand regulates itself when left to free market forces, leaving no unsold surplus production. But a temporary imbalance in the markets can lead to shortages, which in the case of food is not acceptable. Consequently, some government intervention is needed to finance the overproduction or "food insurance" by buying surpluses and storing them.

In the light of Winters (1995) and Penson et al. (1996) comments on the arguments favouring protectionism, we should note that it is not only import restrictions that can be imposed by national governments to protect national food supply, but export restrictions can be applied also. Import restrictions are usually intended to keep domestic food prices high to support local producers, but export restrictions are the opposite, usually intended to keep domestic food prices low so the local population can better afford the food. After several years of slowly but steadily falling food prices, in the years 2007 and 2008 the prices went somewhat up again. This was caused, amongst other, by increased fuel prices, food producing agricultural land being diverted to grow bio-fuels, and increased demands from the world's ever growing population for food and fuel[159]. The reduced supply caused particularly rapidly rising world prices on grain and rice, which prompted some countries to ban or restrict its export to ensure that their own, but less well off population, would have adequate food supply. Such an export ban is a strong argument that rich industrialised countries might not always be able to buy on the world markets the food they want in case of large and urgent need. Needless to repeat, food is different from any other goods traded by man, simply because people cannot survive without it. If the supply is too low and the

[159] E.g. in China, where increased wealth promotes increased meat consumption, but meat production requires more grain to feed the livestock than if Homo Sapiens ate the grain directly.

food is not produced at home, it will cause a conflict, - in a worst case an armed conflict.[160]

From a global perspective, the ongoing disparities between industrialised countries and less developed countries (LDCs) are a continuing and growing problem. Some LDCs have a population growth that is faster than their GDP growth, which leads to increased poverty, whereas in industrialised countries the opposite is the case. Agriculture in LDCs is labour intensive, but wages are low. In contrast, agriculture in industrialised countries uses much machinery and is capital intensive, but uses little labour. The labour in industrialised countries is more expensive than in LDCs. Consequently, it seems logical to push farmers in industrialised countries into more productive professions than farming, and in fact the farming community in industrialised countries has been on a slow but steady decline for many decades. In LDCs the effects of a free and non-subsidized trade would be different than in industrialised countries. Dumping of subsidized food exports from richer countries on the markets of LDCs would stop. Most countries don't need cheap or free food, but an economically viable production of their own. LDCs would therefore have to increase their own food production and thereby create new jobs and employment at home. But the larger markets for exports and own consumption of home-grown food would initially push food prices in LDCs up, until equilibrium would be reached. Cheap subsidized imports ruin LDCs farmers' jobs with social-economic consequences. This is one of the reasons the WTO talks on increased free trade are running into difficulties.

Adam Smith's (1723-1790) statement: "It is the maxim of every prudent master of a family, never to attempt to make at home what will cost him more to make than to buy..." makes economic sense in an ideal and peaceful world, but from a political, strategic, and security viewpoint,

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[160] Gylfason (1995) finds that a national security argument is not very convincing and states that even during World War II entire countries were not cut off from foreign food supplies. In its strictest sense it is true that entire countries, according to their pre-hostilities borders, were not entirely cut off, but during the Second World War (The Great Patriotic War) many areas nevertheless suffered very serious food shortages, especially large cities, occupied, and besieged areas (e.g. Leningrad), and even parts of the European Western front (e.g. parts of France). During the Vietnam War, the United States made efforts to destroy North Vietnamese rice crops in the early 1960s by the use of chemicals. Even in more recent times, during the Yugoslav War of Disintegration during the 1990s, cutting of the food supply was just as efficient method of political coercion as artillery shelling, e.g. Bihac, Central Bosnia, and Sarajevo (see e.g. various comments on food supplies in Bjarnason (2001) and (2007 reprint)).

where food could be used for coercion or as a weapon, the policy makers have to consider more than pure economics. Moving production of food and other goods out of richer welfare states to LDCs may be taken by some as either exploiting cheap labour in the LDCs or as creating unemployment in the richer countries, or both. Thus we are facing a problem from both an economic and social point of view. Nevertheless, we believe that creating food-manufacturing jobs in LDCs suffering from endemic unemployment problems would be a good sign. Consequently, as there would be less employment in industrialised countries' agriculture, the newly unemployed farmers in the richer countries would have to change over to other more profitable production, - or accept lower wages in order to compete with cheaper imported food. Because of labour unions the latter case of lower wages for farmers is almost impossible to achieve. Changes will be painful, both in industrialised countries and LDCs. As such, changes may take a very long time.

Although the idea of importing food to industrialised countries may sound tempting, it is more complicated than that. Climate is a factor that influences heavily which agricultural production is most suitable. Bananas can be grown in Icelandic greenhouses, but being close to the Arctic Circle, Iceland is certainly not the ideal place to grow tropical fruits. Similarly, trying to produce reindeer meat in Africa in some sort of air-conditioned farms, instead of in Lapland or Greenland, would be a rather futile attempt. The reader ought therefore to keep in mind that liberalised trade under fair competition benefits consumers (every single person in the world is a food consumer), whereas a simple statement that all food should be imported to industrialised countries is over-simplified and far from correct. Food production and food trade is not only a question of sufficient calories to consume, but also a question of an appropriate variety to fulfil both nutritional requirements and consumer choice.

The literature reviewed on agricultural policies almost universally indicates that agriculture in industrialised countries such as EU and Iceland, as it is managed today, is unnecessary wasteful and the production could be cheaper. Data also shows that in industrialised countries, farmers add less per worker to the GDP than the average of other professions. We have not found much literature arguing for how to finance the food supply guarantee. It seems that most contemporary authors have not personally suffered food shortages and consider it more as an academic issue rather than life threatening. The question of absolute guaranteed food supply for all the population under all circumstances regardless of price, because possible starvation is not even considered a

possibility, seems to be left out when agricultural policies in many industrialised countries are criticized. From a political-economic viewpoint, the discussion on the imperfection of markets and market failures is often forgotten, possibly because it hasn't happened in industrialised countries since the Great Depression and the Second World War, while the focus seems to be more on the waste and how to get food prices down. We are of the opinion that it is excellent to get the food prices down, but at some point there could be a risk of market collapse if pressed too far, or in the case of imports, a supply disruption would have drastic and perhaps also costly consequences. This is one of the reasons why politicians and practitioners pay little more than lip service to the criticism. The literature suggests that although agriculture is an economic activity, there are other factors such as ecology, social issues, safe and secure food supply, as well as rural culture and tradition which have to be considered. We find that there is a universal lack in the literature on how to reduce the waste and improve economic efficiency while still guaranteeing safe and secure food supply. In other words, there is criticism, but few remedies. It is also interesting to note that the harsher the climate, such as in Iceland, the higher the agricultural subsidies, which for the purpose of this study indicates that although the EU CAP might be wasteful it still appears more efficient than Icelandic agriculture. Our overall impression from the agricultural literature is that the facts on production and economics are quite well known, but the question is more what policy managers wish to do. This is in contrast to management of fisheries (Chapter 7) where the facts on fish stocks and sustainable yield are not known for certain.

6 – 2 EU Common Agricultural Policy (CAP)

The EU's Common Agricultural Policy (CAP) is one of EU's most important common policies. It was provided for in the original treaty on the European Economic Community (EEC) in 1957 (Treaty of Rome), the first mechanisms were adopted in 1960 and it came into force in 1962. The CAP has been an integrated part of the European Communities (now European Union) ever since. The objectives of the CAP, as laid out in the treaty, are to:

(1) Increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilization of the factors of production, in particular labour,

(2) Ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture;

(3) Stabilize markets,

(4) Assure the availability of supplies,

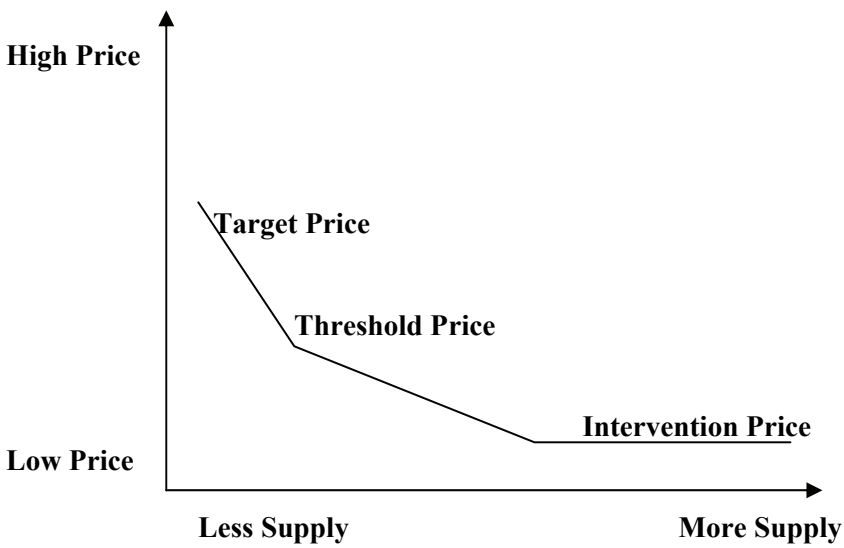
(5) Ensure that supplies reach consumers at reasonable prices.

A common organisation of EU agricultural markets is established, which includes common rules on competition, compulsory co-ordination of the various national market organisations and a European market organisation. This includes in particular regulation of prices, aids for the production and marketing of the various products, storage and carryover arrangements and common mechanisms for stabilising imports or exports. There should not be any discrimination between producers or consumers within the Community. Agricultural goods are supposed to flow freely within the EU, unhindered by any member state's trade barriers and unhampered by member states' national subsidies or administrative regulations, which might limit or distort intra-community competition. But this is not a fully free trade system based on market principles because the European Council (EU ministers of agriculture) sets most prices. These set prices include:

* Target price, which is the price it is hoped that farmers will obtain on the open market.
* Threshold price, which is the price Community imports are raised by when world prices are lower than EU prices.
* Intervention price, which is the price the EU will take products off the market by buying it up.

The price support system is very costly to finance, and the CAP absorbs around 50 billion Euros per year[161], which represents almost half of the EU yearly budget. Figure 15, below, shows that prices on agricultural goods in Europe cannot go below the intervention price, in contrast to a freely flowing price-supply curve where theoretically the greater the supply the lower the price.

Figure 15. The CAP price support system.



The CAP has reached its original objectives with brilliant success. EU farmers are not any worse off than other Community manual labour, the food supply is guaranteed with vast reserves, and almost all Community citizens can afford to buy and eat food, although, theoretically, the food could be somewhat cheaper. Despite the success, some of the original objectives of the CAP have gone a bit overboard. Agricultural efficiency has increased greatly, and farmers' incomes have grown similarly to other sectors, and questions are raised why the taxpayers must support farmers. The Community, as it was in 1957, was a net importer of food, producing only about 85% of its needs. Today, the EU is a net exporter, producing about a quarter more than it consumes.

[161] E.g. 47 billion Euros in 2005 and 53 billion Euros in 2008 (including the EU enlargement in 2007).

Some food surpluses are stored and accumulate, and other are exported, but because world prices are determined by supply and demand, the EU has to subsidize its exports, the EU prices usually being higher than the world prices. These export subsidies have to be paid by the EU taxpayers. At the same time, they undermine food producers outside the EU, who do not all benefit from the same guaranteed prices the EU farmers enjoy. In other words, by importing certain types of food, the food consumed in the EU could be cheaper. It appears to be the unwritten objective of the CAP that the EU will not become dependent on outside suppliers, - the authors and signatories of the Treaty of Rome (1957) all remembering very well the food supply problems caused by the Second World War.

In working out the CAP, account is taken of the particular nature of agricultural activity, which results from the social structure of agriculture and from structural and natural disparities between the various agricultural regions, the need to effect the appropriate adjustments by decrees, and the fact that in the member states agriculture constitutes a sector closely linked with the economy as a whole. The CAP is active as such and a number of measures have been taken to lower prices, diminish the surpluses, breaking the link between overproduction and payments to farmers by taking up direct non-production related payments, and allowing selected preferential imports.

From the mid 1960s and throughout the 1970s financial assistance was provided for the restructuring of farming, aiding farm investment, aiming to ensure that farms developed in size, management, and technology skills so that they would be adapted to the economic and social climate of the day. Some human and territorial elements were introduced in the form of assistance towards early retirement and vocational training and specific support measures for less favoured areas. By the 1980s, the EU had to contend with almost permanent surpluses of the major farm commodities, and as mentioned above, some were exported with the help of subsidies and others had to be stored or disposed of within the EU. These measures had a high budgetary cost, distorted some world markets, did not always serve the best interests of farmers and became unpopular with consumers and taxpayers. Consequently, in 1992 important reforms were agreed on which involved reducing support prices and compensating farmers by paying them direct aids. Several rural development measures were introduced, notably to encourage environmentally sound farming. Production limits helped reduce surpluses and farmers had to look more to the market place, while receiving direct income aid, and to respond to the public's changing priorities. This shift of emphasis in the CAP entered a new phase with agreement in 1999 on the so-called “Agenda 2000”

reforms. These reforms reinforced the move to make farmers more reliant on the market and improved incentives to farm in an environmentally sensitive way. They added a comprehensive rural development policy encouraging many rural initiatives while also helping farmers to diversify, to improve their product marketing and to otherwise restructure their businesses. The budget available to the CAP was also set out several years in advance, thus allowing farmers to plan ahead with more certainty.

For many years there have been talks to fundamentally review the CAP. Although agriculture only counts for about 2.1 % of the EU GDP and about 4.3 % of the EU employment (year 2000, Table 4 on page 45)[162], the farming lobby is politically rather strong with almost 18 million people in 2005, including family and non-family agricultural labour force.[163] The CAP criticism remains the unnecessarily high prices and the surplus production, although the surpluses are smaller today than they were one or two decades ago. The fundamentals of the CAP as laid out in the original treaty are not likely to be changed, but the implementation is likely to develop further over the coming years in order to accommodate some of the critics. It seems to be that the more often the CAP is changed or reformed, the less it changes in reality[164].

The European Agricultural Guidance and Guarantee Fund (EAGGF) was set up in 1962 to finance the CAP. It had two sections, the Guarantee Section and the Guidance Section. The Guarantee Section financed expenditures on agricultural market organisation, rural development measures that accompanied market support, some veterinary expenditure, and CAP information measures. The Guidance Section financed rural development expenditure not covered by the Guarantee Section. As of 1 January 2007 the role of the EAGGF was essentially split into two, the European Agricultural Guarantee Fund (EAGF) and the European Agricultural Fund for Rural Development (EAFRD). The funds' financial commitments are shown in Table 17 on next page.

[162] Eurostat 2009 preliminary figures indicate a number close to 1.4%, but there is a slight difference between sources.
[163] Eurostat survey on the structure of agricultural holdings.
[164] The French saying: « Plus ça change, moins ça change » is very applicable, (the more it changes, the less it changes).

Table 17. EAGF and EAFRD financial commitments for 2008 in millions of Euros[165]

Administrative expenditure of agriculture and rural development policy area	130
Interventions in agricultural markets	4 032
Direct aids	36 832
Rural development	12 927
Pre-accession measures in the field of agriculture and rural development	85
International aspects of agriculture and rural development policy area	6
Audit of agricultural expenditure	-342 [166]
Policy strategy and coordination of agriculture and rural development policy area	31
Administrative support for Agriculture Directorate-General	N/a
Total	**53 701**

Source: EU 2008.

[165] Rounded off to nearest million.
[166] Minus indicates that some expenses were recouped.

6 – 3 Debate on European Agricultural Policy

The European Common Agricultural Policy (CAP) has succeeded in its goal to provide ample food supplies at affordable prices. Nevertheless, a large part of the academic literature on the CAP is negative, criticising it for being too wasteful and too expensive, with costly subsidies, international trade conflicts, overproduction and rather low incomes amongst farmers. Wasteful and expensive is relative and the European Commission (How does the European Union manage Agriculture and Fisheries, second edition, 1998) states that with a 1997 CAP budget of 41,3 billion ECU[167], this is only 2 ECU per week per citizen, which the Commission considered a small price seen in relation to the CAP benefits of safe, secure and varied food supply. This amount can be calculated further. Two Euros per week equals 100 Euros per year, which equals approximately 400 Euros per average family per year. In order for a European taxpayer to pay 400 Euros, he/she has to earn 600-700 Euros pre-tax. For a "Eurocrat"[168] earning 50-100 thousand Euros per year net of tax, this is a small amount, but for a labourer 600-700 Euros is a very substantial amount. That being said, the European food supply is for all practical purposes safe and secure, but variety is not assured by promoting some production at the expense of another. As a tribute to the system, diseases and problems have emerged, such as Mad Cows Disease or dioxin in the milk, but the system has so far easily coped with them and there have been no consequent food shortages, famines or starvation. A criticism is of course that diseases or poisoning were not stopped earlier, possibly because of national governments trying to cover up problems in order to preserve their markets.

Of a total yearly CAP budget of around 50 billion Euros, (about 100 Euros per EU capita), the benefits of the payments from the EAGGF (EAGF and EAFRD as of 2007) have caused some political asymmetries. When calculated as Euro per capita the 2005 figures are somewhat surprising as can be seen in Table 18 on next page.

[167] ECU = European Currency Unit. ECU eventually became the Euro upon adoption of the EU single currency.

[168] Increasingly common term used to designate a civil servant (bureaucrat) working for the EU.

Table 18. EAGGF payments per country and per capita in 2005.

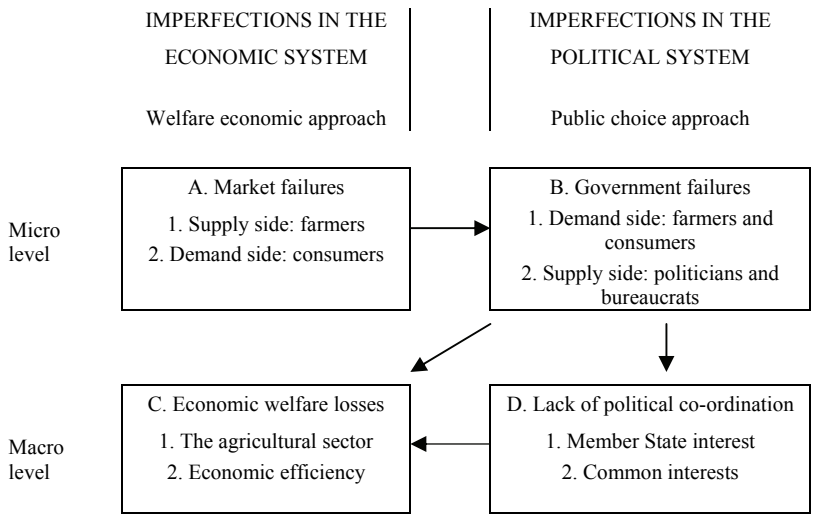
	Payments per country (Euros)	Payments per capita (Euros)
Austria	1 235 677 523	152
Belgium	1 034 518 724	99
Czech Republic	281 803 036	27
Cyprus	33 683 269	46
Denmark	1 224 924 634	227
Germany	6 503 133 482	79
Estonia	27 049 803	20
Finland	902 887 172	173
France	9 968 932 409	166
Greece	2 753 988 810	249
Ireland	1 806 207 799	448
Italy	5 499 732 003	95
Latvia	27 536 174	12
Lithuania	127 106 465	37
Luxembourg	44 968 753	100
Hungary	514 906 664	51
Malta	865 923	2
Netherlands	1 256 334 767	77
Poland	877 969 206	23
Portugal	891 857 592	85
Slovakia	114 400 011	21
Slovenia	32 942 152	16
Spain	6 406 487 931	152
Sweden	956 282 834	106
United Kingdom	4 215 046 455	71
EU 25	**46,7 billions**	**102**

Source: European Commission & Eurostat (2006). Per capita calculation by author (2006).

The variations in payments shown in Table 18 above are interesting for government finances, but they do not touch the consumers directly, since these payments are to the countries' farmers but not to the consumers as citizens. With direct payments to farmers, which are an increasing trend both in Iceland and the EU, there is no way anymore to conceal the financial transfers from the taxpayers to the farmers. As noted by Kjeldahl (1994), this may lead to increased political opposition to these financial transfers. The European Commission states that it is the farmers

who are the primary beneficiaries of the CAP, but the consumers also benefit in the form of safe and secure food supply at "affordable" prices. Affordable prices are, however, not the same as being as cheap as possible. CAP policies and prices are based on political decisions, but not on economic formulas. Berkhout and Meester (1994) note that the CAP is a part of social policy, reallocating the agricultural budget among farmers, while Nedergaard (1994) adds that the net welfare costs, budget costs, environmental costs and surpluses dumped on the world markets have had serious disadvantages. With these facts in mind, in trying to answer the question why the CAP continues in this somewhat negative path, Nedergaard (1994) sees that the starting point has always been "market failures". He finds that "government failures" are an overlooked issue. Nedergaard (1994) presents his model of analysing the European agricultural policy :

Figure 16. Nedergaard's model analysing EU's agricultural policy



Source: Nedergaard (1994)

Nedergaard (1994) and Keeler (1996) find that the bargaining procedure is a reason for the CAP decisions. Although a qualified majority in the Council of Ministers would be enough, there is a tradition for taking unanimous decisions on the price supports for individual products. The result is time-consuming negotiations, since every country

can practically veto the outcome. Higher price support is the result and the budget expenditure increases. An inter-disciplinary school of thought in political science and psychology, "political psychology", can explain this behaviour to a certain degree. Contrary to private business leaders, politicians and government bureaucrats do not receive personal remuneration based on financial gains or savings they obtain. They attend a meeting with the purpose of achieving a peaceful negotiated consensus where personal financial gains are not a factor. Given the way human nature is, this makes them somewhat complacent. In general terms this indicates that politicians will be more generous with public money than private individuals and private enterprises are with their own hard earned funds. Politicians are usually motivated by trying to keep as many happy as possible and by a human (and animal) tendency to avoid unnecessary confrontations. The result is a compromise and increased overall expense. The political psychology of the EU as an "institution" is also a willingness to cooperate and keep everybody onboard, rather than ignoring minority interests. Keeler (1996) refers to this as the "restaurant syndrome" where the final bill is split between everybody at the table. The one who ate the most comes out winning, but at everybody else's expense. Keeler also points out that the policy legacy of the EC's early years with large farming communities and the need for a stable food supply for the population, along with bureaucratic interests where the CAP and it's civil servants has a central stage in the EU, contributes to making changes difficult. Ministers would likely be more careful with national expenditure than EU common expenditure. However, with the number of farmers constantly declining, the pressure from the farm lobby to support high prices and to receive direct payments will decline.[169] This, however, does not by any means indicate that the EU might be willing to go back to become a net importer of food, even though it meant lower food prices.

Food production in Europe per se does not become cheaper or more expensive because of the CAP. The farmer still needs a certain income, capital and land. It is imports at world market prices that could push food prices down. The CAP prevents free imports and distorts competition. In the case of duty free imports, some European farmers would face financial distress or even bankruptcy unless they receive direct payments or other government compensation. As long as the EU has

[169] Under the assumption that one farmer means one vote, plus the votes of his family and close friends. Fewer farmers also mean fewer members of farmers' associations and fewer to participate in demonstrations, although fewer farmers can mean larger farms with somewhat more bargaining power.

import barriers on food, food on the whole will not become cheaper in Europe. The CAP, however, influences who pays for the food. Rather than using supply and demand, where everybody pays what he or she eats, the involvement of taxpayers' money redistributes the budget so the higher taxpayer pays more than the poorer man.

The CAP has often been criticized for its costs, but seldom praised for providing a secure food supply. Nugent (1994) states that different opinions exist about how well the CAP and CAP reforms have worked, but avoids taking an agro-political-economic position. However, he emphasises the influence and high profile agriculture has in the EU. According to Tsoukalis (1993), the efficient allocation of resources and the maximisation of global welfare has been almost an exclusive concern of neo-classical economics. He adds that politics in the real world are not only about efficiency, but also about distribution, i.e. between EU countries, regions and social classes. Tsoukalis shows the evolution of the EC budget revenue, from just over 16 million ECUs in 1980, to approximately 60 million ECUs at the publication of his book in 1992. Furthermore, he shows the structure of the budget expenditure over the same period, where in fact the total CAP expenditure goes up by more than the double (approximately 12 million ECUs in 1980 to about 28.5 million ECUs in 1990), but as a percentage of the budget expenditure, it goes down from 73% in 1980 to 61% in 1990. We would like to add that the 2005 CAP budget of 47 billion Euros is close to 45% of the EU total budget.

Through the years there has been periodic but regular talk about reforming the CAP. Kjeldahl (1994) in his "Introduction to Reforming the Reform? – The CAP at a watershed; Renationalisation of the Common Agricultural Policy", points out that as support becomes more transparent, complicated welfare economic analysis and abstract explanations are no longer required to demonstrate the economic cost, and that politicians and taxpayers understand who gets the money and who pays. Other authors in the same publication, "Renationalisation of the CAP", Delorme (1994), Berkhout and Meester (1994), and Nedergaard (1994), all start with the assumption that the CAP has not been particularly successful. Looking at the evolution of the CAP, Feld (1979) noted that in the beginning EU (then EC) agriculture was a story of action and success. But soon the problems started to arise. Although farm income and food supply grew, the general public was faced with ever-higher fixed prices on food and food surpluses were tremendous. Today, over a quarter of a century after Feld wrote his paper, the CAP is still under criticism for the same problems. Either nothing has been done to improve the CAP, or it is

impossible to improve it, or the criticism is unfair and unfounded. We may add that it is often easier to criticize than to give constructive advice on improvements. Our opinion is that many studies of the CAP miss the point: the CAP was never intended to reduce deadweight losses in the European macroeconomy, but to produce safe and secure food for all Europeans at an affordable price. This aim has been very successful.

Runge and von Witzke (1990) say that in less developed countries the agricultural population (a majority) is often heavily taxed, whereas in developed countries the agricultural population (a minority) is heavily subsidized at the expense of the non-agricultural sector. In this context, the EU (EC in 1990) may be considered as a developed country. The EU CAP supports agricultural prices at levels considerably above world markets and it is the Council of EU Agricultural Ministers that makes annual decisions on agricultural prices within the Union (see also Figure 15 on page 141)[170]. The findings of Runge and von Witzke are a part of the basis where some of our assumptions are made, notably that in the EU and Iceland there is a flow of money from taxpayers and consumers to farmers, and that food prices are higher than ideal. Keeler (1996), in line with the other critics, starts with the fact that the CAP has been widely criticized for excessively burdening consumers and taxpayers, stimulating surplus production, and wreaking havoc on world markets through price distortions and subsidized exports. Keeler finds this increasingly surprising because the number of agricultural workers in the EU (then EC) has fallen from 21% of the workforce in 1961 to just under 7% in 1990,[171] and the EU agricultural output as a percent of GDP has fallen from 4.8% in 1973 to 2.4% in 1990 [172]. Keeler notes how many people are puzzled over how such a shrinking minority can exert such an influence over the politicians as to retain subsidies and support at the expense of the majority. He explains this by that consumers do not feel the unnecessary high food prices because of increased real income gains. The average European household's income spent on food has declined from 28% in the mid 1970s to 21% in the mid 1990s.[173] Keeler also points out that individual farmers will lose more than individual consumers will gain by

[170] We would like to note that the procedure of having politicians and bureaucrats decide market prices has a striking resemblance to the communist era Soviet GOSPLAN, where the government planners fixed the prices.
[171] In 2000 it was down to 4.3%.
[172] In 2000 it was 2.1%.
[173] At the turn of the 21st Century food prices as a percentage of EU households' disposable income were even less than 20%. However, global food prices are now slowly rising again.

eliminating the subsidies, making consumers more docile about the situation. Nevertheless, we should point out that welfare economics show the opposite: consumers gain more than farmers will lose. This is because the farmers are few and grossly outnumbered by the consumers. Total gains or losses for society does not equal an individual's gain or loss. Farmers' interests are concentrated whereas consumers' interests are diffuse.

Patterson (1997) points out CAP's sometimes conflicting objectives and its side effects. The objectives were to increase agricultural productivity, increase individual earnings of persons working in agriculture, to stabilize markets, to safeguard supplies, and to ensure that supplies reach the consumer at reasonable prices. But the side effects were overproduction, which resulted in drop in prices and export subsidies. Patterson discusses the 1992 CAP reform package, which initiated a shift from non-transparent consumer subsidies to the more transparent taxpayer subsidies in the form of direct payments. Patterson feels that farmers are justified in worrying about this increased transparency because taxpayers will demand reduction in agricultural subsidies when they see how much of their money supports inefficient agricultural production. Indeed increased transparency is a way to reduce waste since it either inadvertently or intentionally becomes more exposed to the political and the public eye.

The CAP system has traditionally subjected imported goods to a levy equal to the difference between the world market price and the higher EU price of a product. The recent reform has been to move more over to direct payments to farmers. Rayner et al. (1993) point out that the EU producers will suffer losses if trade is liberalised. Some EU producers will then either go out of business, or have to receive some kind of compensation. With increased pressure from the international community and the World Trade Organisation (WTO) to liberalise trade, direct payments to farmers, de-coupled from production, seems to be a solution, at least during a transition state. As Beard & Swinbank (2001) state, there is a political case where ministers are unlikely to make substantial reforms in the CAP unless farmers get some compensation; there is the economic case where the sudden removal of CAP price supports would lead to many farmers' bankruptcies; there is the moral case where farmers have been led to invest unwisely in a non-profitable business; and there is the welfare case where the winners (the consumers) should compensate the losers (the farmers). Continuing in contemporary fashion, Beard and Swinbank find that de-coupled payments should facilitate CAP reform. They find that the existing CAP has outlived its usefulness, although the

EU still has a role to pursue environmental and rural policy objectives, and in ensuring food security and food safety. Beard and Swinbank say that the EU has in the past falsely encouraged agricultural business expectations, and de-coupled payments will avoid bankruptcies throughout the rural economy if the CAP is reformed. This would allow farm businesses to adapt and the EU to develop new policies for the countryside. They suggest that the compensation payments should be for a certain period only, and then be gradually reduced. Furthermore, they suggest payments should not be conditioned upon future farming activities or upon specific environmental conditions. At the time of this writing, direct payments to farmers appear to be the political fashion-idea, both in the EU and in Iceland. We find it doubtful if direct payments to farmers, regardless of production, are a long-term solution, since the taxpayer would find it difficult to justify in the long term. This would be a deadweight loss to the economy as a whole, and must be accompanied with the political decision to support domestic food production with minimal import barriers. Receiving payments regardless of production leads to large inefficiencies, as the motivation to produce something is not rewarded. If done on a long-term basis, fixed payments for claiming the title of a "farmer" or "landowner" will become just another form of social security, unemployment benefits, or financial transfers on a substantial scale.

This all leads to the political decision if Europeans want to be self-sufficient in food. If they wish to be self-sufficient, an extra price must be paid in the form of more expensive production than if the food is imported from less developed countries. Direct payments to farmers do not reduce the production costs for the society. If the consumer pays a lower price in the shop and higher taxes, or lower taxes and a higher price in the shop, it could be expected that the budget's end result will be similar, although the one who pays the higher taxes will partially pay for the one who pays the lower taxes. However, this is not necessarily the case as subsidies can stimulate less efficient production and encourage production of other goods than the consumer might wish for. Direct payments will become a tool to either support an uneconomical industry or to hide unemployment. If the goal is to have some food reserves, direct payments to farmers are not the ideal way to encourage food surpluses, although they are instrumental in keeping farmers on their farms, thereby maintaining regular and continuous agriculture. But payments linked to production encourage overproduction, which must be accumulated, destroyed, or "dumped" on the world markets by export subsidies. We believe that to accumulate reserves, the governments must simply buy a

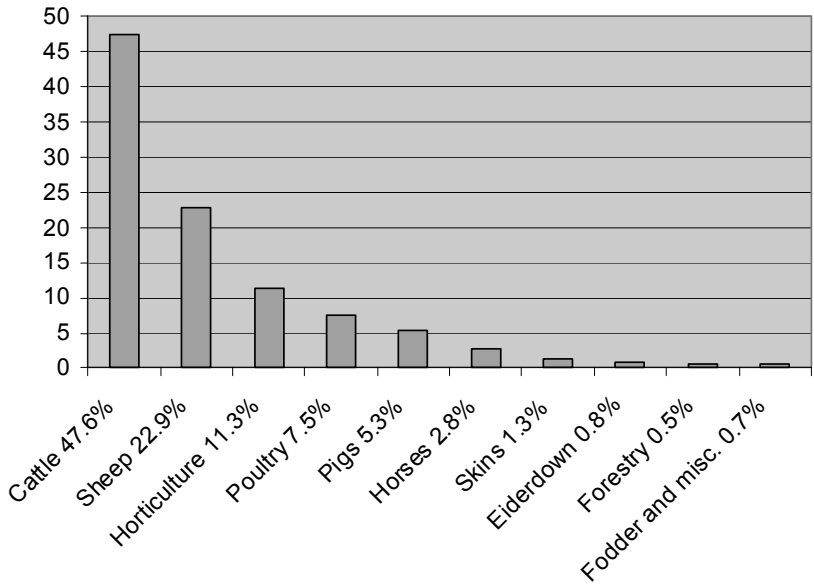
certain quantity of food at regular intervals and store it. Our opinion is that producing exactly what is consumed is not a safe policy, simply because food is much more important than any other good produced. The consequences of food shortages could be a problem measured in human tragedies, rather than monetary units, which is the main reason why so many governments spend taxpayers' and consumers' money on agricultural protection.

Little has been written about Icelandic agriculture compared to the large quantities of publications on the CAP. Of some of the more recent literature on the Icelandic agricultural policy we would like to draw attention to the writings of Agnarsson and Johannesson (2005), who mention the general particularities of agricultural production, notably that expenses devoted to food purchases normally have priority over all other expenses and that demand for agricultural products is relatively immune to price change. They also note that the production cycle is relatively long from the decision to produce until the goods are on the market, and that this relatively lengthy production cycle can result in that circumstances change from the offset until the final steps are reached, e.g. through weather conditions, market changes or diseases. These reasons, coupled with concerns about insufficient food production have led to government interventions such as minimum prices, production subsidies, production restrictions, import restrictions, quotas and direct payments to farmers. Agnarsson and Johannesson list the evolution of Icelandic agriculture and amongst other mention the fact that the authorities seem to have favoured farmers at the expense of the consumer, which they explain by historical reasons. They conclude by suggesting that the objectives of the agricultural policy could be better defined, that import restrictions should be abandoned and direct payments to farmers used instead, and that production related support to farmers should not be restricted to certain products only. Their work is a good overview over Icelandic agricultural policy and how it has evolved. Most important we note that the agricultural policy and agricultural policy instruments used in the EU and in Iceland are remarkably similar.

6 – 4 Icelandic Agricultural Policy

Natural conditions for farming in Iceland are very harsh because of the cold climate. Over ¾ of the agricultural production is related to animal husbandry as shown in Figure 17 below.

Figure 17. Icelandic agricultural production in 2005 by branches



Source: Farmers Association of Iceland. [174]

Icelandic agriculture enjoys one of the highest protections in the world with a PSE[175] between 60-70%, (comparison shown in Figure 12 on page 125). Consequently, Icelandic consumers have to live with some of the highest food prices in the world. As shown in Table 19 on next two pages, Icelandic food prices are the most expensive found in the EEA and about 60% over the EU average.

[174] The reader will notice that the total adds up to 100.7 %. A similar overview from the same source in 2002 added up to a total of 99.0 %. Possible explanations are the use of round numbers, overlapping figures, and difficulty in obtaining exact data.

[175] Producer Support Estimate (definition in Annex 2 on pages 250-251).

Table 19. Price comparisons on food in EU, EFTA and Iceland. Year 2006. 100 is reference for EU average.

	Iceland	Austria	Belgium	Bulgaria	Cyprus
Food and drinks	164	110	110	56	107
Food	163	111	111	55	104
Bread and cereals	188	126	109	41	108
Meat	189	121	123	48	80
Fish	112	111	128	62	142
Milk, cheese and eggs	149	98	109	82	139
Vegetables and fruit	154	107	105	50	90
Non-alcoholic drinks	176	97	101	73	142
Alcohol and tobacco	193	90	97	58	104
	Denmark	**Estonia**	**Finland**	**France**	**Czech Republic**
Food and drinks	142	75	120	105	69
Food	139	74	119	107	68
Bread and cereals	150	70	141	103	61
Meat	149	64	119	122	60
Fish	138	73	110	106	76
Milk, cheese and eggs	116	79	110	100	80
Vegetables and fruit	129	83	124	108	64
Non-alcoholic drinks	170	90	132	83	82
Alcohol and tobacco	119	63	135	108	66
	Germany	**Greece**	**Hungary**	**Ireland**	**Italy**
Food and drinks	105	98	71	125	115
Food	106	97	70	124	116
Bread and cereals	108	94	60	121	109
Meat	118	91	65	129	118
Fish	121	101	75	123	122
Milk, cheese and eggs	87	138	83	126	126
Vegetables and fruit	116	72	65	130	115
Non-alcoholic drinks	103	118	77	135	109
Alcohol and tobacco	98	87	63	181	105

Table continued on next page

Table continued from previous page

	Latvia	Lithuania	Luxembourg	Malta	Netherlands
Food and drinks	69	64	115	83	88
Food	68	63	116	81	89
Bread and cereals	59	61	119	76	89
Meat	58	50	120	69	105
Fish	71	57	110	82	115
Milk, cheese and eggs	75	75	112	111	78
Vegetables and fruit	73	68	130	70	89
Non-alcoholic drinks	89	79	104	108	83
Alcohol and tobacco	53	55	87	96	98
	Norway	**Poland**	**Portugal**	**Romania**	**Slovakia**
Food and drinks	158	66	88	71	67
Food	159	65	87	70	66
Bread and cereals	164	60	95	59	56
Meat	182	52	82	60	58
Fish	128	67	70	85	68
Milk, cheese and eggs	160	67	105	94	75
Vegetables and fruit	143	72	80	70	62
Non-alcoholic drinks	160	84	93	88	76
Alcohol and tobacco	222	64	85	56	59
	Slovenia	**Spain**	**Sweden**	**Switzerland**	**United Kingdom**
Food and drinks	87	92	119	142	114
Food	87	93	119	146	113
Bread and cereals	93	112	131	142	103
Meat	83	81	133	195	126
Fish	102	89	109	142	91
Milk, cheese and eggs	83	96	104	126	115
Vegetables and fruit	86	95	123	131	120
Non-alcoholic drinks	88	87	118	104	121
Alcohol and tobacco	70	71	128	96	175

Source: Statistics Iceland (2009).

We would like to draw attention to that the figures shown in Table 19 (on the previous two pages) are 2006 data. In 2003 the Icelandic food price level was 63% higher than the EU, compared to 64% reported in Table 19, which is an insignificant difference. Because of the unusually rapid rise and fall of the Icelandic economy at the end of the 2000-2008 economic cycle, figures for the years 2007-2010 can be misleading for long-term economic assessments. The rapid fall in value of the Icelandic Krona in 2008 temporarily reduced domestic food prices, measured in Euro, to levels comparable to the EU. More expensive imports of both food and production factors, (e.g. tractors, fuel and fertilizers), along with farmers (reasonable) demands for income rises in proportion to rising inflation, will push Icelandic food prices up again. The new price level remains to be seen, but considering the relatively unchanged Icelandic agricultural inputs and outputs, there is little reason to think that relative food prices will drastically differ from the years preceding the economic bubble.

Agriculture was the mainstay occupation in Iceland for centuries and censuses from the mid-19th century show that 70-80% of the nation lived from farming at the time. This proportion decreased as the 20th century wore on, and towards the end of the century this was down to 4% with approximately 4700 farms, accounting for close to 6000 man-years of labour. Family farming with relatively small farms is overwhelmingly the most common arrangement and in some cases two families work the same farm. Majority of farmers own their land and it is common that the same families have owned farms for many decades.

The Great Depression of the 1930s, and the economic boom of the World War Two years, shaped both the Icelandic economy and agricultural policy. The Great Depression led to a drastic fall in world prices of agricultural products, which consequently affected the prices of products in Iceland. Government intervention in agricultural production and marketing began in 1934, when a law was passed introducing price administration and the division of the country into marketing regions. Imports of many agricultural products were prohibited. Prices were determined by a price review board and set considerably above world market prices. During the war, price subsidies at the wholesale level were first introduced in 1943 as a reaction to inflation, and in 1947, the Agricultural Production Board was established, which provided the basis for the marketing and pricing system of agricultural products. The main rule has been to fix prices to secure farmers' earnings comparable to other similar occupations.

Throughout the first half of the century and into the fifties, supply of meat and dairy products was insufficient. However, production increased at a rapid rate as a result of the price policy and through the use of various investment grants to farmers. Farming became ever more capital-intensive and use of fertilisers increased rapidly. Production increased, especially in the 1950s when the volume of agricultural production rose by close to 50%. By the early 1960s, the market for agricultural products had reached equilibrium. Production, however, continued to increase at a fast rate and the rate of growth in supply far outstripped that in demand. The difference was met with exports that were subsidized by the government.

Around 1980 public and political sympathy for maintaining the system, not to mention increased payments, was diminishing. The first steps towards reducing export subsidies were taken when a new agricultural law was passed in 1985 on production, pricing and sales of agricultural products. The main objectives of that legislation were to:

(1) Promote structural adjustment and increase efficiency in agricultural production and processing for the benefit of producers and consumers,

(2) Adjust the level of production to domestic demand and secure sufficient supply of agricultural products as far as practicable at all times,

(3) Ensure that export opportunities will be utilized to the extent that is considered feasible,

(4) Ensure equitable income of farmers to that of other comparable professions,

(5) Maximize the utilization of domestic inputs to agricultural production with regard to security and employment,

(6) Facilitate equality between farmers with regards to prices and market access,

(7) Integrate environmental issues with agricultural policies.

The 1985 law meant that there would be reduced export subsidies and production control measures in the form of quotas on certain products. In the years that followed, in order to replace some of the wholesale and export subsidies, the introduction of direct payments to farmers was taken up in certain fields of production.

Until recently, Icelandic domestic agricultural production was protected from foreign competition by law. Import was not allowed as long as domestic supply was adequate. This changed with the agreement on the establishment of the World Trade Organisation (WTO). Following the WTO agreement all market protection had to be translated into tariffs,

which are subject to gradual reduction.[176] Although the Icelandic tariff levels are high and presently provide protection against import of most competing products, (other than what is imported under the minimum access provision), the borders have now been opened and the Icelandic farmers have to prepare themselves for increased external competition in the near future. Currently, import quotas have been translated into tariff quotas, where a certain amount of foreign agricultural products can be imported at a reduced tariff. These tariff quotas are auctioned to the highest bidder(s).[177] There is also a provision to adjust tariffs to protect domestic production in accordance with domestic demand. In this way the authorities want to promote selling of domestic food products before imports arrive on the market. Due to natural circumstances, it is going to be tough for Icelandic farmers to compete with cheap imports in the future.

Besides import duties, the Icelandic government support to agriculture is also in the form of direct payments to some farmers, (currently focussed on milk production, mutton and lamb production, and transitional payments in horticulture), state funded advisory services to farmers, support for farm improvements, livestock production and livestock improvements, marketing, and loans and/or grants from the Agricultural Production Fund. The various state subsidies are shown in Table 20 on next page. We would like to draw attention to that although the total amount shown is two times higher in per capita terms than what the EU uses on the CAP, some EU member states also have additional agricultural expenses to the CAP expenses, e.g. education and research.[178] The OECD PSE[179] measurements are a better comparison of agricultural support than just the direct financial subsidies.[180]

[176] Iceland has used veterinary rules to restrict certain agricultural imports. It is open to discussion to what extent this is only because of concern about diseases, or if this is in fact just hidden economic import restrictions.

[177] There is nothing that precludes the possibility that a domestic producer buys the quota and does not use it, in order to prevent foreign market access.

[178] As an example, France has a total agricultural budget approximately 60% higher than the EU allocation and Denmark approximately 25% higher.

[179] Producer Support Estimate, (definition in Annex 2 on pages 250-251).

[180] As noted earlier, Iceland has a PSE close to 60% and the EU 35-40%.

Table 20. Icelandic state financial support to agriculture in 2008, in millions of Kronas

Advisory service	249
Livestock production	74
Farm improvement programs	90
Agricultural Production Fund	160
Marketing projects	25
Mutton and lamb production	3 348 [181]
Milk production [182]	3 881 [183]
Horticulture	255 [184] [185]
TOTAL	**8 082**

Source: Compilation of agreements between the Government of Iceland and the Farmers Association of Iceland (detailed in the bibliography).

In the eyes of the local consumer, the main strength of Icelandic agriculture is tied to an opinion that its products offer healthier food than most other countries because of the hitherto more strict regulations that prohibit the use of growth hormones for animals and the use of soil and plant "contaminants" like herbicides and insecticides. Tradition and consumer preferences play a role in the production and marketing as many consumers are willing to pay a somewhat higher price for quality products, be it perceived or real. As the OECD (Agriculture and the Environment in the Transition to a Market Economy, 1994) has pointed out, these different environmental standards give the country with lower standards a competitive advantage[186].

Traditionally, in Iceland it has been difficult to decide where to draw the line between rural policy and agricultural policy as the two are inseparable and seem so interwoven that the general political debate neither makes nor accepts the differentiation that ought to be. All this government intervention changed the social attitude of many farmers, who

[181] Of which 1 716 million Kronas is in the form of direct payments to farmers.
[182] Refers to the pricing year 2008/2009.
[183] Of which 3 299 million Kronas is in the form of direct payments to farmers.
[184] Of which 195 million Kronas is in the form of direct payments to farmers.
[185] This figure does not include the Ministry of Industry subsidies to electricity, in the amount of 1.08 Kronas per Kilowatt-hour.
[186] A parallel can be drawn to EU resistance to genetically modified food.

have felt themselves often more like wage earners than as independent farmers.

The guidelines provided in the booklet "Icelandic Agriculture" published by the Icelandic Agricultural Information Service (1997) state:

1. Agriculture shall be in harmony with the environment. Production capacity of farming land shall be improved from one generation to the next;
2. Emphasis shall be placed on land reclamation and forestation;
3. A high standard of animal welfare shall be a prerequisite for livestock production;
4. The production of wholesome and pure foods shall be the cornerstone of Icelandic agriculture;
5. Quality control shall be encouraged throughout all production processes;
6. Determined efforts shall be made to strengthen certified organic production and other sustainable forms of agricultural production;
7. The countryside shall remain a viable and dynamic community;
8. The earnings and social conditions of the agricultural community shall be attractive enough to make farming a worthwhile profession;
9. The general public shall be made aware of the fact that the farming heritage is a cultural treasure that needs to be preserved.

Unfortunately for the consumers, in these guidelines there is nothing about trying to reduce food prices. The same applies to subsequent agricultural laws passed by the parliament in 1993, having similar objectives as the original 1985 law. The 1998 agricultural law also stated that the objective is to support development in Icelandic agriculture, to increase competitiveness, that government financial support should aid in the development of new products and production means, and that Icelandic farmers should not be worse off than farmers in neighbouring countries. Low food prices are not the highest priority.[187] Point 9 in the objectives from the Icelandic Agricultural Information Service (listed above) indirectly indicates that the public is expected to support farmers and farming whether they like it or not.[188] There are also open questions on the environment. A slogan has been that “farmers

[187] Icelandic law no. 99 of 8 September 1993, chapter X, paragraph 51, part (a) notes that government support to milk producers should, amongst many other provisions, reduce price on milk to consumers.

[188] A parallel may be drawn to other uninteresting cultural events funded by taxpayers’ money where admissions and ticket sales would not cover the expenses. It is not difficult to imagine that many taxpayers would like to see their money spent on other things than supporting farming as a cultural issue.

cultivate the countryside". Traditionally it has been the opposite, and human settlement in Iceland has taken its toll on the nature where freely roaming herds of sheep have in many places stripped the land. Of course it can be argued what is prettier from a human perspective, sheep on barren land or wild vegetation.

Concerning external trade, the balance of imports and exports in Icelandic agricultural products is somewhat difficult to establish exactly as the classification of products is not always the same, e.g. clothes made from wool or cotton (agriculture) but processed (industry), processed food, or drinks. However, when estimating the exports, using an approximation in its broadest sense, which includes freshwater fish such as salmon and trout (but not fish from the high seas), riding horses (horses can be eaten as well), animal husbandry products, horse products, cattle products, pork products, sheep products, fox and mink products, milk products, eiderdown, marine vegetation and algae, as well as other small miscellaneous categories, the total Icelandic agricultural export in 2004 was approximately 22 thousand tonnes, worth 4.3 billion Kronas or approximately 50 million Euros[189] (Table 21 on next page).

[189] 2004 average exchange rate Icelandic Krona / Euro. The exchange rate between Euro and Icelandic Krona is shown in Figure 9 on page 99.

Table 21. Export of agricultural products from Iceland in 2004

	Weight in Kilograms	Value FOB[190] ISK
Live horses	469 650	660 651 569
Other farm animals	113	839 738
Horse products	289 806	33 191 904
Cattle products	316 206	29 287 450
Pork products	81 967	6 038 519
Sheep products	4 195 926	865 354 804
Mink products	24 501	398 740 488
Fox products	7 836	36 142 019
Products of other farm animals	128 469	15 290 114
Milk products	638 242	80 878 474
Down	2 160	159 740 276
Seaweed and algae	10 175 379	339 041 953
Salmon	4 002 227	1 069 187 211
Trout	787 506	415,740 909
Other fish (excluding wild fish from the sea)	122 216	128 982 172
Other agricultural products	396 752	22 198 232
SUM TOTAL	**21 638 956**	**4 261 305 832**

Source: Statistics Iceland (2006)

When estimating the 2004 imports we have included the main categories: live animals; meat and processed meat; milk products and eggs; corn and cereals; vegetables and fruit; sugar and honey; coffee, tea, spices and chocolate; animal feed; drinks; tobacco; fur, skins and leather; biological oils, including animal fat, plant fat and seeds, but excluding fuel oils; wood and cork; fibres; fish and fish products for consumption, but excluding fish imports for processing plants; and "miscellaneous" food products based on data obtained from Statistics Iceland (2006). This amounts to a total of 466 thousand tonnes of goods, worth almost 27 billion Kronas FOB[191] and 30 billion Kronas CIF[192] or approximately 320 million Euros FOB and 355 million Euros CIF (2004 average exchange rate Krona / Euro). The details are shown in Table 22 on next page.

[190] FOB. Transport term. Free On Board.
[191] FOB. Transport term. Free On Board.
[192] CIF. Transport term. Cost Insurance Freight.

Table 22. Estimation of imported agricultural products to Iceland in 2004

	Kilograms	FOB ISK	CIF ISK
Life animals	11 212	21 696 320	35 762 315
Meat and processed meat	288 090	198 511 905	213 039 783
Milk products and eggs	426 205	179 215 359	207 040 812
Cereal and processed cereal	82 658 356	3 332 787 728	3 788 679 643
Vegetables and fruit	38 660 911	3 872 046 512	4 650 118 337
Sugar, sugar products and honey	14 708 456	709 332 396	800 815 682
Coffee, cacao, tea and spices	4 908 485	1 559 899 756	1 664 794 497
Animal feed less non-milled grain	18 205 702	703 580 765	780 843 712
Various processed food	7 523 479	2 527 455 257	2 711 042 403
Drinks	12 673 589	2 077 699 751	2 325 286 989
Tobacco and processed tobacco	442 687	1 121 921 434	1 145 026 406
Hides, skin and fur, unprocessed	390	58 935	102 320
Oilseeds and oil nuts	792 672	44 564 229	50 336 264
Cork and wood	60 363 176	2 118 816 088	2 443 715 780
Spinning thread and waste	133 899	35 405 904	39 450 611
Non-processed goods from animals and plants	156 154 739	1 384 345 502	1 562 562 352
Animal fat and animal oil	3 348 591	395 415 006	422 138 175
Plant fat and plant oil, non-processed	4 608 672	354 507 300	389 908 282
Other fat and oil, non-processed	1 040 724	98 871 681	108 511 725
Leather, leather goods and fur	72 102	124 926 882	138 551 047
Fish and processed fish (for consumption but not for processing plants)	59 131 062	5 982 625 084	6 591 192 317
SUM TOTAL	**466 153 199**	**26 843 683 794**	**30 068 919 452**
Note 1: The list may not be completely exhaustive although all main categories are included.			
Note 2: The list includes products that are a mixture of agricultural and industrial products, e.g. processed food and wood.			
Note 3: Primary source on all imports: Statistics Iceland (2006). Categories selected by author.			

Although the categories and definitions in Table 22 above can be open to discussion, there is clearly a substantial net importation in agricultural products in its broadest sense, excluding fisheries from the high seas, where Iceland is indeed a large net exporter (discussed in Chapter 7). Since Iceland is not a "closed economy", there is both import

and export in several goods when using general classifications, such as meat and milk products, although when going into more details, there are different kinds of meat and milk products, which is not reflected in the overall statistics. This is not a question of struggling to get sufficient calories to feed the population, but more a question of consumer choice in a welfare society.

It is also noticeable how the relative importance of agriculture in Iceland has declined over the years as shown in Table 23 below.

Table 23. Icelandic agriculture as a part of Icelandic GDP

Year	Percent of GDP
1980	5.1 %
1990	2.6 %
2000	1.8 %
2005 [193]	1.5 % [194]

Source: National Economic Institute of Iceland (2002), except for year 2005, which is from Statistics Iceland (2008).

When looking at Table 23 above, the reader ought to bear in mind that in the period 1980 to 2000, the total Icelandic GDP increased by 67% and GDP per capita rose by 36%.[195] It is also very interesting to note how the total manpower in agriculture has drastically dropped during the last half century as shown in Table 24 on next page. The main reason for this reduction is advances in technology with increased machinery and automation, but it is also a game with statistics. One century ago many persons were directly engaged in producing their own foodstuffs. The statistics today do not count persons as agricultural workers who are engaged in food distribution, e.g. truck drivers and supermarket employees which is considered as trade/services, food processing factories which is an industry, and fuel distribution for agricultural machinery,

[193] The 2005 figure is from Statistics Iceland. The other figures are from the National Economic Institute (NEI), which was closed down in 2002. The Statistics Iceland figures differ slightly from the NEI. The Statistics Iceland figure for 2000 is 2.0%, for 1990 it is 2.5% / 2.6%, and for 1980 it is 4.8%.

[194] For comparison, the EU average for 2005 was 1.3% (EC Directorate General for Agriculture), and 2.1% in 2000 (Eurostat).

[195] Statistics Iceland. With year 2000 reference set at 100%, 1980 produced 59.68% as a total GDP and 73.55% per capita. The Icelandic GDP continued to rise fast between 2000 and 2007, but it will likely fall (or correct itself) in 2009 and 2010.

although many of those workers are directly and indirectly engaged in feeding the population.

Table 24. Distribution of Icelandic manpower by industry in %

Year	1940	1960	1980	1990	2000	2005
Agriculture	32.0	16.0	7.9	4.9	2.8 [196]	2.4 [197]
Fisheries	14.0	8.0	5.3	4.9	4.0	2.7
Industry and construction	21.0	36.0	34.5	28.5	24.4 [198]	23.1 [199]
Trade and services	33.0	40.0	52.3	60.9	68.8	71.7

Source: From 1940 to 1990, National Economic Institute of Iceland (2002). From 2000 to 2005, Statistics Iceland (2008).[200]

[196] This figure is based on data on workforce market studies from Statistics Iceland. The same data computed by Statistics Iceland based on advance tax payments shows 4.4%. Statistics Iceland has informed us that 2.8% is closer to reality. We should add that manpower in agriculture is not always an exact figure. On small family farms it is the farmer who is the "official" agricultural worker, but often his wife and children help out and can be considered as part-time workers.

[197] This figure is based on data on workforce market studies from Statistics Iceland. The same data computed by Statistics Iceland based on advance tax payments shows 3.4%. Statistics Iceland has informed us that 2.4% is closer to reality. See also previous footnote.

[198] Whereof the fisheries industry is 4.3%.

[199] Whereof the fisheries industry is 3.9%.

[200] The National Economic Institute (NEI) of Iceland was closed down in 2002.

6 – 5 Comparison of EU and Icelandic Agricultural Policies

6 - 5. a. Purpose.

The purpose of the EU CAP and Icelandic agricultural policy is similar. Both promote agriculture as an important profession or industry. Both aim at creating a safe and steady food supply. Both aim at protecting farmers' incomes. Both aim at preserving the countryside. Both are a mixture of rural policy and food production. Both aim at maximum self-sufficiency in food production.

The policies differ in that the EU CAP refers to providing consumers with reasonable food prices, while the Icelandic agricultural policy does not.

Neither the EU CAP nor the Icelandic agricultural policy has the aim of lowest possible food prices.

6 - 5. b. Structure.

Both the EU CAP and the Icelandic agricultural policy are based on government intervention rather than leaving agriculture to completely free market forces. Both have used protective tariffs, production quotas, export subsidies, fixed prices and transfer of consumers' and taxpayers' money into farmers' pockets. Both are adapted to the GATT and WTO rules and use tariffs as import restrictions. Both have taken up limited direct payments to certain farmers as compensation for their losses caused by competition from cheaper imports.

6 - 5. c. Management.

Both the EU CAP and the Icelandic agricultural policy are a legacy from the time when food supplies were limited. Both have achieved to reverse that situation, which is by far their most important achievement. Both are constantly reviewed or reformed to adapt to changing situation. Both also suffer from a very strong farm lobby where farmers' demands and political pressure often limits drastic reforms.

6 - 5. d. Economic Comparison.

Both the EU CAP and the Icelandic agricultural policy are a deadweight loss to the economy. The current EU CAP PSE[201] is around 30-40% and Iceland's PSE around 60-70%. Food prices in Iceland are

[201] Producer Support Estimate (definition in Annex 2 on pages 250-251).

considerably higher than in the EU (detailed in Table 19 on pages 155-156 and discussed at the top of page 157) and as a general rule both the EU and Iceland maintain higher consumers prices than world market prices. Because of harsher climate and a smaller economy, Icelandic domestic food production is more expensive than European food production. Because of distance and the isolation of the island, transport costs are also higher for food imported to Iceland. The main barriers to economic efficiency of both policies are the protective import tariffs, but there are political reasons for this protection.

6 – 6 Effects of Icelandic EU Membership on Icelandic Agriculture

6 - 6 - A Savings on food

There is a tremendous size difference between the EU and Iceland. Consequently, the effects on the EU from Icelandic agriculture falling under the CAP would be minimal. However, the effects of the EU CAP would be drastically felt in Iceland. By joining the EU there would be no customs duty on EU food and agricultural products imported to Iceland from countries within the Union. The state would save on bureaucratic import formalities by reducing the number of customs officials, but the farmers in Iceland would not get the same prices for their goods as they enjoy today. As noted before, food and drink prices in Iceland are considerably over the EU average, which should give ample possibilities for improvements. (Details in Table 19 on pages 155-156 and discussion at the top of page 157). Considering that approximately 15% to 20% of European households' expenses are spent on food[202], even a minor reduction in food prices would have noticeable effects. Allowing for that Iceland is an island rather far away from mainland EU and with a relatively small population, food prices are not likely to fall all the way to the EU average, simply because of transport and distribution costs. Table 22 (on page 164) shows that the differences between FOB[203] and CIF[204] prices are typically around 10% to 15%. The Institute of Economic Studies at the University of Iceland estimated in 2004 that EU membership could possibly reduce food prices in Iceland by 14%[205].

[202] Statistics Iceland estimate around 15% (2002-2004) and Keeler (1996) about 21%. The European Commission reported 12% (2007), (30% in 1960), but food prices have risen rapidly in 2007 and 2008. According to FAO (2008), world agricultural prices have risen 5-10% in 2006 and close to 25% in 2007, with further increases in 2008. Average household spending is also somewhat misleading because poorer individuals use a much higher percentage than richer individuals.

[203] Transport term. Free On Board.

[204] Transport term. Cost Insurance Freight.

[205] According to the model referred to in the report "Comparison of food prices in Iceland, the Nordic Countries and in EU states (2004)" (written in Icelandic by the Institute for Economic Studies at the University of Iceland and presented to Parliament by the Prime Minister), 14% is an average figure. Some food would be reduced less, e.g. fruit and vegetables by 8%, milk, cheese, and eggs by 12%,
(footnote continued on next page...)

Einarsson and Sturluson (2008) estimate this reduction could be up to 25%. Using empirical evidence, Iceland is often compared to the other Nordic countries and when Sweden joined the EU in 1995 Swedish food prices fell by close to 7% [206] and when Finland joined, also in 1995, Finnish food prices fell by about 11% [207].

If food prices in Iceland would go down by 10% by joining the EU and keeping in mind that European and Icelandic households spend around 15% to 20% of their income on food, consumer spending on food would then go down by 1½ to 2 percentage points:

(Income x 15 %) x 10 % = 1½ %

(Income x 20 %) x 10 % = 2 %

This means that disposable real income of every household would increase by 1½ to 2%. The more bold approach, that joining the CAP would push Icelandic food prices to a similar level as in Denmark, Finland and Sweden, i.e. approximately 20% lower than Icelandic prices, would mean 3% to 4% increase in disposable income, and still allow for food prices well over the EU average:

(Income x 15 %) x 20 % = 3 %

(Income x 20 %) x 20 % = 4 %

We can therefore conclude that joining the CAP would increase Icelandic households' disposable income by at least 1.5% and possibly up to 4.0%. If Iceland were also a member of the Euro-zone, price discrimination in the form of high profits by importers and retailers would

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(...footnote continued from previous page)
and some would be reduced substantially more, e.g. meat by 23%. The report points out that the model used is not perfect as it suggests, surprisingly, that Icelandic fish would be cheaper in Iceland if Iceland joined the EU. Einarsson and Onnudottir (2008) refer to this report and use the figure 10% rather than 14% as the lower estimation, and 25% as the upper limit, which is taken from Einarsson and Sturluson (2008).

[206] Statistics Sweden (Statistiska Centralbyran). The Swedish price index on food and drinks, other than alcoholic drinks, was 235,8 in 1995 and in was down to 219,4 in 1996. (1980 ref. set as 100). Sweden joined the EU on 1 January 1995

[207] Kuluttajatutkimuskeskus (National Consumer Research Center (of Finland)), published through "Virtual Finland", information service by the Finnish Ministry of Foreign Affairs, measured from November 1994 to November 1995 (Finland joined the EU on 1 January 1995). According to the same source, "food prices in particular were high due to an agricultural policy that aimed at self-sufficiency and a climate that is not favourable to agriculture".

become more difficult as it would be easier to directly compare prices to other Union members.

6 - 6 - B Labour efficiency

As shown in Table 24 on page 166, the number of agricultural workers in Iceland has been on a steady decline for many years. Currently about 2.5% of the Icelandic labour force is engaged in agriculture and they provide only 1.5% of the GDP. Interpolating Tables 23 and 24 on pages 165 and 166, the Icelandic agricultural worker produced 0.63% of the average worker in 2005, 0.64% in 2000, 0.53% in 1990, and 0.65% in 1980.[208] EU membership would open the doors for cheaper imported food and the number of agricultural workers would likely decline further. Although farmers will complain, this would in fact push agricultural workers to look for more productive jobs and should boost the GDP rather than reducing it. Assuming that in the years following EU membership half of the Icelandic agricultural workers would leave their jobs, where their current productivity is slightly under 2/3 of the average Icelandic worker, and then be employed in other sectors with average productivity, the GDP would increase by 0.5%, as shown below:

(1) Currently 2.5 % of the national workforce employed in agriculture is producing 1.5 % of the GDP,

(2) National workforce staying in agriculture is halved, to 1.25 %, which then produces only 0.75 % of the GDP (half of previous 1.5 % of GDP),

(3) The 1.25 % of the national workforce who left farming will now contribute 1.25 % (average productivity) to the GDP, instead of 0.75 % of GDP previously,

(4) The new production will be:
0.75 % of GDP (those who stayed in farming) plus 1.25 % of GDP (those who left for average jobs) = 2 % of GDP

(5) The increase will be:
2 % of GDP (the new production) minus 1.5 % of GDP (the old production) = **0.5 % of GDP**

[208] As noted earlier, FAO (1991) lists Iceland at 76-77%, which according to Tables 23 and 24 on pages 165 and 166 appears too high.

The number of farmers pushed over to other work because of rationalisation in agricultural production is impossible to calculate exactly, even a posteriori, and can only be a "guesstimate". It might be appropriate to note, nevertheless, that quality of life is not necessarily measured in GDP. Many farmers might be happier on their farm with a somewhat limited income, rather than with a higher income and more consumer goods but living in a large city.

6 - 6 - C Empirical evidence from neighbouring countries

Agricultural statistics from Finland and Sweden after they joined the EU in 1995 give some indication of what to expect in Iceland if Iceland joined the EU. Table 25, below, shows a decline in farming in Finland and Sweden after they joined the Union. We use the EU 15 members as a reference both for 1995 and 2005, as the enlargements in 2004 and 2007 would distort the picture.

Table 25. Decline in farming in EU, Finland and Sweden between 1995 and 2005 [209]

	1995	**2005**	**% Reduction**
Labour force (Number of agricultural workers)			
EU – 15 members	7 264 000	5 985 000	18 %
Finland	131 000	83 000	37 %
Sweden	88 000	71 000	19 %
Number of farms			
EU – 15 members	7 370 000	5 846 000	21 %
Finland	101 000	71 000	30 %
Sweden	89 000	76 000	15 %
Gross value added [210] (Millions of Euros)			
EU – 15 members	142 411	129 441	9 %
Finland	1 604	1 501	(6 %) [211]
Sweden	1 687	1 219	(28 %) [212]

Primary Source: Eurostat 2009. Calculation by author.

[209] Finland and Sweden joined the EU in 1995. For comparison purposes, the reference is EU-15 members for both 1995 and 2005.
[210] Year 1995 is replaced by 1997 for gross value added. Eurostat data is not available further back on this item. Due to differences in national accounting practices, national data is less suitable for comparison purposes than Eurostat harmonised data.
[211] The numbers in gross value added vary significantly between years, pending on the harvest. The numbers in brackets are therefore misleading. See explanations in the text.
[212] Idem.

Table 25 (on the previous page) shows that the reduction in Swedish agricultural labour force and number of farms is not different from the trend in the rest of the EU, but there is a noticeable reduction in Finland. The reductions in the Finnish agricultural labour force and number of farms beyond the EU trend are explained by that before joining the EU, Finland had many more small agricultural holdings than Sweden did (see e.g. Eurostat data on the size of agricultural holdings and Rosochatecka and Tomsik (2007)). But in Sweden there has also been a tendency towards larger farms and larger herds of livestock (Statistics Sweden 2008). Rationalisation has reduced the number of farms all over the EU, but at the same time the farms have grown bigger. Countries with many small farms are particularly transformed. Economics of scale applies to farming just like any other production and joining the EU opens up small local markets. Finnish farmers felt the change of joining the EU much harder than Swedish farmers because Sweden already reformed its agricultural sector in 1990 by removing internal market regulations (Kola et al. 2000 and Rabinowicz 2004), while Finland waited for the inevitable[213].

The numbers in Table 25 (on the previous page) showing gross value added, are fairly steady for the EU as a whole, however with a slight downward trend. This is normal, as the population in Europe that needs feeding has not changed much, but data for Finland and Sweden varies significantly between years, depending on harvest and other cyclical factors. The decline in gross value added in Sweden, shown in Table 25, is somewhat misleading. According to Eurostat, during the period 1997 to 2006 Sweden's highest gross value added from agriculture was in 2003 with 1717 million Euros and the lowest was in 2005 with 1219 million Euros. In the same period, Finland's highest gross value added from agriculture was in 2004 with 1650 million Euros and the lowest was 2006 with 1022 million Euros. Despite the fluctuations, according to Eurostat data, the long-term trend over the last decade is slightly downwards.

We are not able to detect any drastic change in the types of imports or exports in Finland and Sweden right after they joined the EU. However, immediately after joining the Union, producer and food prices fell (MTT Agrifood Research Finland and Statistics Sweden). This led to lower revenue amongst farmers, particularly in Finland with its many small farms. Another factor that has lately reduced revenue in agriculture,

[213] Kuosmanen (2001) notes that even if Finland had not acceded to the EU, heavy structural changes would have taken place in Finnish agriculture anyway, perhaps reducing the number of farms down to half by 2005-2006, compared to the situation at the beginning of the 1990s.

but should not be attributed to joining the EU, is rising prices on agricultural inputs, oil, fertilisers and feed. This problem is not limited to Finland and Sweden. Statements that Finnish and Swedish agriculture is worse of in the EU because of increased competition or lower subsidies are not entirely correct. The agricultural sector went through adjustments with fewer farmers. After the number of farmers and farms was adjusted to the new equilibrium, we cannot see any fall in productivity per farmer or per farm. The agricultural yield has increased in some sectors, e.g. cereal production in Finland increased from 72% of national self-sufficiency in 1995 to 102% in 2005, and litres of milk per cow per year grew from 5982 litres in 1995 to 7404 litres in 2005. In the same period the Finnish beef production fell from 98% of self-sufficiency to 89%. Over a 10-year period those are small annual changes, but it shows that the sector is not frozen, but constantly adapting. Shown in Table 26 below, we also note a long-term increase in food trade, both in imports and in exports.

Table 26. Food[214] imports and exports in Finland, Sweden, Iceland, and EU, in 1997 and in 2005, in millions of Euros

	1997 [215]	**2005**
Finland Imports	1 720	2 350
Finland Exports	1 000	870 [216]
Sweden Imports	3 820	6 460
Sweden Exports	1 920	3 550
Iceland Imports	180	300
Iceland Exports	1 150	1 420
EU 15 Members Imports [217]	48 530	67 110
EU 15 Members Exports	45 940	57 230

Source: Eurostat 2009

[214] This includes all food, drinks and tobacco.

[215] Eurostat data for this item are not listed back to 1995, the year Finland and Sweden joined the EU. Data from other sources is not comparable, e.g. according to the Swedish Agricultural Board (Jordbruksverket), in the period 1995 to 2005 Sweden's total food exports increased by 49% and imports by 36%.

[216] After a temporary fall in Finnish exports, in 2008 this figure is estimated to be 1220 million Euros.

[217] EU 15 members refers to the Union's size as it was when Sweden and Finland joined. EU 15 is kept for 2005 for reference purposes as the enlargements in 2004 and 2007 make statistics more difficult to compare.

According to available trade data, the increased trade shown in Table 26 (on the previous page) is not particularly food product specific, but more like increased trade in a large market pending on the best business deals, e.g. in 1996 Sweden imported 3500 tons of milk powder and exported 8900 tons, but in 2007 the imports were 7700 tons and exports were 48400 tons. However, it is noticeable that Sweden's external trade in food has increased proportionally more than Finland's, Iceland's, and the EU-15's average.

Bjarnadottir et al. (2003) note that if Iceland was a member of the EU there would be no customs duty on agricultural imports, which would lead to a lower price to producers and in turn lead to that Icelandic agriculture (producers and processors) would be worse off. We find that such statements must be considered in the wider social context, posing the question of macroeconomic benefits from EU membership. When Finland joined the EU it is correct that food prices went down to the benefit of consumers and Finnish farmers were concerned about their future. Rosochatecka and Tomsik (2007) confirm that the Finnish agriculture changed radically when Finland joined the Union, but has adapted well to the new and more competitive EU environment. They find that 10 years after joining the EU, Finnish agriculture has not lost out in competitiveness on the single EU market, but has tried to take advantage of it. The EU did not push Scandinavian agriculture into a new Ice Age, make the cows milk less or the corn grow slower. However, joining the EU forced economics of scale with larger farms and increased trade. The CAP did indeed force increased rationalisation in Finland, and furthered the ongoing rationalisation in Sweden, although after joining the EU Sweden had to reapply some government interventions, which had been abolished in the 1990 reform. The least efficient producers in those countries were forced out of the profession and into other sectors. The CAP subsidies are intended to ensure guaranteed food production in the EU, but to a much lesser extent to be a social policy or to act as a replacement for social aid. Agricultural production per se, in both Finland and Sweden, is not worse off under the CAP, but many small and part time farmers who previously received large national subsidies to enhance their income, seen in relation to the CAP subsidies, had to leave the profession or accept a lower income. We should also add that in any case, inside or outside the EU, protectionism will be increasingly difficult under the World Trade Organisation (WTO) regime and joining the EU probably only advanced developments and rationalisation that would have happened sooner or later anyway.

6 - 6 - D Agricultural subsidies

The exact amount of agricultural subsidies Iceland will get from the EU will be determined in accession negotiations. The EU aims at enhancing member states economies, but not to hamper them. The EU CAP was originally intended for the products of the original six EU member states. Later the CAP was adapted to accommodate the products of the new members and there is no reason to think that EU would not consider Icelandic agriculture and its specific products in a positive manner (see Figure 17 on page 154 on agricultural products in Iceland).

Total agricultural output varies between EU member states from 0.3% to 4.7% of their GDP.[218] Agriculture in the EU as a whole is approximately 1.4% of the Union's GDP.[219] In comparison, Icelandic agriculture represents about 1.5% of Iceland's GDP,[220] which is practically the same as the EU average, although the products differ. The number of farms per capita is also comparable in the EU and in Iceland, with 9.3 million[221] farms in the EU before the 2007 enlargements (18 farms per 1000 citizens) vs. 4700 farms in Iceland (16 farms per 1000 citizens), although the addition of the newest member states to the Union has increased the number of farms in the EU to 13.7 million. Most of these newly added farms are small and will undoubtedly follow the trend towards larger and fewer holdings, best shown by that the number is already down from 15 million in 2003.[222] Being on the average with production and number of farms, it is likely that the agricultural subsidies Iceland would receive from the EU would be close to the EU average (see Table 18 on page 146), or approximately 100 Euros per capita. With 300 thousand citizens in Iceland this amounts to approximately 30 million Euros per year.[223]

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[218] EC DG Agriculture (2007), referring to 2005 data.

[219] Eurostat data for 2007, published in 2009, divided by the Unions total GDP. There is a slight variation depending on the sources used. See also Table 4 on page 45 and Table 23 on page 165.

[220] Statistics Iceland 2005 data.

[221] Eurostat.

[222] Eurostat. Including the then candidate countries, which are now members.

[223] When corrected for inflation and exchange rate, this amount is very close to the amounts previously estimated by Herbertsson and Sturluson (2002), of 3.0 to 3.6 billion Icelandic Kronas per year (before the 2004/2007 enlargements), which in turn was based on estimates made by the Economic Institute of the University of Iceland in 1995, and that of Bjarnadottir et al. (2003) referring to Deloitte & Touche's estimate from 2003, indicating that EU support to Icelandic agriculture would be 2.2 to 3.0 billion Icelandic Kronas.

Agricultural subsidies in Iceland are higher than the EU average and we expect that if Iceland were EU member, Icelandic farmers would still enjoy relatively high subsidies as EU's agriculture in arctic and harsh regions does. The two northernmost members of the EU, Finland and Sweden, are divided into several areas considering the need for support. The supports that fall under CAP's common market organisation are financed entirely by the EU budget, but structural, regional and environmental aid is co-financed by the EU and national budgets. Furthermore, Finland and Sweden enjoy special provisions authorising nationally financed support to agriculture in their northernmost regions, which is roughly defined as territory north of the 62nd parallel. (MTT Agrifood Reasearh Finland 2008 and Statistics Sweden 2008). National authorities and the European Commission evaluate the northern aid regularly to see if the means applied are still justified. In Finland the northern aid is aimed at milk production, cultivated areas, greenhouse production, storage for horticultural products, wild berries, mushrooms and reindeer. In 2007 Finnish national aid to the north amounted to 329 million Euros, where of 167 million was for milk production and 101 million was based on livestock units (MTT Agrifood Research Finland). This extra northern aid costs the Finnish taxpayers 62 Euros per capita per year, or approximately 250 Euros per family of four. In Sweden the nationally paid northern aid is aimed at production of milk, pigs, eggs, goats, berries, potatoes and vegetables. In 2007 this amounted to 260 million Swedish Kronas (Statistics Sweden: Jordbruksstatistisk arsbok 2008), which equals approximately 26 million Euros (depending on the exchange rate Euro/Swedish Krona). This equals approximately 2.8 Euros per Swedish capita per year, or 10 Euros per family of four. The large difference in nationally sponsored northern aid between Finland and Sweden is explained by that Finland's geographical centre is further north than Sweden's, and that the Finnish national authorities are relatively more generous in their agricultural subsidies.

Icelandic government direct support to agriculture amounts currently to 8 billion Icelandic Kronas per year (Table 20 on page 160). The amount to be expected on agricultural subsidies from the EU is therefore only approximately half of the current support, i.e. 30 million Euros (about 4-5 billion Icelandic Kronas, depending on the exchange rate). To this may be added national support like Finland and Sweden are authorized to supplement their arctic agriculture with. As previously mentioned, in Finland the northern aid amounts to approximately 62 Euros per Finnish citizen (2007) and in Sweden just under 3 Euros per Swedish citizen. With Iceland having approximately 300 000 citizens,

this would amount to between 1 million and 19 million Euros, depending on whether Iceland chooses to follow the Swedish or the Finnish example. With all of Iceland being north of the 62nd parallel, we expect that nationally authorised support would be at least like in Finland. It is therefore clear that Icelandic taxpayers' and consumers' money handed out to Icelandic farmers in addition to the EU funds will to a large extent depend on what Iceland demands to be authorized to do in EU accession negotiations, without breaking the Union's competition rules on state aid. If Iceland is a EU member, it cannot use national allocations to subsidize Icelandic agriculture beyond what has been agreed with the EU in accession negotiations. If doing so unilaterally, it will be considered state aid to an industry and infringement of EU competition rules.[224] It is therefore important that extra national support be agreed upon in an accession treaty. It can thereafter be left up to Iceland if it wishes to exercise the right of national northern aid or not. However, indirect support to agriculture, such as research, education and advice, will undoubtedly continue unchanged. Although indirect support is strictly speaking also agricultural support, it is not in the form of direct aid. As noted earlier, member states have such national agricultural expenses beyond the CAP payments.

If Iceland chooses not to pay out if its own accounts a northern aid or arctic subsidy to itself, but only to finance agriculture through the CAP and joint EU and Icelandic projects, it will mean a drastic fall in total agricultural support for Icelandic farmers and agricultural corporations. A fall in support would initially lead to reduced income amongst farmers until a new equilibrium would be reached. Most likely the result will be rationalisation with larger but fewer farms, as was the case in e.g. Finland after it joined the Union. Finland and Sweden adjusted well to the new EU environment and there is no reason to think that Icelandic agriculture couldn't do so. Some fields of Icelandic farming would likely require more adjustment than other. The farming industry in Iceland adapted well during the past two decades when Icelandic consumer preferences moved from mutton and lamb to a more varied meat supply and there is no reason

[224] Finland had a dispute with the EU and with Sweden over national subsidies Finland continued to pay to farmers in southern Finland, several years after joining the EU. Those subsidies did not fall under the arctic and harsh climate clause and amounted to 94 million Euros in 2008. The EU and Swedish farmers said that these extra payments should only have been a transitional measure after joining the Union, but the Finnish authorities had given in to the Finnish farm lobby and continued the national payments, thereby distorting competition with farmers in neighbouring Sweden, where Finnish farm products are also sold.

to think that it could not adapt to increased EU competition and trade. This would require an adjustment period for the agriculture, where current investments are depreciated at a reasonable rate. Indeed this must be seen in view of the current trend for more automated farming methods and fewer and fewer farmers required to produce food, as has been shown by the steady long-term decline of manpower engaged in the profession.

It is worth noting that most of EU's agricultural subsidies go to large farmers and small farmers get less. The largest recipients of the agricultural benefits are large food and agricultural corporations. For comparison, it is also a problem in the United States, where agricultural support goes to large agricultural corporations, which receive millions in payments, and small farmers get less. The EU aims at transparency and recently the Union caved in to demands, along with most member states' governments, and started to publish who gets what in agricultural subsidies (see e.g. preliminary data from farmsubsidy.org). Consequently, the CAP payments and who receives them is getting increased public scrutiny.[225]

Reducing overall agricultural subsidies from Iceland's PSE[226] level of over 60% down to the EU level of 30-40% is likely to benefit all citizens, except the recipients of the higher subsidies, which are the Icelandic farmers. In fact, in more general terms, it is likely that all EU citizens, not only Icelanders, would benefit from somewhat lower food prices by reducing agricultural subsidies from current levels. Nevertheless, we are not convinced that a fully free market system is advisable on such an important commodity as food.

6 - 6 - E Expected savings in agriculture

We can now summarize the Icelandic macroeconomic savings from joining the CAP, based on the assumption that Iceland would not negotiate in EU accession negotiations that Icelandic taxpayers' money be used for additional subsidies beyond what came from the EU. This, however, cannot be ruled out as the example from e.g. Finland shows and the surprising strength of the farming lobby compared to its size. The EU

[225] E.g., two Italian companies received over 100 million Euros in 2008, and several received over one million Euros in agricultural subsidies (ref. Farmsubsidy.org and Euobserver.com). With such amounts of money, it is hard to imagine their national politicians and lobbyists doing anything but resist change. Even large banks, such as the French Credit Agricole, received 91 million Euros in rural subsidies (ref. Farmsubsidy.org).

[226] Producer Support Estimate (definition in Annex 2 on pages 250-251).

would pay Iceland approximately 30 million Euros in agricultural support,[227] which is close to half of what the current national support is. Households' savings would be between 1.5% and 4% of disposable income. Considering that half of the Icelandic GDP is from income, households' savings would equal 0.75% - 2% of GDP. Farmers moving to more productive jobs is difficult to estimate, but could possibly provide gains close to 0.5% of GDP. Joining the CAP will therefore save Iceland between 1.25% and 2.5% of GDP. This is the deadweight loss from an independent Icelandic agricultural policy, on top of EU's agricultural deadweight losses, where estimates vary greatly indeed. Icelandic agricultural policy must, however, be seen in the overall context of EU membership and EU membership has both benefits and costs.

[227] Iceland also contributes to the EU budget and in a way this is just Icelandic money coming back to Iceland.

6 – 7 Concluding Remarks on Agricultural Policies

The CAP has been widely criticized for waste of food, waste of public funds, and for distorting world trade in agricultural products. This issue is very complex. Taking certain aspects out of the context distorts the picture. A simple example of controversy is a statement such as: "importing food creates unemployment amongst farmers", which in itself is correct. A more sophisticated long-term view is that importing food can transfer farmers into more productive jobs, while society would rely on increased and cheaper food imports. In addition, for the globalist, importing food will create job opportunities abroad. Those are decisions politicians and political economists must face, and there are no fully correct answers. Food is different from any other traded goods, because without it people will starve and die[228]. Agricultural support measures are often implemented because unrestrained capitalism, although extremely economically efficient, goes wrong on occasions with production and market failures, e.g. during the Great Depression of the 1930s, or in more recent times the "dot com" bubble of 2000 or the banking and financial crisis of 2008. Compared to the grave consequences of food shortages, 1% of GDP that is currently spent by OECD countries on agricultural support measures is insignificant and is much less than most nations military defence budgets. Nevertheless, there is an economic waste.

Described in more detail in chapter 6, part 5 (Comparison of EU and Icelandic Agricultural Policies), we find similarities between agricultural management in the EU and in Iceland. The agricultural products are not always the same, but the policy structure is based on the same ideas. Both policies support prices higher than world prices, although Iceland has a higher support than the EU[229]. Both agricultural policies are based on the idea of self-sufficiency and are subject to the same criticism of economic deadweight losses for the domestic economy and trade distortions on the world market. Both have had the same development pattern of insufficient domestic food production in the years following World War Two, to overproduction from the 1970s to the

[228] For a part of the World population, e.g. Icelanders who live in arctic climate, housing, heating and clothes are also important in order to survive the winter. Nevertheless, food is different because it is a short-term commodity, but clothes last for years and houses for decades or more.

[229] Iceland's PSE is over 60% and EU's 30-40%. (PSE Producer Support Estimate, definition in Annex 2 on pages 250-251).

present, eventually relying on export subsidies and finally moving to a difficult reform process to try to reduce the overproduction.

The CAP does not fall under the EEA agreement. This means that if Iceland joined the EU, the food and agricultural sector in Iceland will be influenced considerably. Joining the EU would completely open the Icelandic market to the EU CAP.[230] There would be completely free trade of agricultural products from EU countries, which would not only reduce food prices in Iceland, but also push further the ongoing sector and demographic changes where farmers quit their agricultural jobs and change to other professions. Although hard for farmers, this would increase net economic welfare, provided that other more profitable jobs would become available. Since the Icelandic farmer's productivity is well under the average of the society as a whole, it is reasonable to expect that better paid jobs would be available. To move from average to top income is difficult, but to move from low farmer's income to average (median) income is considerably easier. In fact in many industrialised countries this sector and demographic change to fewer farmers has already been ongoing for several years. As we have also mentioned briefly, from a social viewpoint, we are not completely convinced that quality of life for farmers and former farmers will improve by leaving the farming profession, although economically efficient. If a farmer enjoys his or her work, he has no guarantee for that a new career with higher income will bring him a better quality of life. As long as monetary income is above a minimum threshold needed for basic food, clothes and housing, there are other factors than just Euros or Dollars which contribute to quality of life, best shown by the fact that high income families tend to save more than low income families do, simply because they have a surplus of money they don't need for living. However, it is not fair to the taxpayers to regularly subsidize farmers and if farming is not a viable profession in industrialised countries, its economics have to be reconsidered.

Numerous publications criticize the CAP. Many authors suggest that it is unnecessarily wasteful, produces more food than needed, and is too expensive to run. Very few praise its tremendously successful achievement of guaranteed unlimited food supply for every EU citizen, its variety of food, and reasonably affordable (but not lowest possible) prices. This contemporary criticism is because the EU and the CAP were born

[230] We would like to draw attention to the expectations that the World Trade Organisation (WTO) will contribute to increased freedom in trade of agricultural products worldwide in the coming years. Such liberation will influence the EU CAP, the Icelandic agricultural policy, as well as other countries that are members of the WTO.

after the Second World War and their aim was to prevent another disaster of the same scale. So far, it has worked well, but most of the critics are too young to remember the food supply problems of the War and take food for granted. It is clear that importing some kinds of foodstuffs would make them cheaper than by relying on domestic production. But that would mean a higher risk to the supply guarantee. Sometimes it has been suggested that food could be used as a weapon in a war situation or during international tensions. That is correct, but when assessing such threats it is important to have a picture of if there is an enemy at all and if so where the threat would be from. A war between EU member states is practically unthinkable today, although tensions in other parts of the world may be higher. In any case, a risk to the supply chain of imported food to the EU would have to be from third countries. A civil disturbance within the Union in the form of riots or terrorism could also cause problems for the safe and secure food supply. People who are concerned about relying on food imports often forget that without imported oil, large parts of the domestic food production and food distribution would disappear. A most prudent approach requires stockpiles of both food and fuel.

Large-scale famines in the world today are essentially limited to war zones in black Africa. Nevertheless there have been many famines in other parts of the world within living memory. There is always a risk of natural disasters, besides the problems humans can make to nature by accidental pollution or deliberate war-like destruction. For an island like Iceland, a couple of thousands of kilometres from mainland Europe and mainland America, difficulties in transport and food supply can be even more critical than on a mainland with milder climate and easier transport lines. There is no doubt that the Icelandic consumer would be happy to see lower food prices. If joining the EU CAP would help lowering these expenses, in their simplest term it would be acceptable. It might be argued that food supply from Europe under the current geopolitical conditions would be very stable. On the other hand, if mainland Europe got into difficulties in food supplies, then other members such as Iceland would suffer also. An analogue could be drawn with the first oil crisis in 1973. Iceland had for many years bought oil from the Soviet Union. Many Icelanders complained over the low quality of the Soviet produced petrol compared to what Europeans enjoyed from OPEC. However, when the oil supply crisis broke out in 1973, causing several restrictions in oil supply on mainland Europe, Icelanders were most thankful for the steady fuel supply from the Soviets. The theory was that secure low quality supplies were better than nothing. The same could easily be said about food, except that food is a lot more critical than oil. Interestingly, when

the Icelandic banking crisis of 2008 indicated that a national bankruptcy and foreign currency shortages could not be excluded, Icelanders were quickly reassured that in a worst-case scenario they would be self-sufficient in food through domestic agriculture and fisheries.

It is reasonable to expect that Iceland under the CAP would continue to have substantial domestic food production, subsidized by the EU instead of solely by the Icelandic state and consumers. But decisions on prices would be a EU affair instead of a national affair. If within the EU the principle of that every member produces the food they do best, it would mean increased efficiency for EU consumers. That in itself is very positive, but there would have to be a political decision on to what extent food would be imported and what to produce locally.

The main criticism against the current Icelandic agricultural policy is the price level on food (Table 19 on pages 155-156) and level of consumers' and taxpayers' support to producers (Figure 12 on page 125 and Table 20 on page 160). Furthermore, besides tariff barriers on imports to Iceland, veterinary rules have sometimes been a hindrance for importing foreign agricultural products. The EU does the same, just to a lesser extent than the Icelandic authorities. We believe that some protection is prudent, but we do find that the Icelandic protection is high when compared to the EU CAP. There is a deadweight loss and waste in both the CAP and in the Icelandic agricultural policy, although as noted in the part on Global Considerations in Agriculture (chapter 6, part 1), the estimations on how big the losses are vary greatly. Nevertheless, both agricultural policies must be praised for their success in providing a safe and steady food supply. As shown in chapter 6, part 6, if Iceland joined the CAP, food prices would fall, disposable income would increase, the Icelandic GDP would increase, and Icelandic farmers will almost certainly complain over falling revenues caused by lower food prices. Just by participating in the CAP, from a macroeconomic perspective, Iceland would save between 1.25% and 2.5% of GDP, where of 0.75% - 2%[231] would come from cheaper food and an estimated 0.5% from farmers moving to more productive jobs. (See also Table 33 on page 244, showing other economic costs and benefits of EU membership).

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[231] As previously noted, households' savings, as a part of their income, would be double of this amount.