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(Keynote Speech)

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Jung - Hwan Lee (president, KREI)

(Presentation and Discussion)

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Chair: Ho - Tak Kim (professor, Seoul National University)

Session

Farm Income Support and Agricultural Policy Reform in Korea

Speaker: Hanho Kim (Professor, Seoul National University)

Discussant: Jong - Ha Bae

(Director General, Ministry of Agriculture and Forestry)

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Session

Sacred Commodities, Traditional Agriculture, Food Security and Trade

Liberalization: Difficult Choices for Newly Rich Countries Like Korea

Speaker: Alex F. McCalla (Professor, UC - Davis, USA)

Discussant: Joo - Ho Song (Senior Fellow, KREI)

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Session

China's Entry into WTO and the Agricultural Development:

Opportunity, Challenge and Strategy

Speaker: Siming Wang (Nanjing Agricultural University, China)

Discussant: Kyung - Ryang Kim (Professor, Kangwon National University)

WTO 가 : , ,

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Session

The WTO and Agricultural Policy Reform in the OECD Area:

Past Achievements and Future Prospect

Speaker: Stefan Tangermann

(OECD Director, Directorate for Food, Agriculture and
Fisheries, Germany)

Discussant: Myungheon Lee

(Assistant Professor, Incheon University)

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WTO's Vision for World Agriculture: Its Origin, Justification, and Limitation

Keynote Speech: Jung-Hwan Lee (president, KREI)

WTO's vision is the complete liberalization of the agricultural trade and the abolishment of all subsidies that distort market functions. The vision has begun to be realized with the successful agreement of Uruguay Round (UR) and is about to enter the phase of new development by Doha Development Agenda (DDA) that is under way. Will the vision be successful indeed? Where is its origin, why is it needed, and what is its limitation?

In the 20th century's world agriculture, the rapid productivity increase has caused redundant production exceeding the demand, and the price of agricultural goods is on the way of long-term fall. To cope with such a trend, countries generally have been applying protective duties since the late 19th century and have introduced various volume regulation systems to directly regulate the import of agricultural goods since the early 20th century. Later since the mid 20th, countries have been active in introducing various political measures for intervening in the domestic market, not just for protecting the border, such as subsidies for production, production adjustment, and governmental purchase for maintaining the price. In 1980s, the protectionism has gone farther to actively provide export subsidies and thus to push out the redundant domestic agricultural produce overseas. At this point, the protectionism has come to its limit where it can hardly continue its way, as the export subsidies eventually provide

monetary support for foreign consumers while the previous protectionism policies, causing social losses, have redistributed only the income among the domestic producers, consumers, or taxpayers.

At last, Uruguay Round started and the century's protectionism has made a reverse turn to the market orientation all at once as the countries, after long hardships and pains, have agreed on the reduction of the border protection and domestic/export subsidies that distort the agricultural production and the trade. If UR is said to be an opportunity to reorganize the world agriculture in accordance with the market supremacy principle, DDA will make an effort to contribute to the actual development of the principle. The success of DDA is the essential test case with which we can determine whether WTO's ideal and vision will succeed. In such a context, all countries will probably agree on that DDA is a world-historical process that cannot be stranded and thus will be bound to reach a successful agreement. That's because all countries acknowledge the need for such an agreement on the basis of failure of the protectionism they have experienced in the 20th century.

What is the end of this trend indeed? Will it reach the complete liberalization of the whole agricultural market? Will all countries reach an agreement on the complete abolishment of the distorting subsidies? Although it is extremely hard to answer such questions with confidence, we may not be able to reach the complete liberalization and abolishment. We cannot exclude the possibility that the trend will conflict with a new one and thus get modified to result in the formation of a new vision. For example, local food with its unique fragrance and taste is not only undeniably precious culture and asset of the human being, but also the condition for the satisfaction of all the consumers around the world, and thus any liberalization threatening such a condition will be hardly

acceptable. The agricultural activities are an essential element to shape the local countryside and thus any liberalization disturbing such activities will also be hardly accepted. The liberalization trend, however, will obviously be maintained and developed for a while. To minimize any resistance and conflict against it, we need the international and national understanding for two issues.

First of all, let's think about the following question. Why did all of Benelux Economic Union (union of Luxembourg, Netherlands, and Belgium), EEC, and GATT exclude the agricultural goods from their agreements? Why do almost all the 250 FTAs, even though they are leading the world trade liberalization with the WTO system, include special measures to delay the abolishment of customs and even allow exception for agricultural goods? Why did all the developed countries get swamped in the protectionism for the last century, as mentioned above? Was it the result of their ignorance or just a coincidence? Also, why did it take 10 years for the UR to be concluded? Why advanced countries had no other option but to reject developing countries' request to reduce domestic subsidies at the risk of the DDA Cancun meeting? More than anything else, on the one hand, buying patterns of agricultural products change flexibly according to increases in incomes and change of consumer tastes. On the other hand, agricultural production depends on the nature, such as the climates and environment of the region. It cannot be changed flexibly, and therefore, there is a significant gap between changes of consumer buying patterns and agricultural production. Accordingly, imports of agricultural products increase and the proportion of agricultural production drops when the economy develops rapidly. In order to change the labor structure according to such changes in the industry, the labor market and the

land market should function properly so that the labor transfer among sectors as well as the transfer of land ownership and land usership must be sufficient and rapid.

However, the labor market of non-agricultural sector is not open to people from the agricultural sector, so only 1 to 2 % of farmers successfully move to other sectors annually. In particular, less than 1% of farmers over 40s change jobs successfully. In the past, the improvement of labor structure was believed to be achieved by movement of labor among different sectors. However, the experiences of advanced nations suggest that such changes are caused by natural generation changes like retirement and death, and by employment of new workers in non-agricultural sectors. The land market has also been unstable, and it has also served as a factor to block the changes in the agricultural sector with the regulations and price rises following the increase in demands from the non-agricultural sector. With such limitations, advanced countries have reached the current status after generational changes for the last 100 to 200 years. For the long period of time, they prevented the income gap among different sectors from getting wider through border protection and domestic price subsidies. After the 1980s, they have in reality supported target incomes by reducing subsidies related to production and expanding direct payment for compensating income losses. In that sense, border protection and domestic subsidies have served as a parachute for a soft landing on the liberalization.

Developing countries like Korea have achieved industrialization for a short period of time compared to advanced nations, and the speed of changes in the industrial structure was 6 to 7 times faster. As a result, there was not enough time to stabilize labor structure through generational changes. The per capita GDP increased, but it is expected to take much more time until the structural changes in the agricultural sector takes place.

However, the WTO tries to strictly limit the border protection and domestic subsidies, which has long been freely used by advanced countries, to developing countries. What the WTO is trying to do is to take away from those developing countries the parachute that advanced countries used for their own soft landing. Will developing countries be able to bring successful changes to their agriculture without the significant income gap among sectors and without social problems? Although some developing countries like China do not seem to have realized such problems, such problems will surely come to plague them as their economic development proceeds. In this regard, all developing countries should have interest in this issue, and the WTO is not an exception.

Let's look at the case of Korea. Although it may seem that its 'problems with agriculture' are 'problems of the industry', it is important to realize that more than 60% of farmers are those who started farming before 1960, when the GDP was under 100 dollars and most people were struggling to escape from hunger, and have no other options now as they are already in their 60s. Also, among 95% of the farmers over 40s, less than 1% change their jobs successfully every year. Therefore, it is necessary to see the problems with agriculture from the "human" perspectives and from the employment perspectives, and to realize that tackling those problems requires a long time. Advanced nations should understand that Korea needs some time before opening its agricultural market, and that it is necessary to utilize direct payments in order to stabilize farmers' incomes and farming. Although Korea has not opened its agricultural market fully, the per-capita subsidiary is only one-ninth of that of the US and the EU. Thus, it would be unfair to uniformly limit subsidies of all countries. Developing countries with no or less domestic subsidies than other developing countries should understand that the problem

that Korea is now facing will have significant impact on their own economic and social development.

Here we can see the necessity that Korea should remain as a developing country in the WTO. Maintaining the status as a developing country means taking some more time before reducing the agricultural tariffs and subsidies. Then why lower rate of reduction should be applied? To discuss this issue, we need to find out why advanced nations should give up on the 'abolishment of tariffs and subsidies and choose to discuss 'gradual reduction', and why agricultural negotiations should have a separate modality according to separate negotiation formalities. If even those countries that have succeeded in agricultural restructuring for 100 to 200 years through generational changes along with industrialization should pursue a separate, gradual opening principle, then Korea, which began its industrialization only 40 years ago, would not be opposing to the WTO principle even if it says that it will accept slow and gradual opening of the agricultural sector in order to wait for the generational change to come.

However, some may criticize that Korea is different from other developing countries like those in Southeast Asia and Africa. This may sound plausible, but in fact this is not true and this distorts the truth of the issue. This is because if there is a country like Somalia, then there is the US, and the truth is that Korea is not like Somalia or India, nor is it similar to the US or Japan. The US, whose industrialization was achieved more than 100 years ago, chose to pursue 'fast reduction' after the UR. If Korea chooses 'fast reduction' from 2015, then other developing countries will have no other option but to choose 'slow reduction'. This is to say that countries should have different time frames for 'fast reduction' according to the level of their own development, and this is not to say that Korea is the same as other developing countries.

But we should accept the fact that the Korean agricultural market should be open, and continuous efforts should be made to make the domestic agricultural policy comply with the international standards. Now, the policy makers and farmers should recognize that the government's roles are clearly different from those of the market. Therefore, they should no longer resort to the government's measures to support production and uphold price stability.

First of all, the government should understand that competitiveness and restructuring of the market are attained by the market force. It should intensively intervene in the works that cannot be carried out by individual farms on a selective basis. The government's work should include technology development, financial and information basis enhancement, removal of the obstacles to the free flow of work force, improvement of the systems to facilitate the transfer of farm ownership and utilization rights.

Secondly, priority should be placed on the stabilization of farmers' income and management. They can be achieved through aggressive weakening of the border protection and price support policy, and direct payment system which not related with production.

Thirdly, we should recognize that the agricultural industry exists because it aims to provide consumers with safe food. To that end, a safety control system should be established to guarantee the safety of domestically produced agricultural product. The agricultural authority should make clear its position that it considers consumers' interests as important as the producers'. In the long run, that will help protect producers' interests.

Last but not least, the agricultural authority should make clear that it concerns over

environmental protection, and it tries to preserve the beauty and cleanness of the countryside, in order for people to use it for both living and recreation. Intensive efforts should be made to establish stringent regulations and a compensation system, to efficiently use the agricultural land, stabilize the ecological environment and strike a material balance.

If the WTO gives Korea leeway to select its own policy, and Korea exerts every effort to comply with the international standards, Korea will be able to make a soft-landing in terms of the market opening. The Korean agricultural industry has already seen a considerable improvement of productivity and succeeded in restructuring. And, the sector can be improved even at a faster speed. Most Korean consumers will purchase domestic agricultural product. China poses a significant threat to the Korean market, but at the same time it could serve as an opportunity. Korea's success will give hopes and courage to less developed nations among the WTO members, and will also facilitate smooth negotiations.

(Program)

13:00 (Registration)

13:20 (Opening Session)

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Welcoming Address: Moo-Ha Lee (Director of RIALS, SNU)

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Keynote Speech: Jung-Hwan Lee (president, KREI)

14:00 (Presentation and Discussion)

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Chair: Ho-Tak Kim (professor, Seoul National University)

1. 가

Farm Income Support and Agricultural Policy Reform in Korea

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Speaker: Hanho Kim (Professor, Seoul National University)

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Discussant: Jong-Ha Bae (Director General, Ministry of Agriculture and Forestry)

2. , , , :

Sacred Commodities, Traditional Agriculture, Food Security and Trade

Liberalization: Difficult Choices for Newly Rich Countries Like Korea

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Speaker: Alex F. McCalla (Professor, UC-Davis, USA)

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3. WTO 가 : , ,

China's Entry into WTO and the Agricultural Development: Opportunity, Challenge and Strategy

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Speaker: Siming Wang (Nanjing Agricultural University, China)

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Discussant: Kyung-Ryang Kim (Professor, Kangwon National University)

4. OECD 가 WTO :

The WTO and Agricultural Policy Reform in the OECD Area: Past Achievements and Future Prospect

: OECD

Speaker: Stefan Tangermann (OECD Director, Directorate for Food, Agriculture and Fisheries, Germany)

:

Discussant: Myungheon Lee (Assistant Professor, Incheon University)

18:00 (Reception)

Farm Income Support and Agricultural Policy Reform in Korea*

Taeho Lee • Hanho Kim(Seoul National University)((

ABSTRACT: In order to prepare for the opening of the agricultural market in the post-UR era, a large scale 'Agricultural Investment and Loan Program' aiming at improving agricultural production structure has been implemented in Korea. However, Korean agriculture is still facing several structural issues causing farm income problems, which in turn are hampering the policy reform directed by the WTO regime. In this paper, some long term policies such as a direct income payment completely decoupled from rice production that does not make farmers stick to rice farming and comprehensive agricultural land policies that guarantee low agricultural land price are suggested.

KEY WORDS: agricultural land policy, agricultural structure, direct payment, farm income support, producer support estimate(PSE)

I. Introduction

Korean agriculture has experienced considerable structural adjustment during last four decades. Along with the adjustment, it has been heavily subsidized. Although the percentage producer support estimate (%PSE) has fallen from 70% in 1986-1988 to 64% in 2001-2003, it is still twice as high as the average of the OECD (TABLE 1). The producer support estimate (PSE) in Korea consists mainly of market price support (MPS) through domestic and trade policy measures. Even though the share of MPS is on the decreasing trend, it is still about 93 percent of total PSE in 2001-2003 (TABLE 1). MPS was the most important policy tool for the Korean government in pursuing its agricultural policy objectives such as farm income support. The Korean government, without clearly specifying the policy target, has used MPS as a panacea which could cure all the problems in agriculture.

Currently, internal and external forces necessitate policy reform in Korean agricultural sector. While the global standards of domestic farm policy demanded by the WTO are the external forces, increasing competition over limited government budget between agricultural

* The paper is prepared for presentation at the KREI – SNU Seminar, Seoul, Korea, September 24, 2004.

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and non-agricultural sectors represents the internal forces. Farm income policy has always been at the center of the policy reform issues, and now it is undergoing considerable academic and political debates. This study is motivated mainly by those debates.

TABLE 1: PSE of OECD and Korea (Unit: million US\$)

	OECD		Korea	
	1986-88	2001-03	1986-88	2001-03
Total value of production(at farm gate)	596484	673377	16985	25824
Producer Support Estimate(PSE)	241077	238310	12120	17264
Market Price Support(MPS)	186331	148597	11997	16038
Payments based on output	12547	11649	0	0
Payments based on area planted/animal numb	15833	34639	0	345
Payments based on historical entitlements	515	11257	0	0
Payments based on input use	20324	21243	88	454
Payments based on input constraints	2993	7242	0	39
Payments based on overall farming income	2253	3486	35	388
Miscellaneous payments	281	197	0	0
Percentage PSE	37	31	70	64
MPS/PSE(%)	77	62	99	93

Source: OECD database

Some interesting questions to be answered in this study are: i) What problems does Korean agriculture have and what is in the background of the problems? ii) How have the current farm income problems have been formed in the process of economic development and trade liberalization? iii) What are the alternative policy options for farm income problems in Korea under the new global standards required by WTO regime?

The case study of Korean agricultural policy reform will provide us with valuable information since Korea is in a unique position in the sense that it is not only a major importer of agricultural products but also a country still trying to complete its industrialization process through structural adjustment.

II. Structural Adjustment and Agricultural Problem

Korean agriculture has experienced considerable structural changes along with economic development and the process of trade liberalization. In the early 1960s, the agriculture's share of GDP and total employment accounted for almost 50 and 60 percents, respectively. It took only four decades for the shares of GDP and total employment to fall to the current levels of 4.5 and 8 percents, respectively. As shown in TABLE 2, the high speed at which Korean agriculture has been changing seems to be unprecedented in the world. Korean agricultural sector is now

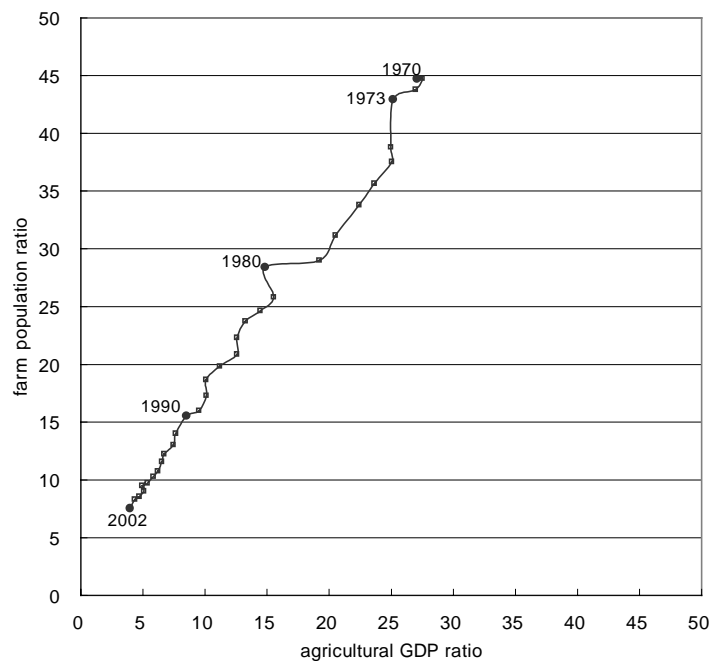
seriously fatigued with the rapid structural changes. FIGURE 1 shows that, due to the fatigue, the speed of adjustment is getting slower (the gaps between the dots in FIGURE 1 are getting smaller) as time goes by. Furthermore, despite the rapid structural changes, Korea still maintains a very large number of very old farmers close to retirement compared to other OECD countries.

TABLE 2: Populations, Employments, Arable Land per Farmer, and International Comparison of Time Required for Structural Changes

Countries	Total population (2002) (thousand)	Agricultural employment (2001) (thousand)	Arable land per farmer (ha) (2001)	Ag. share of GDP			Ag. share of employment		
				year of 40%	year of 7%	years required	year of 40%	year of 16%	years required
Korea	47,430	2,271	0.75	1965	1991	26	1977	1991	14
Japan	127,478	2,608	1.70	1896	1969	73	1940	1971	31
UK	59,287	515	10.97	1788	1901	113	1800	1868	68
Netherlands	16,067	241	3.76	1800	1965	165	1855	1957	102
USA	291,038	2,964	59.11	1854	1950	96	1897	1950	53
Germany	82,414	967	12.22	1866	1958	92	1900	1942	42
Denmark	5,351	106	21.62	1850	1969	119	1920	1962	42
France	59,850	858	21.50	1878	1972	94	1921	1965	44

Source: OECD data base and Lee(1997)

FIGURE 1: Structural Adjustment of Korean Agriculture

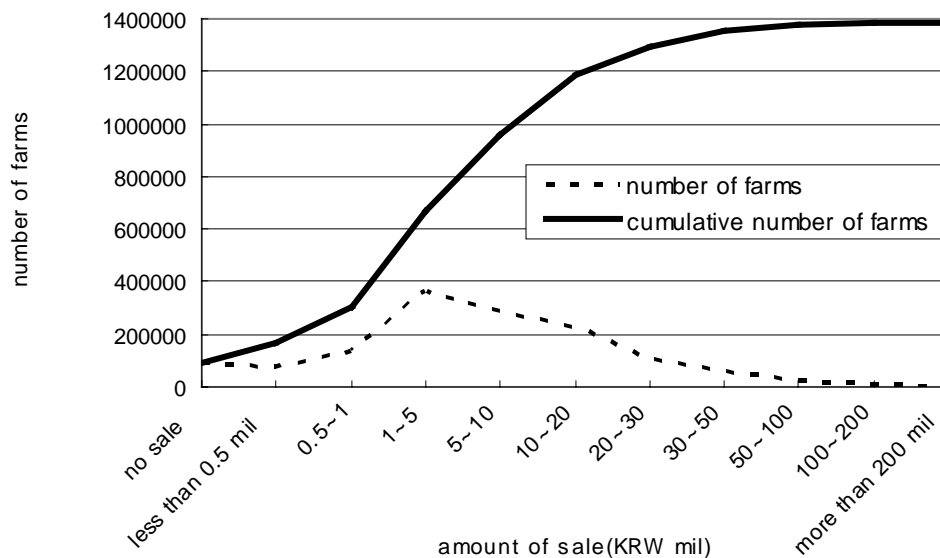


Source: Korean Ministry of Agriculture and Forestry

2.1 Large Farm Employments with Many Small Farms

The share of agriculture in total employment is still near 10% in Korea which is much higher than the average of the OECD. It means that structural adjustment is still underway in Korean agricultural sector. The number of agricultural employment in Korea is almost the same as the total number of German, French, and UK agricultural employment combined together (TABLE 2).

FIGURE 2. Number and Size of Farms('00)



Source: Korea National Statistical Office, Agriculture Census, 2000.

Figure 2 shows that, among 1,400 thousand farms, over 600 thousand farms' sales amount of agricultural products is less than 5 million won (US\$4,200). This large number of small farms has important implications for production efficiency and policy effectiveness in Korea. Since 1970s, Korean government has pursued a farm scale enlargement policy to improve production efficiency. Despite of these efforts, the average farm size is still less than 1.5 ha. The ultimate limitation to the expansion of farm size seems to be the large number of farms. It is very difficult to convert market price support (MPS) to direct payments for an agriculture where there exists a large number of small farms. In this context, reducing the number of farms and farm employments is, in general, regarded as the most urgent prerequisite for successful agricultural policy reform in Korea.

2.2 Excess of Old Farmers: An Aftermath to the Rapid Structural Change

Korean agriculture has inherited an excess number of old farmers as an aftermath to the rapid structural change. Currently, over 50% of total farm managers are 60 years old or over

(TABLE 3). The excess of old farmers and the large number of farms gives rise to several problems hindering effective policy reform.

First, it is difficult to reduce the number of farmers under the excess of old farmers. Currently the ‘natural exits’ by death or retirement has replaced the out-migration as the decisive cause for a decrease in farm labors in Korea (Lee 1997). The rates of ‘natural exits’ are independent of the changes in agricultural share of total economy, and in general very stable. These stable exit rates may cause the number of farmers to decrease at a steady pace which is disproportionate with the rapid shrink of agricultural share in Korea as shown in TABLE 2. This in turn raises a barrier to new entrance of young farmers. In this context, the aging process in Korean agriculture is expected to continue.

TABLE 3: Farm Manager’s Age Distribution(Unit: %)

year	total(1000)	under25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	over70
1990	1767	0.3	1.7	5.3	7.3	9.3	11.8	16.6	16.5	13.0	9.8	8.5
1995	1501	0.1	0.7	2.7	6.3	8.2	10.0	12.5	17.3	17.5	12.1	12.7
2000	1383	0.1	0.5	1.7	4.4	8.0	9.2	11.3	13.9	18.4	16.3	16.4
2003	1264	0.0	0.2	0.7	2.6	6.0	9.6	10.2	12.9	16.7	19.7	21.3

Source: Korea National Statistical Office, Agriculture Census, 2000

Second, land mobility is highly restricted by the large proportion of old farmers. Old farmers with very limited labor mobility have no other choices except farming, which results in very low land mobility. The rigid land mobility is partly responsible for the current high price of farm land. Almost a half of the rice production cost is attributable to rent in Korea. The high price of farm land is regarded as the most restrictive factor in achieving the price competitiveness of rice industry. Due to rigid land mobility, it is very difficult to improve the scale of farms.

2.3 Vulnerable Farm Household Income Structure

The excess of old farmers might have an adverse effect on the income structure of farm household by intensifying the tendency of rice-monoculture. The old farmers tend to stick to rice farming which in general requires less labor compared to other major crops. The government policies have induced the labor saving technology in favor of rice farming as in TABLE 4 for a long time. With this technological condition at hand, the old farmers cannot help but choose rice farming with their infirm labor forces.

TABLE 4: Labor Hours Required for the Cultivation of Major Products (hours / 10 acres)

	Rice	Chinese Cabbage	Red Pepper	Onion	Lettuce (protected farming)	Apple
1981	93(100%)	176(100%)	249(100%)	220(100%)	837(100%)	415(100%)
1995	35(37%)	140(80%)	243(98%)	193(87%)	724(87%)	334(81%)
2001	28(30%)	101(57%)	205(82%)	136(62%)	688(82%)	196(47%)

Source: Korea Rural Development Administration

As a result, rice became a major farm income source which, as a single commodity, accounts for 33 percent of total agricultural production values, and 52 percent of average farm income per farm household (TABLE 5). Combined with the low level of off-farm income, the high dependency of farm income on a single commodity, rice, constitutes very vulnerable farm household income structure. As shown in TABLE 6, Korea has relatively low level of off-farm income compared with other Asian countries of similar agricultural background. Low dependency of farm household income on off-farm sources restricts policy options and makes the burden of government heavier in the process of agricultural policy reform.

TABLE 5: Rice Farming as a Major Income Source

Year	Farm household income (A) (thousand KRW)	Income from farming (B) (thousand KRW)	Income from rice farming (C) (thousand KRW)	Ratio (%)	
				C/A	C/B
1970	256	194	88	34.4	45.4
1980	2,693	1,755	741	27.5	42.2
1990	11,026	6,264	3,097	28.1	49.4
1995	21,803	10,469	3,984	18.3	38.1
2000	23,072	10,897	5,671	24.6	52.0
2001	23,907	11,267	6,051	25.3	53.7

Sources: Korean Ministry of Agriculture and Forestry, "Major Statistics on Agriculture," 2002.

TABLE 6: Share of Off-Farm Income in Farm Household Income

Year	Korea(thous. KRW)			Japan (thous. JPY)			Taiwan (thous. NT\$)		
	A	B	B/A(%)	A	B	B/A(%)	A	B	B/A(%)
1985	5,736	2,037	35.5	6,916	5,850	84.6	310.6	233.7	78.2
1990	11,026	4,762	43.2	8,399	7,235	86.2	503.8	402.9	79.9
1995	21,803	11,334	52.0	8,917	7,474	83.8	871.1	699.0	80.2
2000	23,072	12,175	52.8	8,280	7,176	86.9	917.6	756.5	82.4
2002	24,475	13,200	53.9	7,163	6,234	87.0	860.8	684.4	79.5

A=farm household income, B=off-farm income(transfer income included)

Sources : Korean Ministry of Agriculture and Forestry, "Major Statistics on Agriculture," 2004

Korean government has put much efforts in increasing off-farm income since early 1980s. However, these efforts have not been rewarded satisfactorily. Currently the circumstances to enhance off-farm income are increasingly getting worse. The Korean rural areas do not have comparative advantages in terms of wages or land prices in attracting outside firms that can provide off-farm income opportunities. Currently, many small or medium sized firms are relocating their plants in foreign countries such as China and the ASEAN rather than in domestic rural area.

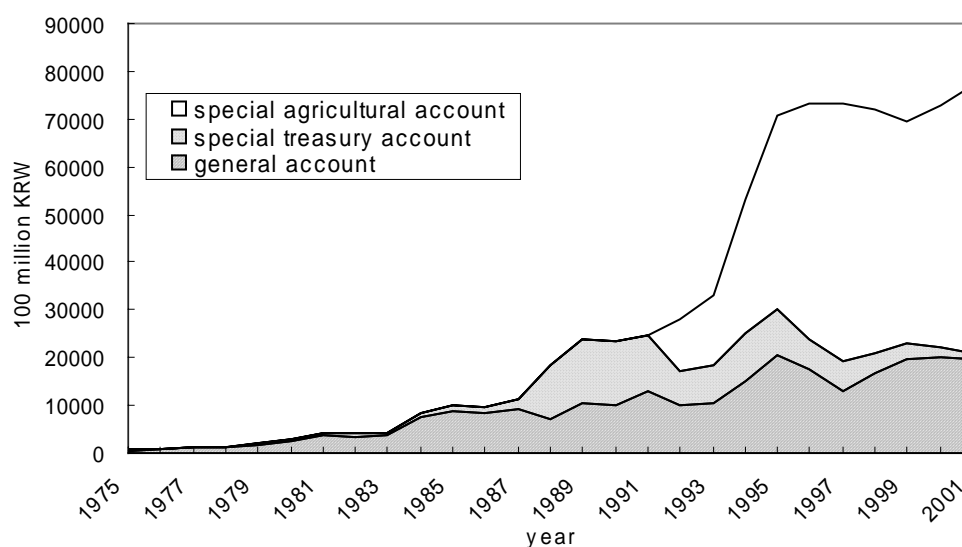
III. Policy for the Post-Uruguay Round Problems

3.1 Agricultural Investment and Loan Program

In 1992 when the UR agreement on agriculture is about to be finalized, the Korean government decided to implement a large scale 'Agricultural Investment and Loan Program' aiming at improving agricultural production structure in preparation for the upcoming agricultural market opening. As shown in Figure 3, the government budget has been sharply increased since 1992, which reflects the budget increase for the Agricultural Investment and Loan Program that is financed by the special agricultural account.

Total fund of 42 trillion won (US\$ 35billion) were appropriated for the program during the period of 1992 to 1998. This program has been extended to 2004 with new fund of 45 trillion won (US\$ 37.5billion). The major sources of the fund consist of agricultural import tariff revenue, value-added tax revenue from some agricultural inputs like assorted animal feeds, and agricultural land conversion duty. Additional special tax revenue, almost 15 trillion won (US\$ 12.5billion) has been also allocated to agricultural investment and loan purposes from 1993 to 2003.

FIGURE 3: The Government Budget for Agriculture



Sources: Korean Ministry of Agriculture and Forestry

However, the effectiveness of the agricultural budget outlay has not increased commensurately with the increase of the budget. For example, in 2002, 8.37 trillion won (US\$ 6.9billion) was allocated to agriculture from the funds mentioned above. But, as shown in Table 7, only 38.7 % of total budget was used for the investment and loan activities aiming at

enhancing agricultural competitiveness. Significant amount of the budget(59.5%) is not used for the actual investment or loan purposes, but used for the compensation for past policy failures including farmers' burden relieve and income compensation, budget deficit compensation, grain market intervention, and debt repayments.

TABLE 7: Composition of Agricultural Budget Outlay ('02)

Activities	Outlay (100 million KRW)	Share(%)
. Investment and Loan Activities	32,429	38.7
◦ production structure improvement and farm mechanization	18,358	21.9
◦ production and marketing improvement	7,861	9.4
◦ technology and information system development	641	0.8
◦ human development; income source development	5,536	6.6
◦ other investment and loan activity	33	0.0
II. Non-Investment and Loan Activities	49,766	59.5
◦ farmers burden relieve and income compensation	16,166	19.3
◦ budget deficit compensation	2,728	3.3
◦ grain market intervention	9,969	11.9
◦ debt repayments related expenditures	20,903	25.0
. Operational Costs	1,510	1.8
Total	83,706	100

* Included only the budget of the Ministry of Agriculture & Forestry (Excluded the budgets of affiliated organizations like Rural Development Administration, Korea Forest Service).

Source: The Korean Ministry of Planning and Budget

3.2 Remaining Problems after the Agricultural Investment and Loan Program

3.2.1 Deterioration of Agricultural Terms of Trade

From early 1990s, right before the implementation of WTO agreements and afterward, the slight increase in the index of average price received by farmers is attributable to the rice which has been under continuous government price support programs. The rice price support was substantial even after the Uruguay Round. Without the increase of rice price the price index for the agricultural products would have declined. However, the prices of vegetable, fruits, livestock animal, which are less important income sources for Korean farmers, have shown sharp declines or fluctuations. Input prices used for agricultural production have increased relatively fast. Especially, the prices for fertilizer, pesticide, farming machinery, and wage have increased approximately as much as 50 percent after 1995.

TABLE 8: Price Indexes Received and Paid by Farmers, and Terms of Trade

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Price Indexes Received	84.5	84.7	91.7	100.0	105.2	102.2	101.9	108.5	109.6	116.4
Rice	84.9	89.1	91.5	100.0	114.9	116.7	124.5	131.4	137.8	135.3
Barley	90.7	95.2	100.0	100.0	100.0	100.0	105.5	110.7	115.2	119.8
Soybean	69.3	78.4	86.3	100.0	103.9	102.7	111.3	142.8	136.0	122.8
Vegetable	80.7	79.9	88.9	100.0	104.6	103.1	105.2	95.7	94.8	106.1
Fruits	65.8	66.4	93.5	100.0	92.5	93.9	93.4	102.0	80.3	61.7
Livestock(Animal)	96.2	88.4	91.0	100.0	100.2	88.3	76.7	96.6	101.1	121.0
Flower	66.0	78.4	83.2	100.0	90.1	93.8	102.6	113.0	95.7	91.2
Price Indexes Paid	90.2	90.9	94.4	100.0	104.3	106.7	118.0	121.2	127.5	139.4
Fertilizer	95.7	96.9	96.9	100.0	100.3	105.8	149.7	149.6	149.6	149.9
Pesticide	95.5	97.9	99.0	100.0	103.7	108.0	140.0	130.7	129.4	132.6
Farming Machinery	130.7	100.6	99.0	100.0	101.6	104.2	153.4	153.8	154.0	154.2
Feed	94.8	95.4	95.6	100.0	104.8	110.5	136.4	109.3	104.8	117.6
Wage Rates	85.4	90.5	93.6	100.0	109.7	116.5	110.5	124.2	140.8	149.1
Terms of Trade	93.7	93.2	97.1	100.0	100.9	95.8	86.4	89.5	86.0	83.5

Source: Korean Ministry of Agriculture and Forestry, "Major Statistics on Agriculture", 2002.

As a result, the terms of trade, defined as the ratio of the prices received by farmers to the prices paid by farmers, have been deteriorated since 1995, falling down to 83.5% in 2001. It is expected that prices of agricultural products would fall as import liberalization proceeds. And the input prices are expected to increase continuously due to the chronic imperfect competition in the input market. The falling trend of the terms of trade does not seem to be reversed in the near future.

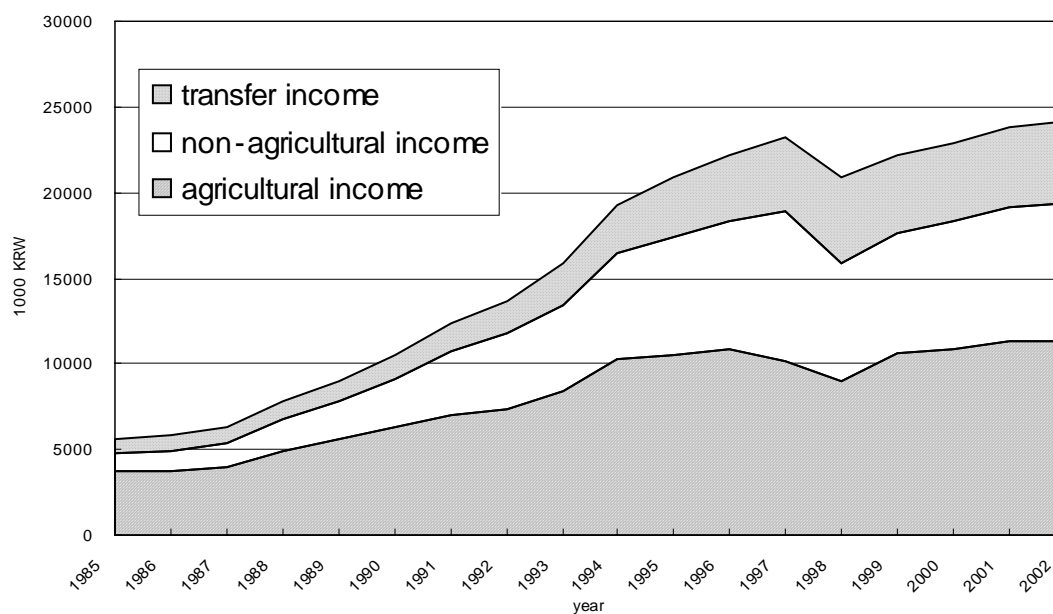
3.2.2 Widening Income Disparity

There was a big change in farm household income growth pattern around 1995. Before 1995 both income from farming and total farm household income were increasing at two digit annual growth rates. However, the growth rates have begun to seriously decline since 1995. In fact, the growth rates of income from farming and total farm household income even fell down to negative levels in 1997 and 1998. Considering that the number of farm household has been decreasing at 3 percent annually on average, the stagnation of income from farming and total farm household income has been even more serious. Several factors might be responsible for such serious income stagnation. Market opening due to the UR, and financial crisis in 1997 might be the most influential factors. The most sudden drop to negative growth rates in 1998 might be due to the financial crisis.

The stagnation of farm household income is clearly identified by comparing it with the urban income. Since the late 1980s, the farm household income has lagged behind the urban labor's household income. However, the gap continued to be widening further after 1995

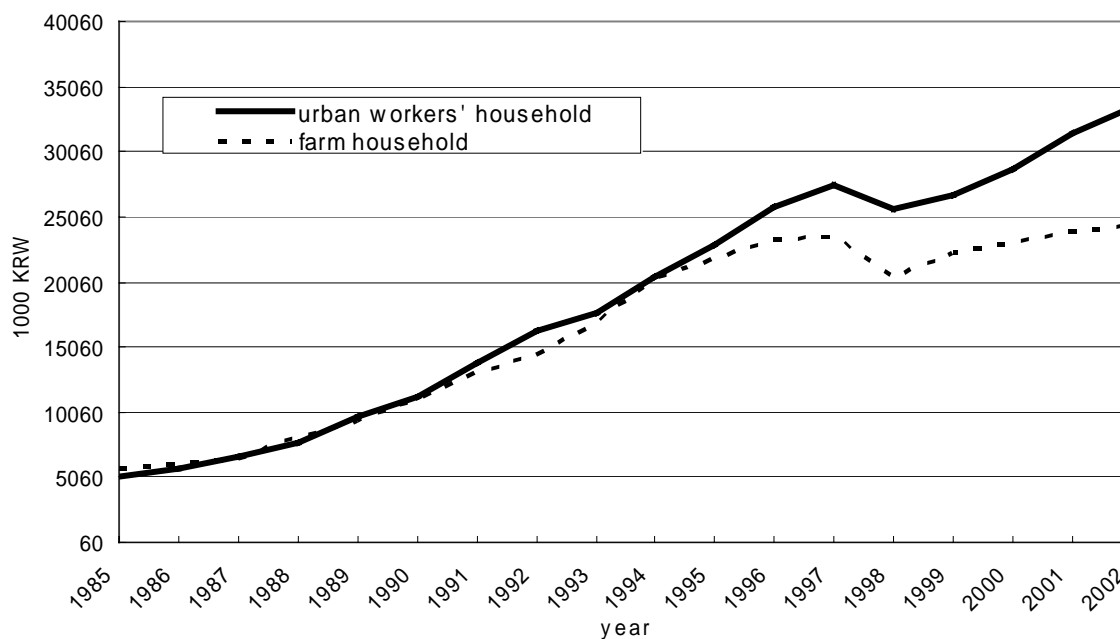
(FIGURE 5). In 2002, the farm household income fell down to 73 percent of urban laborers' household income.

FIGURE 4: Farm Income Trend



Source: Korean Ministry of Agriculture and Forestry

FIGURE 5: Income disparity between farm households and urban laborers' households



Source: Korean Ministry of Agriculture and Forestry

IV. Farm Income support Policy

4.1 A Brief History of Farm Income Support Policies

Until the 1980s farm income policies mainly consisted of market price support programs that included a broad range of policy measures such as the two-tier price for grain and the import restrictions for agricultural products. After the mid 1980s, rural industrialization became a new alternative for price support policy. It was believed that the development of small and medium firms in rural communities could increase rural household income by creating job opportunity. However, the rural industrialization policy was not so successful for the following reasons:

1) In contrast to the relatively decentralized pattern of industrialization in Taiwan and Japan, industrialization in Korea was concentrated in the Seoul and Busan areas. And so was the infrastructure for the industrialization.

2) A depletion of young and productive human capital in rural areas occurred as a result of migration from rural to urban areas (Song, 1991).

In the early 2000s, Korean government began to realize that “The Rural Structural Improvement Project” was not so successful. Though Korean government wanted to see a soft landing of agriculture, the economic indicators of agriculture were set in a crash landing course. As shown above, the scale of farms were not enlarged enough to get the benefit of economies of scale and the structure of agriculture was not adjusted satisfactorily.

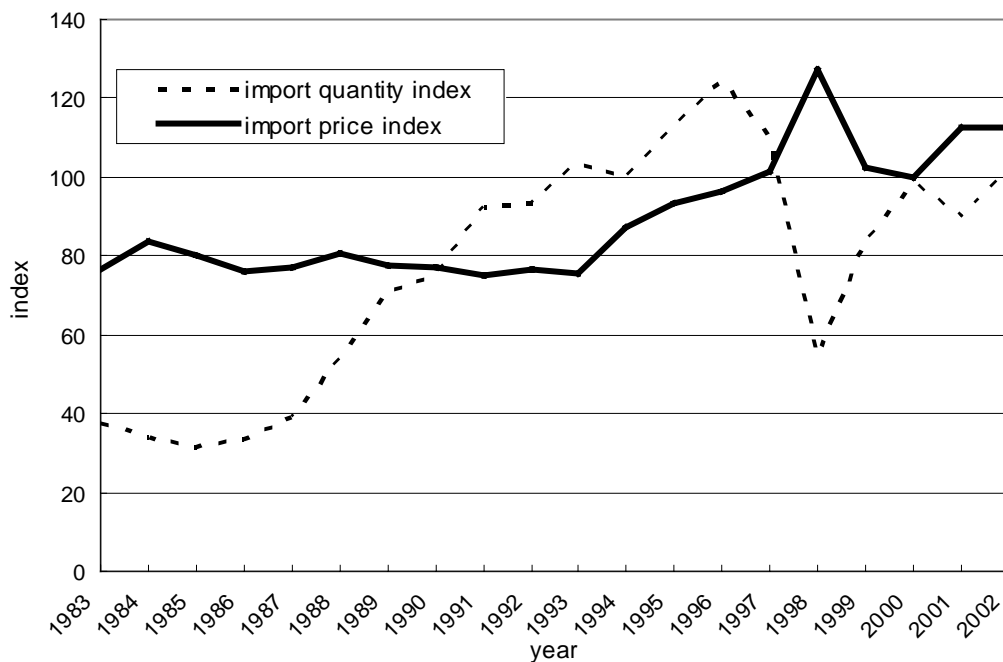
To rectify the problems, the government divides its agricultural policy into three parts—agricultural industry policies, farmer policies, rural community policies. For the agricultural industry policies, the government is trying to get rid of less market oriented programs and promoting “innovative policies that facilitate responsiveness to market conditions by agricultural producers.”¹ For the farmer policies and the rural community policies, the government is taking a role of ‘the visible hands’ and trying to correct the results of market failures in the agricultural sector. The problems such as low farm income, weak agricultural labor power and insufficient farmers’ welfare are the major concerns of the government. The farm income support policy is beginning to be used as a comprehensive countermeasure against those major problems.

¹ OECD, Ministerial Communiqués Related to Agricultural Policies, 1998, www.oecd.org/agr/ministerial/commune.htm

4.2 Suggestions for Farm Income Support Policy

Since the UR, Korean government tried very hard to rectify the aftereffects of the rapid and compact economic growth on agriculture such as ‘large number of farm employments with small size farms,’ ‘excess number of old farmers,’ and ‘vulnerable income structure.’ The government spent billions of dollars in “The Agricultural Investment and Loan Program” for restructuring of the agriculture. However, farm income growth rate began to slow down in 1994 when the first market opening shock hit the domestic market (FIGURE 4). Figure 6 shows that, in the early stage of agricultural trade liberalization, the market opening power was so strong that both the import quantity and the price went up simultaneously. As we have seen in Table 8 and Figure 5, the deterioration of agricultural terms of trade and the income disparity became eminent after the opening of agricultural product market in 1994.

FIGURE 6: The Import Quantity and Price Index of Agricultural Products



Source: Korean Ministry of Agriculture and Forestry

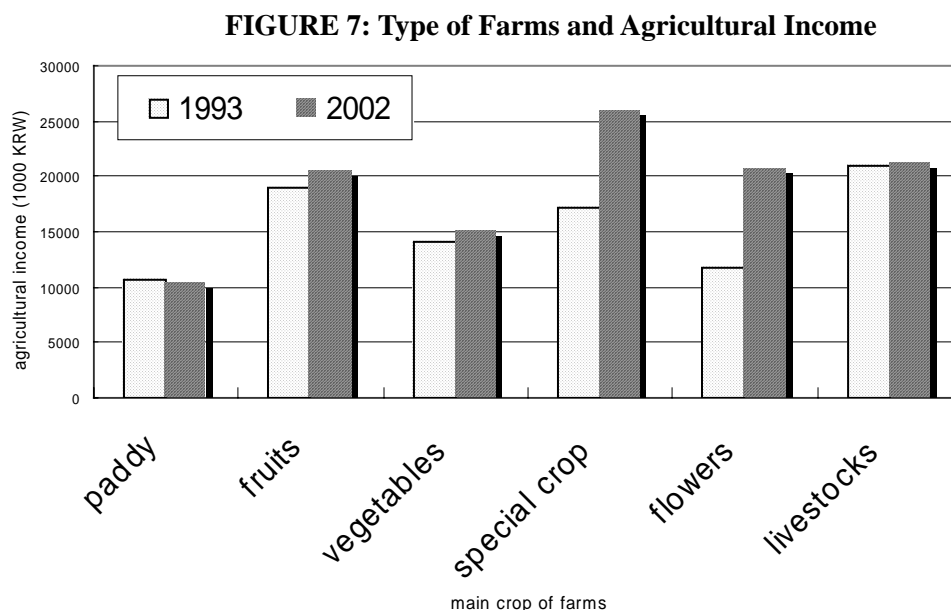
It is clear that the government policies could not make the agriculture recover from the trade liberalization shock. “The Agricultural Investment and Loan Program” failed in creating appropriate structural changes that are needed for farmers to make sufficient agricultural income. Hence, Korean government has to bear a heavy burden of running farm income programs and agricultural restructuring programs at the same time.

4.2.1 Farm Income Program: Direct Payment for Rice Farmers

Rice is the most special and sensitive agricultural product in Korea. About a half of farm income is generated from rice farming. However, Korean Rice industry suffers from chronic excess supply problems. Although per capita consumption of rice is decreasing very rapidly (137kg in 1979, about 80kg in 2004), old rice farmers do not want to give up rice farming. Furthermore, the mandatory rice import quota (MMA or TRQ) imposed by the UR agreement will be increased substantially after the WTO/DDA negotiation. It is obvious that the domestic price of rice will go down due to the excess supply and so will be the income of farmers.

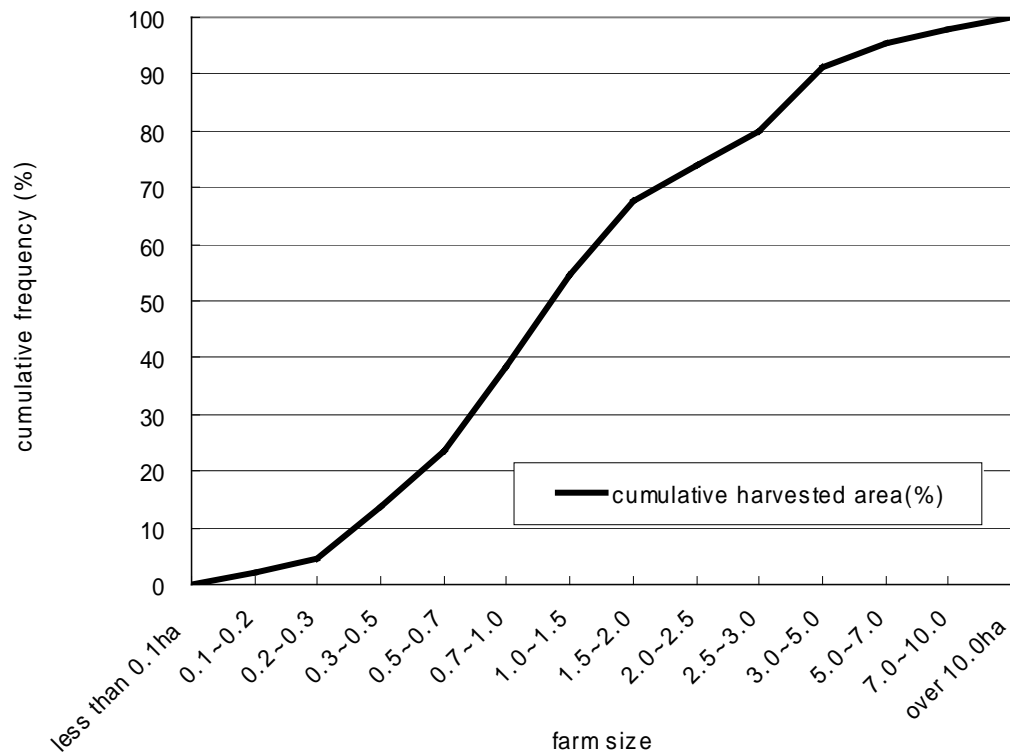
According to Figure 7, the income from paddy rice farming was decreased during the period of 1993-2002 while the incomes from other farm products were increased. About one half of rice farms had harvested area less than 1.5ha (Figure 8). Table 9 shows that rice took up 33.9% total PSE in 2003. To sum up, rice farmers in Korea are old, poor and with small farms.

To overcome these problems, various blue box subsidy programs and farm scale improvement programs are tried and implemented. But many of the rice farmers still think that market price support (MPS) is the best policy measure for them. Old farmers are not interested in expanding the size of their farms. Farmers with small farms are not attracted to blue box subsidy that is paid for the area of farms. The farm scale improvement programs are working much slower than expected due to the high price and the low mobility of agricultural land. However, because of the excess supply problem and WTO's criteria for domestic support, MPS is no longer a good policy option for the government.



Source: Korea National Statistical Office, Agriculture Census, 2000.

FIGURE 8: Cumulative Distribution of Rice Farm Size ('00)



Source: Korea National Statistical Office, Agriculture Census, 2000.

TABLE 9: The PSE of Agricultural Products in Korea(Unit: million US\$)

	1986	1989	1992	1995	1998	2001	2003
rice(A)	4567	8192	8013	8258	4930	6976	5767
barley	214	412	328	322	100	211	143
soybeans	136	334	234	323	160	189	214
milk	335	686	656	762	524	747	811
beef and veal	485	844	1036	1727	646	1073	1204
pig meat	390	525	859	1242	443	252	581
poultry meat	86	295	396	601	159	237	201
eggs	1	174	198	106	88	104	121
garlic	295	608	730	1140	633	54	250
red pepper	467	241	896	1112	354	671	517
Chinese cabbage	67	146	115	158	108	125	131
percentage PSE	66	76	73	72	57	63	60
MPS	9437	18207	18792	23860	11769	15432	15510
PSE(B)	9491	18487	19700	25204	12475	16399	17016
A/B(%)	48.1	44.3	40.7	32.8	39.5	42.5	33.9

Source: OECD data base

At this point, a direct payment completely decoupled from rice production that does not make farmers stick to rice farming can be an effective policy measure. Of course, it is necessary to allow an adjustment period for farmers who want to switch over to other crops or other industries. During the adjustment period, the MPS should be cut down gradually and substituted slowly by appropriate income safety nets or welfare programs

4.2.2 Agricultural Restructuring Program: Agricultural Land Policy

In Korea, the price of agricultural land is so high that a good portion of production cost is paid for rent. For example, in the case of rice, 45.4% of production cost is paid for the paddy field rent (TABLE 10). Also the high price of agricultural land is the worst obstacle for the farm scale improvement policy. The high cost of production and small farm size are the principal causes of farm income problems. The acute rise of agricultural land price in late 1990s considerably worsened farm income situation (FIGURE 9).

Due to the high price of agricultural land, most of the farmers have to expand their farm land by renting rather than purchasing. Hence, the area of agricultural land cultivated by tenant farmers is expanding rapidly. Already 45% of agricultural land is cultivated by tenant farmers. The government is helping many commercial tenant farmers to acquire land through midterm lease/loan programs provided by the farm scale enlargement policy.

However, this tenant farm oriented policy has two shortcomings. The first one is that it is not good for environment-friendly farming. For environment-friendly farming, especially for organic farming, the top soil of the farmland should be tamed carefully. It might not be attractive for tenant farmers to preserve good quality top soil for organic farming since it needs long-term investment.

The second one is that it is not good for direct income payment programs. Direct income payment programs are designed for farmers' benefit not for land owners.' However most of the direct income payment programs are based on the area of farms, the benefit of the payment eventually go into land owners' pocket. If the government wants to support environment-friendly farming and to stabilize tenant farmers' income through direct income payment programs, it is necessary to give up tenant farm-oriented policy. And if the government wants to expand the size of farms without using tenant farm-oriented policy, it is necessary to keep the level of agricultural land price sufficiently low so that the farmers can purchase land more easily.

In order to keep the agricultural land price low, the government may take a three step approach as follows. First, set up a comprehensive national land use plan. Second, according to the plan, implement appropriate legal restrictions on the use of agricultural land. Third, establish

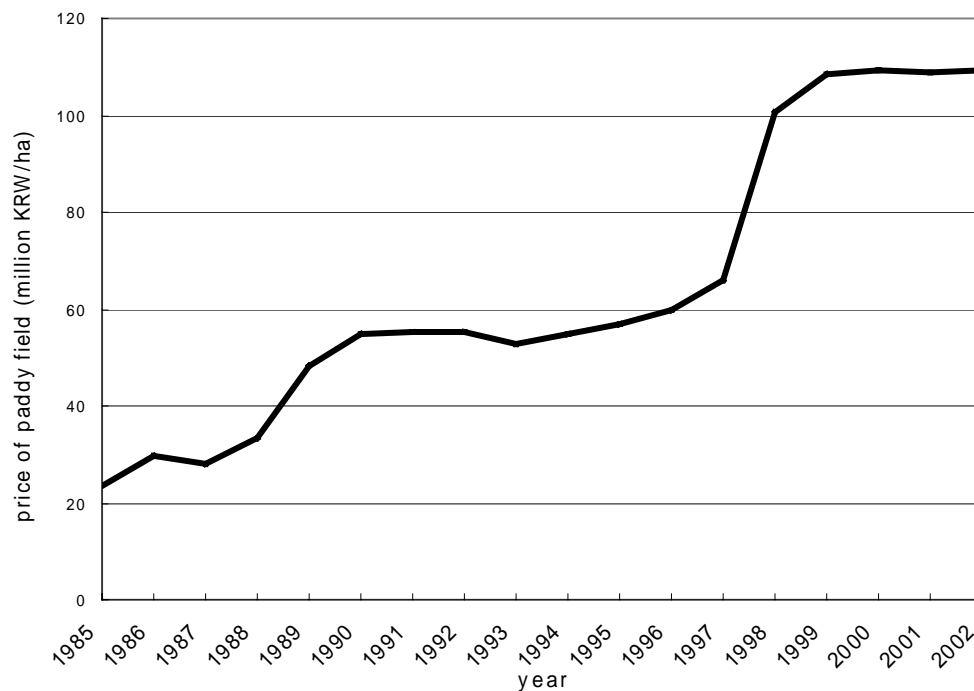
an institution that deals with long term lease/loan program for agricultural land (e.g. a land bank).

TABLE 10: Rice Production Cost

	2001		2002	
	KRW	ratio(%)	KRW	ratio(%)
production cost per 0.1ha	535,712	100	529,609	100
- seed	10,065	1.9	9,763	1.8
- fertilizer	23,567	4.4	24,842	4.7
- insecticide	26,024	4.9	22,549	4.3
- tools & machine	80,128	15	80,368	15.2
- wage	115,774	21.6	112,738	21.3
- rent for land	241,006	45	240,639	45.4
- interest	25,989	4.9	24,716	4.7
- others	13,159	2.4	13,994	2.6
production cost per 80kg	81,371		87,995	

Source: Korean Ministry of Agriculture and Forestry

FIGURE 9: The Trend of Average Agricultural Land Price



Source: Korean Ministry of Agriculture and Forestry

V. Conclusion

After the UR, Korean government and farmers tried hard to restructure the agriculture in preparation for the opening of agricultural market. However, the fast structural adjustment did not solve farm income problems but brought about many controversial issues such as rapidly aging farmers, too many tenant farmers, rice-monoculture, and so on. Those issues are not likely fixed by mid-term policy programs that are only useful for patching up temporary income fluctuations. For a more thorough settlement, it is necessary to implement long term policies such as completely decoupled direct income payment policies and comprehensive agricultural land policies that guarantee low agricultural land price.

For Korean agriculture, 2004 is a year of negotiation. So called “The Rice Negotiation”² and the WTO/DDA negotiation is under way. Whatever the results of the negotiations turn out to be, the Korean agricultural market will be opened wider than ever. And Korean farmers will suffer from the reduction of the PSE. If the attempt to the structural adjustment was successful, Korea could open its agricultural market more willingly. However, the negotiations could be enlightening experiences for Korean agriculture. If the government and farmers could learn that all agricultural problems cannot be solved through a few months of negotiation, the government and farmers would concentrate on long term agricultural policies that could transform the agriculture into more efficient industry.

² According to the UR agreement on agriculture annex 5 section B, a negotiation on the question of whether there can be a continuation of the minimum market access (MMA) quota for rice shall be initiated and completed within 2004.

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* 2004 9 24

** : aglee@snu.ac.kr , hanho@snu.ac.kr.

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1: OECD PSE (:)

	OECD		Korea	
	1986-88	2001-03	1986-88	2001-03
Total value of production(at farm gate)	596484	673377	16985	25824
Producer Support Estimate(PSE)	241077	238310	12120	17264
Market Price Support(MPS)	186331	148597	11997	16038
Payments based on output	12547	11649	0	0
Payments based on area planted/animal numb	15833	34639	0	345
Payments based on historical entitlements	515	11257	0	0
Payments based on input use	20324	21243	88	454
Payments based on input constraints	2993	7242	0	39
Payments based on overall farming income	2253	3486	35	388
Miscellaneous payments	281	197	0	0
% PSE	37	31	70	64
MPS/PSE(%)	77	62	99	93

: OECD

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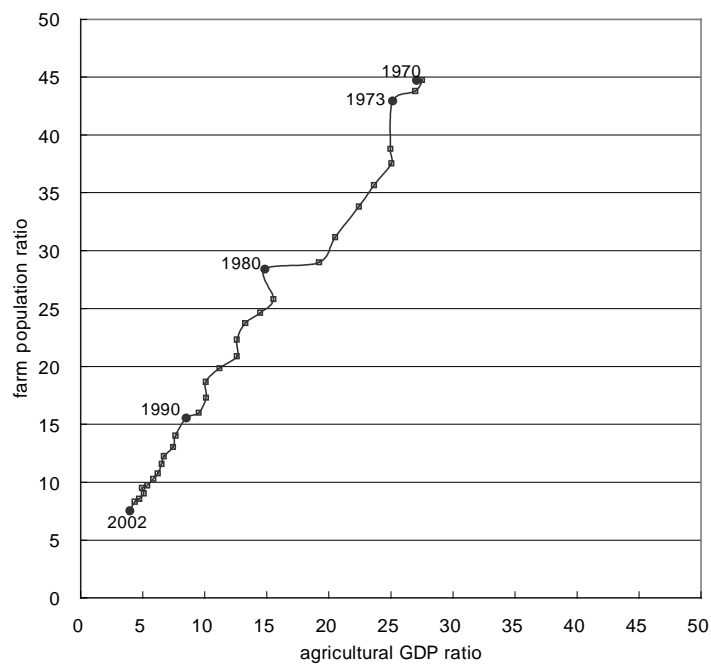
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가	(2002) (1,000)	(2001) (1,000)	1 (ha) (2001)	GDP					
				40%	7%	()	40%	16%	
	47,430	2,271	0.75	1965	1991	26	1977	1991	14
	127,478	2,608	1.70	1896	1969	73	1940	1971	31
	59,287	515	10.97	1788	1901	113	1800	1868	68
	16,067	241	3.76	1800	1965	165	1855	1957	102
	291,038	2,964	59.11	1854	1950	96	1897	1950	53
	82,414	967	12.22	1866	1958	92	1900	1942	42
	5,351	106	21.62	1850	1969	119	1920	1962	42
	59,850	858	21.50	1878	1972	94	1921	1965	44

: OECD , (1997).

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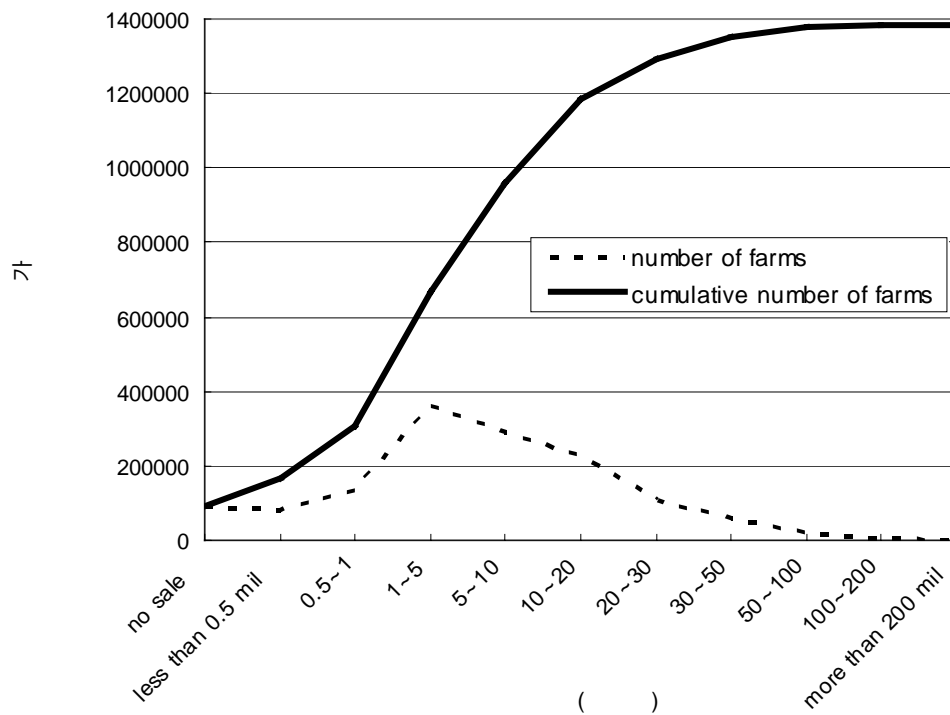
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	(1,000)	25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70
1990	1767	0.3	1.7	5.3	7.3	9.3	11.8	16.6	16.5	13.0	9.8	8.5
1995	1501	0.1	0.7	2.7	6.3	8.2	10.0	12.5	17.3	17.5	12.1	12.7
2000	1383	0.1	0.5	1.7	4.4	8.0	9.2	11.3	13.9	18.4	16.3	16.4
2003	1264	0.0	0.2	0.7	2.6	6.0	9.6	10.2	12.9	16.7	19.7	21.3

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1981	93(100%)	176(100%)	249(100%)	220(100%)	837(100%)	415(100%)
1995	35(37%)	140(80%)	243(98%)	193(87%)	724(87%)	334(81%)
2001	28(30%)	101(57%)	205(82%)	136(62%)	688(82%)	196(47%)

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	가 (A) (1,000)	(B) (1,000)	(C) (1,000)	(%)	
				C/A	C/B
1970	256	194	88	34.4	45.4
1980	2,693	1,755	741	27.5	42.2
1990	11,026	6,264	3,097	28.1	49.4
1995	21,803	10,469	3,984	18.3	38.1
2000	23,072	10,897	5,671	24.6	52.0
2001	23,907	11,267	6,051	25.3	53.7

: , “ , ” 2002.

6: 가

	(1,000)			(1,000)			(1,000)		
	A	B	B/A(%)	A	B	B/A(%)	A	B	B/A(%)
1985	5,736	2,037	35.5	6,916	5,850	84.6	310.6	233.7	78.2
1990	11,026	4,762	43.2	8,399	7,235	86.2	503.8	402.9	79.9
1995	21,803	11,334	52.0	8,917	7,474	83.8	871.1	699.0	80.2
2000	23,072	12,175	52.8	8,280	7,176	86.9	917.6	756.5	82.4
2002	24,475	13,200	53.9	7,163	6,234	87.0	860.8	684.4	79.5

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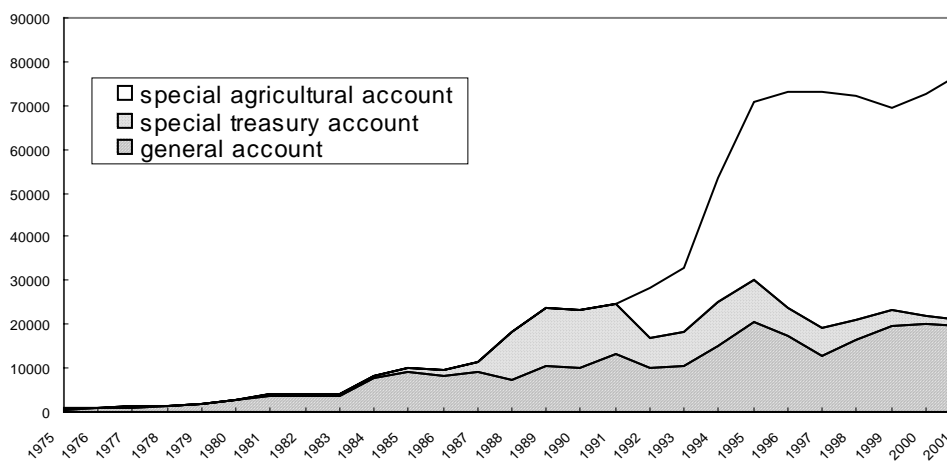
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	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
가 가	84.5	84.7	91.7	100.0	105.2	102.2	101.9	108.5	109.6	116.4
	84.9	89.1	91.5	100.0	114.9	116.7	124.5	131.4	137.8	135.3
	90.7	95.2	100.0	100.0	100.0	100.0	105.5	110.7	115.2	119.8
	69.3	78.4	86.3	100.0	103.9	102.7	111.3	142.8	136.0	122.8
	80.7	79.9	88.9	100.0	104.6	103.1	105.2	95.7	94.8	106.1
	65.8	66.4	93.5	100.0	92.5	93.9	93.4	102.0	80.3	61.7
	96.2	88.4	91.0	100.0	100.2	88.3	76.7	96.6	101.1	121.0
	66.0	78.4	83.2	100.0	90.1	93.8	102.6	113.0	95.7	91.2
가 가	90.2	90.9	94.4	100.0	104.3	106.7	118.0	121.2	127.5	139.4
	95.7	96.9	96.9	100.0	100.3	105.8	149.7	149.6	149.6	149.9
	95.5	97.9	99.0	100.0	103.7	108.0	140.0	130.7	129.4	132.6
	130.7	100.6	99.0	100.0	101.6	104.2	153.4	153.8	154.0	154.2
	94.8	95.4	95.6	100.0	104.8	110.5	136.4	109.3	104.8	117.6
	85.4	90.5	93.6	100.0	109.7	116.5	110.5	124.2	140.8	149.1
	93.7	93.2	97.1	100.0	100.9	95.8	86.4	89.5	86.0	83.5

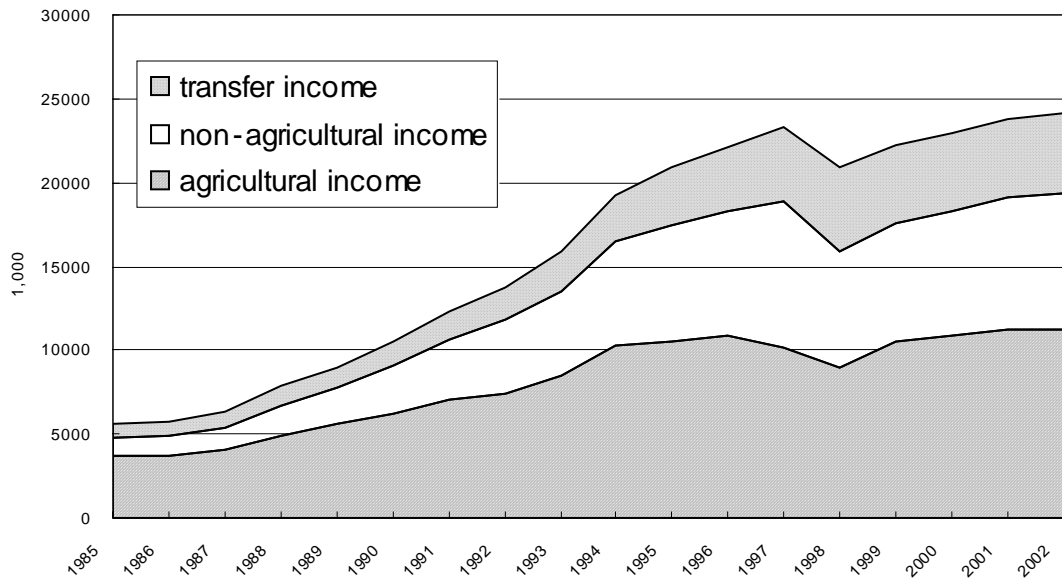
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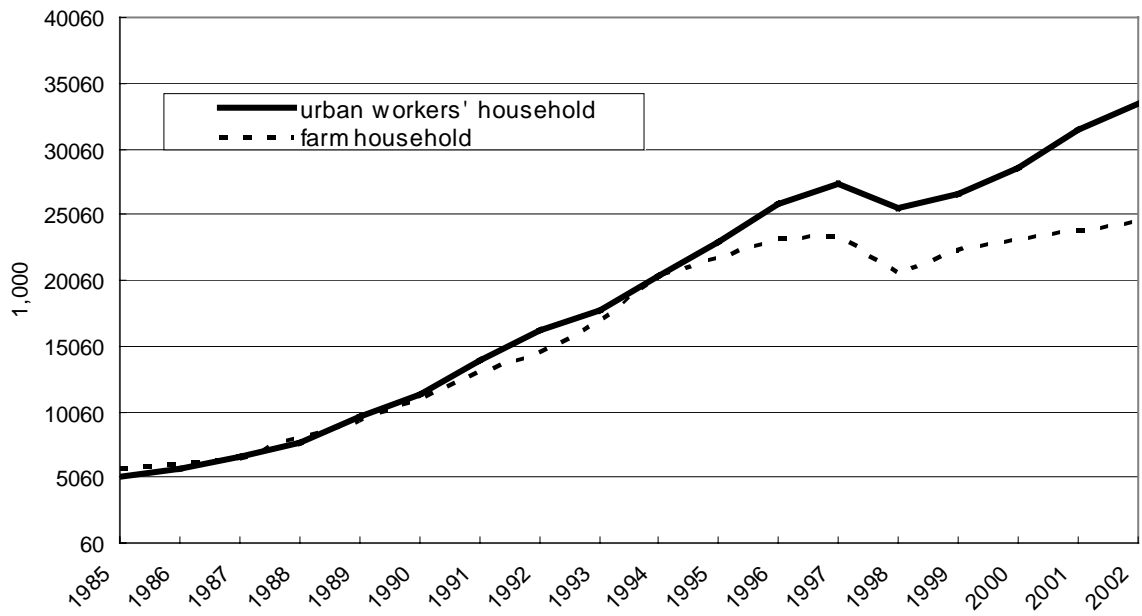
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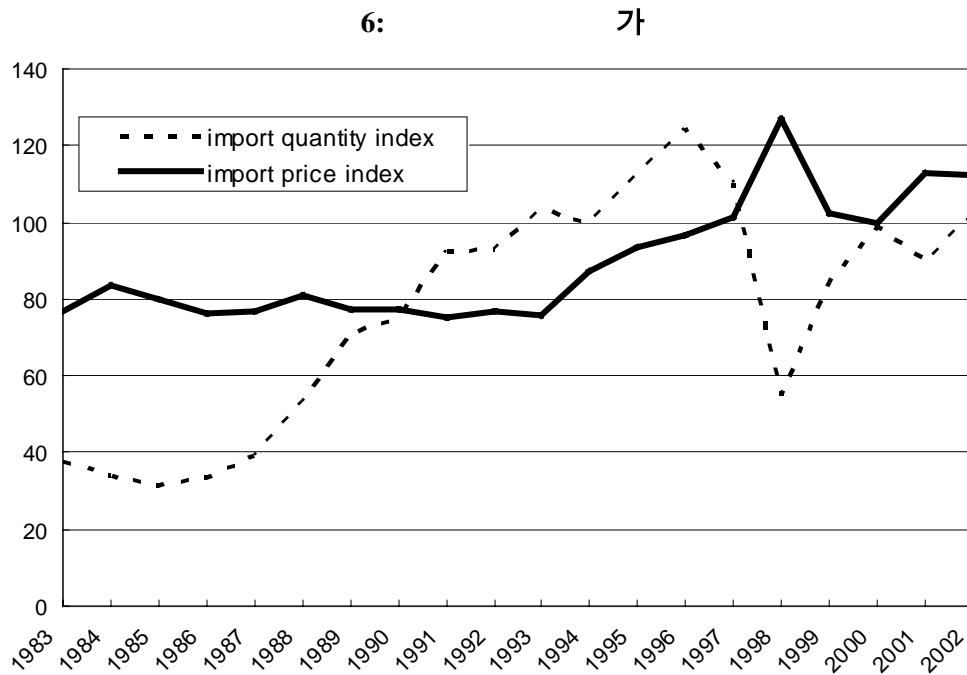
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¹ OECD,

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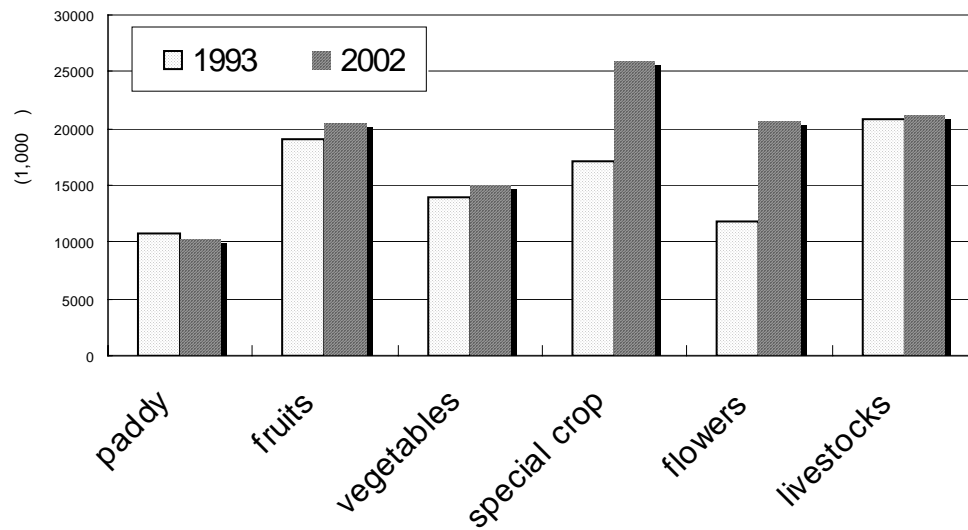
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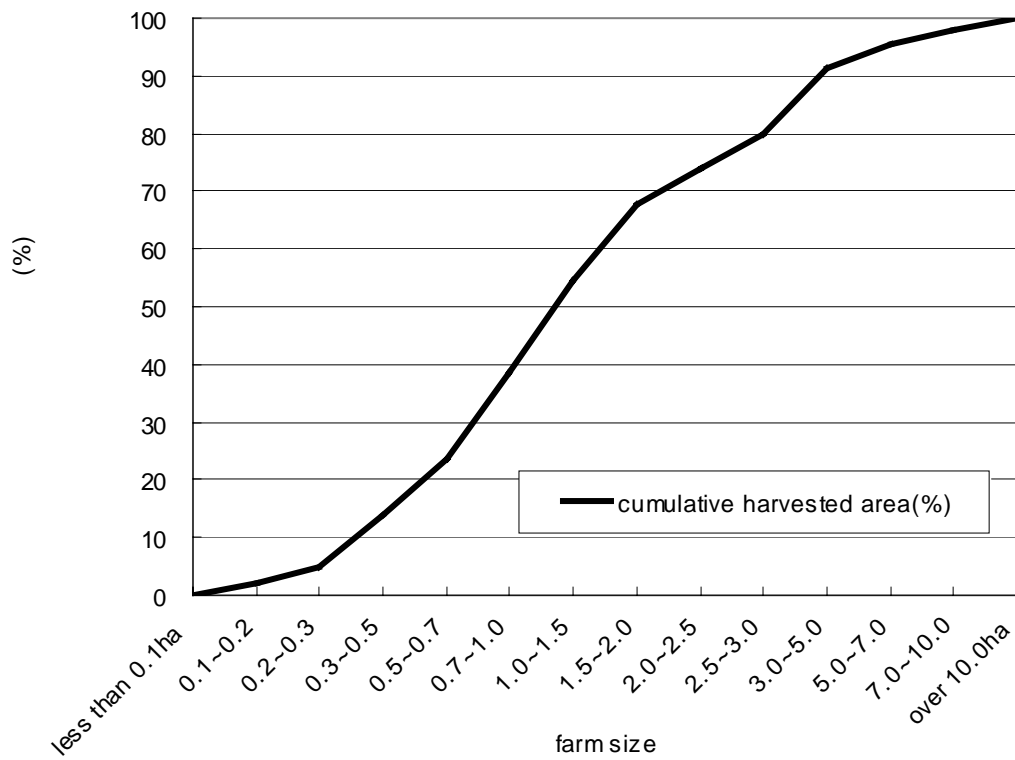
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	1986	1989	1992	1995	1998	2001	2003
(A)	4567	8192	8013	8258	4930	6976	5767
	214	412	328	322	100	211	143
	136	334	234	323	160	189	214
	335	686	656	762	524	747	811
	485	844	1036	1727	646	1073	1204
	390	525	859	1242	443	252	581
	86	295	396	601	159	237	201
	1	174	198	106	88	104	121
	295	608	730	1140	633	54	250
	467	241	896	1112	354	671	517
	67	146	115	158	108	125	131
% PSE	66	76	73	72	57	63	60
MPS	9437	18207	18792	23860	11769	15432	15510
PSE(B)	9491	18487	19700	25204	12475	16399	17016
A/B(%)	48.1	44.3	40.7	32.8	39.5	42.5	33.9

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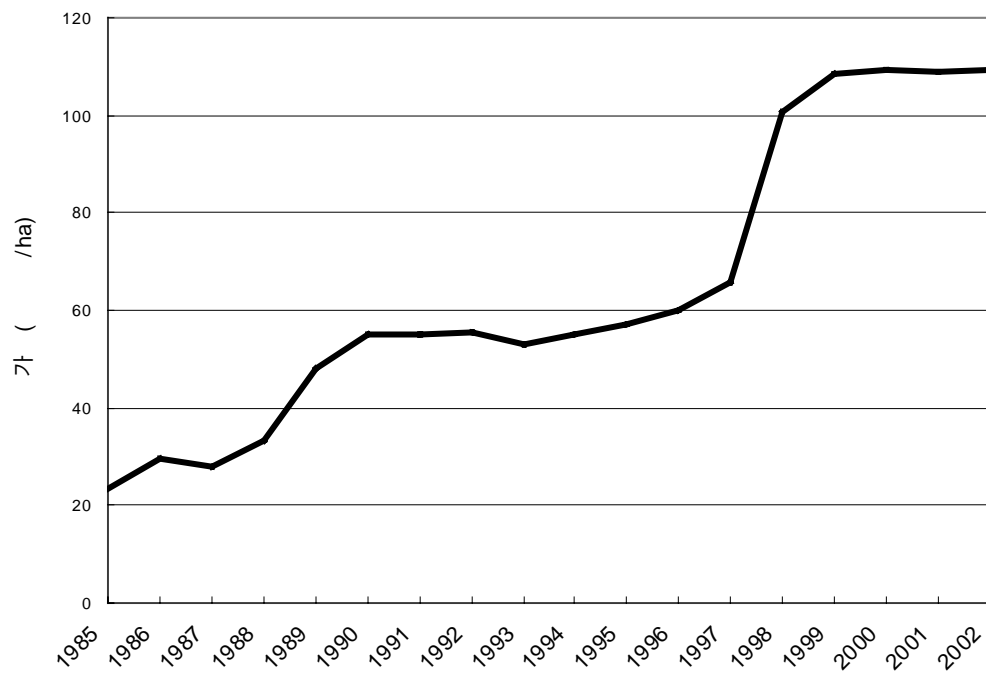
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	2001		2002	
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0.1ha	535,712	100	529,609	100
-	10,065	1.9	9,763	1.8
-	23,567	4.4	24,842	4.7
-	26,024	4.9	22,549	4.3
-	80,128	15	80,368	15.2
-	115,774	21.6	112,738	21.3
-	241,006	45	240,639	45.4
-	25,989	4.9	24,716	4.7
-	13,159	2.4	13,994	2.6
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SACRED COMMODITIES, TRADITIONAL AGRICULTURE, FOOD SECURITY AND TRADE LIBERALIZATION: DIFFICULT CHOICES FOR NEWLY RICH COUNTRIES LIKE KOREA*

Alex F. McCalla (University of California, Davis)

Abstract

The transformation of Korea from a poor agrarian economy in the 1960s, to a richer, new member of the OECD in less than 40 years was phenomenal. In the transformation, agriculture declined in importance and was buffeted by changes in roles and policy regimes. Korea participated in the Uruguay Round of GATT/WTO negotiations as a developing country but is participating in the Doha Round as a developed country.

These events face Korea with critical challenges of how to respond to pressure to further liberalize access to their markets, while meeting legitimate domestic concerns about:

- 1) food security – especially concerns about relying on World Markets for an even larger share of domestic consumption;
- 2) the welfare of Korean farmers and the health of the rural sector;
- 3) protecting domestic producers and consumers from importing excessive instability from World Markets in terms of prices, trade flows and capital movements.

Korea faces hard policy choices and potentially unpleasant tradeoffs as she prepares for the conclusion of the Doha Round.

The paper discusses possible policy choices. These are:

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Complete liberalization by removing support for the remaining set of protected commodities – rice, barley, meat and milk.
Would this be the end of a viable commercial agriculture?

- 1) Korea could continue to press for a “Food Security Box” where countries are allowed to continue protection of a few “sensitive” commodities. Does Korea’s OECD status make this option difficult? Is the status quo an option?
- 2) Liberalize as in 1), but replace income transfers via border measures and high consumer prices, with direct payments linked to historic land holdings or use world market prices and deficiency payments to transfer income. A less distorting option, which shifts policies from orange to blue/green box.
- 3) Request a substantial adjustment period, backend loading barrier reductions and investing heavily in the rural sector – research and development, infrastructure, market innovation – and create an agricultural/rural sector which is internationally competitive. Is this option really feasible given Korea’s natural resource endowment?

The paper does not provide a silver bullet solution for Korea because there is not one. But it does discuss the advantages and disadvantages of each option. The final choice is, of course, for Korea to make.

I. Introduction

It is a great honor to be invited to address such an important topic at this Symposium. The challenges facing net food-importing countries that are seriously concerned about food security, and have issues of rural income inequality, are real and difficult. It is easy for economists to cite the costs of protectionism and argue for liberalization. But it is difficult for a country to do that in real time because every policy reform produces losers as well as winners. This author has preached liberalization and domestic policy reform for decades but has never had to implement these reforms. Those who invited me to this symposium asked me to discuss what would be “a reasonable response for food-importing countries like Korea” to globalization and trade liberalization. It is a difficult assignment, but I will do my best.

First, let me make my position clear. For nearly forty years I have written about agricultural trade, trade liberalization and domestic policy reform, and rural development in an open economy setting. So in terms of the generic topic, I may have some qualifications. But I have never before visited South Korea (hereafter called the Republic of Korea, or simply Korea), nor have I studied the amazing Korean transformation between 1960 and the 1990s in any detail. Thus, the “like Korea” part of the invitation required a month-long crash course on Korean

development. I now have some understanding of Korea's development, which I hope is sufficiently accurate for me to suggest some policy options for Korea. It is a daunting task and I ask for your patience as I try to make some sensible points.

I plan to approach my task in three stages. First, I will provide a stylized overview of what has happened in Korea in terms of overall development and its implications for the agricultural and rural sector. I will do this by looking at some evolutionary patterns over the past forty years:

- 1) Macro-economic growth and structural transformation
- 2) Changing notions about the role of agriculture in economic development
- 3) Changing notions about food and agricultural policy
- 4) Changing commitment to the development of Korean agriculture.

If I have Korea's stylized history reasonably correct, I should be able to draw out Korea's current policy challenges in terms of food security. These challenges have, as I see it, at least three major components. First, there are legitimate concerns about over-dependence on offshore sources of food supply. Thus there remains at least a rhetorical commitment to self-sufficiency, even though by the late 1990s, OECD pegged the Korean self-sufficiency ratio of basic foodstuffs at 27%, and I doubt it has risen since. But you say, "We really mean self-sufficiency in our basic foods" which really appears to mean *rice*. Does producing, at very high economic cost, a declining share of Korean diets really provide "food security?" In my view, providing a country's citizens with "food security" is every bit as important a "macroeconomic" policy as are fiscal, monetary or exchange rate policies. Therefore, concerns about over-dependence on offshore food supply are a policy issue that can be legitimately addressed.

The second major concern is about the health of the declining agricultural and rural sector—which, in the words of Dr. Yoo, "... faces continued challenges of survival as globalization inflicts further damage on this sector of the national economy, already weakened by the consequences of swift and intensive industrialization since the 1970s." (Yoo, p. 152) Likewise, rural income inequality is an issue that all OECD countries seem obligated to address.

Third, domestic stability is an emerging issue in many countries—in prices, incomes, and trade—in the face of external instability in prices, trade flows and capital movements. And can a country maintain critical domestic stability if it is small and its borders are wide open?

Finally, if the above are some of the issues facing Korea as the Doha Round proceeds, what are your policy options? Here I am on shaky grounds regarding the specifics for Korea, but I think global experience helps, as it would suggest that there are about four, not-totally independent, options. They are stated as distinctly as possible:

- 1) Complete agricultural liberalization, removing support for current protected commodities—rice, barley, meat, and milk. This could damage the agricultural sector further by accelerating the already-deteriorating farm income situation, it would likely remove restraints on land use, and it would abandon the notion of a viable commercial agriculture.
- 2) At the other extreme, Korea could argue, along with other developing countries, for a *Food Security Box* into which you can put a few sensitive commodities, those that a country deems critically necessary for political and economic stability. Therefore, Korea could continue border protection for rice and effective protection for meat and dairy—with all of the associated well-known costs of these distortions. This is a status quo option.
- 3) Liberalize as in (1) by getting rid of orange box policies—tariff rate quotas, quotas, two price schemes, but commit to improving rural incomes by replacing current transfers to farmers from consumers via high prices with direct income transfers or at least deficiency payments, to allow domestic consumers to benefit from lower world prices. This is the “best” second-best policy of a decoupled income transfer.
- 4) Argue for a slow, or backend loaded, transition from where you are now (status quo or option 2) to number three by investing heavily in the rural sector—research and development, infrastructure, market innovation—and creating a rural sector that is internationally competitive. In all likelihood the sector would not produce much rice, but could generate improved incomes by serving niche markets in fruits, vegetables and animal products. I don’t know whether this is a feasible option because my knowledge of Korea is insufficient to judge what different configurations of Korean agriculture are possible. It is for you folks to tell me how realistic this is. This is the “invent a competitive agriculture” option, which appears to be favored in the Yoo paper.

II. Four Threads of Korean Evolution—1950-2000s

A. Economic Growth and Structural Transformation

In 1960, South Korea was one of the poorest countries in the world, with per capita GDP less than that of most countries in Sub-Saharan agriculture and in India. In 1970, per capita GDP was only 277\$US, but by 2002, it exceeded \$10,000—twenty times more than many African countries such as Malawi and Zambia. Korea went through an incredible period of rapid sustained growth, with GDP growth of 9 percent per year from 1963-1990 (a powerful

growth rate where GDP doubles in eight years, ten times in twenty seven years, and thirty times in forty years). Per capita GDP grew at a phenomenal seven percent. According to OECD, it was "...highest sustained level of economic growth ever achieved" (OECD, p. 22).

Over the same period, the Korean economy was transformed from an agrarian economy, with more than sixty percent of its labor force in agriculture – and that sector contributing nearly thirty-seven percent of GDP (Moon and Kang), to an economy with all the characteristics of a rich OECD country. Even in 1970, agriculture still employed almost fifty percent of the labor force and contributed twenty-six percent of GDP. By the turn of the century, the agriculture labor force was less than ten percent of the total and agriculture's contribution to GDP was less than five percent.

The economic transformation in Korea occurred in less than a lifetime (less than forty years), extremely rapid if we remember that the same transformation took more than one hundred years in the United States and Canada. At its peak, agriculture was supplying large numbers (380,000) of educated workers per year for rapidly expanding, export-led industrialization.

As someone who has followed and written about the agricultural transformation and the demographic transition, I recite these numbers because the pace and magnitude of the Korean transformation was clearly phenomenal. It should not be surprising that the evolution of concepts like food security, agricultural development and policies towards the rural sector, likewise, also changed rapidly. Let us look at each separately, though they are clearly interconnected.

B. Role of Agriculture in Industrial Growth

In the 1950s and 1960s, Korea was typical of most developing countries in that it taxed a large agricultural sector heavily by maintaining low grain prices (using PL480 imports), by maintaining an overvalued exchange rate, and by high levels of industrial protection.

While I haven't found an estimated Producer Subsidy Equivalent (PSE) for Korea in the late 1950s and 1960s, it must surely have been significantly negative. A strategy of import substitution industrialization required what Diao, Dyck, Lee, Skully and Somwaru called the "three lows": low grain prices, low interest rates, and a low exchange rate (i.e., an overvalued domestic currency" (p. 3). In a poor country with a dominant single food grain like rice, rice prices were an adjunct to monetary policy. After 1954, US PL 480 grain shipments, which were basically free, kept grain prices low, permitting low wages for competitive industrial production. The impact of low prices on agriculture was acceptable because the import substitution model of development being followed assigned agriculture the limited role of being a source of labor, tax revenue, and food for industrial development.

But over a very short period of time, 1969-1971, Korea switched from taxing agriculture to subsidizing agriculture and rapidly achieved some of the highest PSEs among OECD countries. Korea's PSE reached fifty-five in 1979 and peaked at eighty-two percent in 1995. This is frequently a second extremely rapid transformation that occurs as countries become rich. They switch from taxing to subsidizing agriculture (Anderson and Hayami).

Moon and Kang argue that three distinct policy regimes characterized Korea's development from 1950 to 1986. They identified four sets of policy objectives, which sometimes conflicted and that had received different weights in each regime. These policy objectives are:

- 1) Farm income improvement and food self-sufficiency
- 2) Foreign exchange savings
- 3) Price stability, urban consumer welfare
- 4) Government costs

Their proposed regimes are:

Regime 1	1950-1969	Import substitution industrialization, priorities – low consumer prices, low government costs, tax agriculture.
Regime 2	1970-1975	A switch to an export-oriented growth strategy and domestic food self-sufficiency using a two-price scheme. High farm prices, still lower consumer prices at high government costs.
Regime 3	1976-1986	More complex policy regime concerned about reducing the budgetary cost of self-sufficiency and encouraging structural adjustments in agriculture.

Table 2-3, reproduced from their work, shows their estimates of changes in the weights given to various objectives by government over the period.

Table 2-3. Relative Importance of Policy Objectives, 1950-1986

(by numerical weight)

Objective	1959-1969	1970-1975	1976-1986
Farm income, food self-sufficiency	0.3	0.5	0.2
Foreign exchange	n.a.	0.2	0.2
Price Stability, urban consumer welfare	0.5	0.3	0.3
Government Costs	0.2	n.a.	0.3
n.a.	Not available		
Source: Author's estimate			

From: Moon and Kang, p. 28

Clearly, Korea's rapid changes in policy direction were driven by both internal and external factors. A US policy decision to charge hard currency for PL 480 shipments in the late 1960s greatly increased foreign exchange costs of food imports. This, coupled with rising domestic concerns about rural incomes, caused a radical shift from food security based on concessional imports to food security produced by domestic self-sufficiency. To accomplish this, farm prices were raised substantially in the third five-year plan. However, to prevent these higher prices from being fully passed to urban industrial workers, a two-price scheme was introduced, with the predictable impact of rapidly increasing government fiscal costs. In Regime 3, as the costs became more onerous, policy was modified to allow relatively free import of some commodities such as wheat, corn, and soybeans, while continuing to ban imports of rice and barley. The government also began to invest more in rural development. So, over time, the expected role of agriculture in economic development was constantly being changed.

C. Changing Notions About Food And Agricultural Policy

Over the last 40-50 years, the policy instruments used to influence agricultural also changed. In the early years the focus was on reducing costs of production (i.e., R&D) [1950-1969]. This policy was augmented by rising price supports, and increased availability of inputs, such as fertilizer, to encourage expanded production by raising farm profitability in the early 1970s. But efficiency of production was limited by small farm size, lack of rural infrastructure and

inadequate rural institutions. Thus, rural policy in more recent years has focused on rural income parity by encouraging rural industrialization and investing in infrastructure. You all know the story better than I do, so there is no need to continue.

D. Changing Commitment to the Development of the Rural Sector.

Korea is a very rugged country, with only twenty percent of its land area suitable for agriculture, and urban and industrial development is continuously encroaching on that area. Therefore, there is growing concern about the health of rural communities and about rural land use. There is also concern about the fiscal costs of current agricultural policy that continues to include very high rice price support. The rural situation is further complicated by the fact that Korea has liberalized significant portions of the agricultural sector to meet its commitments to the WTO, while leaving other sectors protected. It appears to be the case that the policy debate is increasingly focused on developing a holistic policy for the rural sector. In recent years, more rural income has come from government transfers and off-farm employment than from farming.

Thus, the persistent question is: what should be the future direction when legitimate concerns about food security, rural income, and instability have persisted through a constantly changing set of policy regimes? It is to this issue I now turn.

III. Major Policy Concerns for the Rural/Agricultural Sector.

A. Food Security

Korea has a legitimate policy concern about food security, but it is surely a much more complex issue than equating food security with self-sufficiency. Policies of border control, high farm prices and lower prices for consumers are prohibitively expensive if attempted for the widening range of high-income consumer's food demands. Further, at the same time, it is clear that maintaining basic food grains self-sufficiency provides a smaller and smaller share of Korea's total food supply. Further replacing levy markups and quotas for beef, veal, pork, and chicken with substantially increased tariffs, and continuing to use Tariff-Rate Quotas (TRQs) for dairy products, leaves Korea increasingly vulnerable to WTO pressure for substantial reductions in tariff peaks in these products plus opening the market for more rice imports.

So the issue is: should a country like Korea pursue a truly open economy food security strategy and import perhaps ninety percent of its food supply? It would thus be vulnerable to

supply and price instability in world markets for even the most basic of commodities. Few countries, with the exception of city-states like Singapore and Hong Kong have ever done that. The United Kingdom came close before World War I, but retreated to encouraging greater domestic production in the 1920s and 1930s.

But it is also clear that the economic costs of current policies are high – and rising. There are no end of economists who have persisted in pointing this out qualitatively and quantitatively (See Beghin and Bureau; Beghin, Bureau and Park; Diao, et al; Sumner, Lee and Hallstrom). But most of these analysts also suggest that there are alternative policies that would reduce the costs of economic distortions while maintaining production of basic goods and improving rural incomes. We will come back to explore these options in the next section.

B. Rural Welfare

A second policy concern that has persisted through all of the changing Korean policy mix is that of the income position of rural dwellers, and in particular, small farmers. The land reform of 1949 provided an equitable distribution of assets for small scale agriculture, but technology, urbanization, changing consumer demands and fragmentation of holdings have rendered the sector inefficient and slow to respond to changing circumstances. The result is that farm-generated income is a declining share of farm household income, now only about forty percent, about comparable to the share from non-farm sources. The remainder (twenty percent) comes from government income transfers. Thus, it is clear that high commodity prices over the last twenty years have not improved farm household income (See OECD, p. 38).

The farm income dilemma is exacerbated by shifting consumption patterns, with rising income and urbanization. Per capita consumption of rice declined twenty-five percent between 1970 and 1997, while meat consumption has increased 550 percent and dairy products consumption increased thirty-three times. Vegetable consumption has tripled, while fruits consumption increased four times. With these changes in consumption patterns, supporting farm income through the prices of a few basic commodities makes less and less sense.

But there is not an OECD country that does not seek to transfer income to the rural sector. So the challenge for Korea appears to be how—not whether.

C. Stability.

The final issue that I note is obvious and of growing concern. The more one opens an economy to global market forces, the more one becomes influenced by global events. Low global commodity prices could see domestic markets flooded with low price imports, as has

happened in India, among others. The consequence is to reduce domestic farm incomes and build costly stocks. Supply instability or, in the extreme, unavailability, is also worrisome, especially if one is importing specialty commodities with thin markets. Unspoken, in many cases, is the ultimate concern that foreign suppliers would hold small countries hostage with threats of cutting off supplies.

Should not countries have legitimate rights to use policies that mitigate the importation of instability from world markets? This is a policy concern that some claim becomes more acute the more countries liberalize. This is a complicated argument to make. It is generally accepted that a world market where borders are managed by quantitative restrictions is more unstable than a liberalized world market. Therefore, at the global level, trade liberalization should reduce global price instability. However, if countries such as Korea have been managing internal prices, then opening the market could bring increased domestic instability, even if world prices are more stable. Nevertheless, it is an issue most countries express concern about because it represents a loss of domestic control of internal food and farm prices.

IV. Policy Options: Is There An Easy Solution?

Let me initiate this discussion with a short story about one of my old professors who was a major figure in US agricultural policy debates. Professor Willard Cochrane began his Graduate Policy Class each term by debunking the “Under the Rock Theory” of agricultural policy. The theory was that if you looked under enough rocks in the pasture you would find a perfect agricultural policy everyone would like. His contention was that there was no perfect policy for US agriculture. Unfortunately, there probably is not one for Korea, either.

Policy choice involves accepting tradeoffs that, by definition, means that there will always be losers as well as winners. Economic improvement (Pareto improvement) is said to occur if gainers can fully compensate losers and still come out ahead. On net, countries should benefit from expanded trade, but there will always be losers in those sectors with few products with comparative advantage. Thus, in countries with limited agricultural endowments, agriculture may be a potential losing sector. If a country is a net importer of food, however, lowering border protection will clearly benefit consumers. This, in a simplistic way, is the dilemma Korea faces. Therefore, what are the possible policy options?

Let me begin by presenting the two extreme options and then let me explore a couple of intermediate options.

1) Complete the Liberalization of the Agricultural Sector

Korea has substantially liberalized the import of many commodities, including wheat, corn,

oils seeds, tropical fruits and vegetables and many others. But the few that remain protected are big ones – rice, barley, meat and milk. Of these, rice dominates – more than 50% of land use, about 1/3 of farm income – but the shares of livestock products in farm value are rising, so the current regime of effective protection will become more important as time passes. Therefore, the “free trade” options would involve opening the rice market beyond the current low level of guaranteed access and substantially reducing and eliminating tariffs on livestock and poultry products, including dairy. There are, however, serious questions about what would survive of Korean agriculture if, even after a significant period of adjustment, protection was removed. Korea has had almost 10 years since the Uruguay Agreement on agriculture to begin to explore alternative policies for rice, yet as far as I can see, there seems to be a very strong desire to continue to protect rice and a growing livestock industry.

I am not sufficiently knowledgeable about Korean agriculture to know what would be the consequences, in terms of production patterns and incomes, of phased liberalization, but surely with the agricultural economic capacity contained in Korean institutions, such an analysis should be possible. Maybe one already exists that I don't know about, but it would seem to me a comprehensive attempt to model impacts of liberalization would be useful. Because without careful analysis, the implied threat that liberalization would destroy what is left of Korean agriculture is likely very powerful in sustaining current policy.

2) Push for a “Food Security” Box

As a developing country in the Uruguay Round, Korea seemed to support the notion of an exemption for developing countries for indefinite protection of “food security sensitive products”. After all, what is so bad about each country being able to protect a few sacred commodities? Even the US has its own – sugar, dairy and cotton – to mention a few. But if every country protects its most important commodities, surely the world market would be a mosaic of varying degrees of protection such that the notion of a freely working world agricultural market is no longer possible. Thus, it is the cumulative effect of everybody protecting their pet products that leads to strong opposition to a world market of national exceptions. Those who remember the battles over guaranteed minimum access for exporters to closed markets for rice and meat in Asia, know how intense those feelings are. One possible option would be to provide access to imports into Korea equivalent to the share trade is of global production. If, for example, rice trade were 25 mmt, and global production 500 mmt, Korea would permit imports equivalent to 5% of Korean consumption of rice and likewise for other protected commodities.

But Korea now is classified as a developed country; therefore arguing for a Food Security Box is likely to be difficult. Further, such an option would continue the economic distortions that are so costly to Korean consumers and, in fact, to Korean income growth (See Beghin et al,

2003, and Diao et al, 1999). If consumption patterns continue to shift, the costs to consumers of rice support will decline, but those for livestock will rise. Again, it is not for me to tell Korea what to do. If the objective is to perpetuate Korean agriculture as it is, it may be a defensible, but increasingly costly, option. If the objective is to transfer income to the rural sector, there are clearly less trade-distorting ways to do it, as we discuss in the next option.

3) Liberalize and Transfer Income by Alternative Means

Economists and trade policy-makers have argued frequently that if nations wish to help agriculture that they should do it in a way that minimizes economic/trade distortions. This is the notion of decoupling, and it is deeply embedded in the Uruguay Round Agreement in Agriculture. The WTO is not telling nations, like Korea, they cannot subsidize agriculture. Rather, they are saying; if you do it, do it in the most effective way. It would be perfectly legal under WTO for Korea to transfer income to rice farmers as long as it was not linked to production, i.e., a direct payment linked to land or historic production levels. The European Union is increasingly doing this. If Korea did not want to make direct payments, allowing rice prices to fall to world levels and compensating farmers with deficiency payments is still less distorting than current policies. Further investments/subsidies identified as Green Box could contribute to R & D, infrastructure, conservation and land improvement as part of a structural adjustment policy for the rural sector.

What I am saying is that there are WTO legal ways of supporting rural rice producers. The downside is that more of the costs of support are transferred from consumers to taxpayers and therefore become transparent. Further, this option would require sustained and, probably, rising fiscal costs. Therefore, one must ask if this option is fiscally sustainable in the long run. There are clearly other instruments of transfer that could be used, but those selected for Korea would need to fit Korean's specific circumstances.

4) Request Delayed Adjustment and Invest in Long-Term Revamping of Korean Agriculture

This is the option favored, I believe, by Dr. Yoo in his thoughtful paper on a topic very similar to mine. He argues for substantial analysis and research on what activities have the potential of being globally competitive and then investing to develop "...the sector as a viable and prosperous part of the national economy." (Yoo, p. 53) A program of sectoral revitalization could well be used to seek a longer adjustment period or, at a minimum, allow back-end loading of the dismantling of current grains policy. It would, of course, also require reducing tariff protection in the livestock sector. This option is not costless in fiscal terms, but if the investment paid off in creating a viable agriculture, it would at least have an end in sight which neither option 2 or 3 have.

Dr. Yoo has a well thought out list of seven strategies that could be pursued by Korea to revitalize the rural sector. He concludes that increased competitiveness is the only way to help.

It should be seen as an opportunity that requires creative policies.

I do not have sufficient knowledge of Korean agriculture to know if this is a viable option and, if so, what agriculture would look like. It might be that small-scale rice producers would not be competitive on world markets although Kwon and Lee's analysis find evidence that lower yielding areas did improve their productivity, at least in the period studied. Korean rice yields are not particularly high by world standards, and are well below California yields. Also, costs of production might not be competitive with Thailand or Vietnam. If not rice, what would be grown? Would it be specialized products for niche domestic and international markets? I cannot answer these questions, but I am sure the capabilities to address these questions are in this room. Hopefully, such analysis already exists.

This option would require careful analysis, substantial investment and the political will to stay the course for the long-term. The hopeful part is that every country has a comparative advantage in doing some things. The challenge is to find out what they are.

V. Closing Thoughts

Clearly, the options proposed neither exhaust all options, nor are they mutually exclusive. There are many possible combinations that could be considered. Complete liberalization for some more commodities, direct payments for others, restructuring for other sub-sectors, and land conversion to environmental and recreational services for marginal areas. What this says, of course, is that there is no "silver bullet" solution for Korea and this paper has not proposed one. Hopefully, laying these four options, plus discussing some of their advantages and disadvantages, will contribute to your on-going debate about future directions. Progress will come when all concerned are prepared to openly analyze and debate all options. Only then can Korea make its final choice.

I want to close with a story that I hope makes my final point. When I was Dean of Agriculture at UC Davis 30 years ago, the University of California received rice research funds from a check-off (levy) on each bag of rice produced in California. At an early meeting of the Research Advisory Board, the University proposed some of the funds be spent on alternatives to burning rice straw. Every fall, the skies in the Sacramento Valley were blackened by smoke and ugly particulates from burning rice straw. It seemed to us that eventually burning would be outlawed and that it was best to be prepared. The industry absolutely refused, saying; if we support the research it will show weakness in our fight to do whatever we want with our straw.

Burning rice straw has now been phased out under Legislative edict and alternatives are still

being sought. The rice industry lost at least ten years because of their attitude. Yet in agricultural communities around the world, I hear people refusing to discuss policy options to current programs because they don't want to be seen as less than fully committed to the defense of their current programs. There has been little real debate on alternatives to sugar programs in the US, for example. How much serious analysis and debate has taken place in Korea about significant alternatives to a policy of self-sufficiency in rice? I don't know, but this Symposium is clearly a major step in that direction and I hope I have contributed to moving the debate forward. Thank you for inviting me. I wish you good success in your deliberations.

Thank you

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China's Entry into WTO and the Agricultural Development: opportunity, challenge and strategy

Siming Wang (Nanjing Agricultural University)

1. China's entry into WTO: an opportunity to speed up the transition from the command economy to the market

For years there have been heated debates regarding China's entry into WTO and its latent impacts. Many hold that China was protecting its industry at the expense of agriculture. With the entry of WTO, foreign agricultural commodities would flow into Chinese market and Chinese farmers might lose as many as sixteen million jobs. In their view, China's entry into WTO was as foolish as to try to play with wolves. These worries and considerations are reasonable, however shortsighted. Though the shocks from WTO accession are real for a certain period of time, the long-term benefits will outweigh the disadvantages.

If the present economic reform is a kind of revolution for China, then the revolution was initiated from 1978. China's accession into WTO was just a continuation of this evolution, not a fundamental shift from the previous efforts. A long-term view may help understand China's contemporary policies and institutions.

China's rural market and agricultural trade emerged as early as two thousand years ago and it further flourished in Ming and Qing dynasties. According to statistics, during the early 19th century, China's grain in trade accounted for 10.5% of the total output, cotton 26.3% and raw silk 92.2%.³

Though China's domestic rural market developed relatively early and prosperous, the agricultural foreign trade had been minimal. Only from the mid 19th century, China was forced to open to the outside world after defeat in the Opium War with the British in 1840.

³ Wu Chengming: *China's Capitalism and Domestic Market*. China Social Science Press. 1985. pp 251,253

Table 1. Percentage of the agricultural export in the total export
(1873-1910)

Year	Agricultural export of the total
1873	2.6
1893	15.6
1903	26.8
1910	39.1

From the above table, one can see that China's agricultural export increased from 2.6 % in 1873 to 39.1 % in 1910. Domestic market also expanded considerably. The grain for sale was about 10% in 1840, it increased to 15.8% in 1897 and further to nearly 30 % in 1936.⁴ Actually for the rural subsistence, grains were the least commercialized farm products in the country. According to John L. Buck's survey of 22 provinces in 1933, the most commercialized agricultural products were tobacco, peanuts and rape seeds (76-60%), and then followed by cotton (37%).⁵

However, China's endeavor to foster a market economy came to a halt with the founding of People's Republic of China in 1949. To accelerate the industrialization China decided to follow the former Soviet pattern in economic development. Landlords, merchants and foreign capitalist interests were expropriated and a comprehensive system of "planning economy" or command economy was established, which had been implemented for nearly three decades. During the movement of collectivization 130 million family farms were transformed into 26000 people's communes with an average size of 6700 workers. During the following twenty years rural market disappeared and commercial economy was severely damaged.

Table 2. The amount of grain purchase of the total output (1952-1978)

(unit: 10000 tons)

Year	Output	Purchase	P/O
1952	16391.5	3327.0	20.3
1957	19504.5	4804.0	24.6
1965	19452.5	4668.5	25.0
1970	23995.5	5443.5	22.7
1978	30476.5	6174.0	20.3

From table 2, it can be seen that within twenty six years the rate of agricultural commercial economy had remained stagnant, even lower than that of 1930s.

⁴ Wu Chenming: *China's Capitalism and Domestic Market*. China Social Science Press. 1985. p272

⁵ John Lossing Buck: *Land Utilization in China*. University of Nanking. 1937. p 235

China was relatively isolated from the booming world economy and its share of world trade fell and it was cut off from foreign investment. Resources were allocated by government directives and regulations. Market forces played a negative role. Hence there were common inefficiencies in the production process and general neglect of consumers' welfare.

The result of developing industry at the expense of farmers and agriculture caused China deeply stuck in the mud of economic depression and political struggles, which brought China close to collapse. To get out of the chaos, Mr. Deng Xiaoping launched the economic reform in 1978, which was firstly started from the rural. Collective agriculture was abandoned and farmers regained control and management of their land and rural markets reappeared. Due to the loosening of the rigid state monopoly of foreign trade and the autarkic policy of self-reliance, China's foreign trade increased dramatically than before. From 1978 to 1988 agricultural products for market increased to 62.1 % of the total, while grain to 34.9%.⁶ In 1988 China's income from agricultural export (raw products and processed products) amounted 19.4 billion US dollars, accounting 47% of the total export incomes. China's share of world trade rose from 0.8% in 1978 to 3 % in 1995. During the past twenty five years China's agriculture has grown with the annual rate of 6%, a widely-recognized good performance. According to the research by Lardy (2001), the market economy in Chinese agriculture increased dramatically during the past twenty years, from 6% in 1978, 40 % in 1985 to 83 % in 1999.⁷

In 1992 China has set its goal of establishing an aggregate system of market economy and it has been moving along the way. China's per capita income rose by 6 % a year from 1978 to 1995, six times as fast as the world average. So for China, to get into the WTO is in accordance with China's development goal and consistent with the sequence of the undergoing reform. It will afford China an excellent opportunity to accelerate its transformation from the command economy to the market and better integrated into the world economy.

China's accession to WTO will not only be a catalyst for the development of market economy, it will also improve China's export environment, help China more easily absorb foreign fund, advanced technology and management experiences so that China can better use both domestic and international resources and markets to raise its competitiveness in agriculture. That's why China would like to experience fifteen years of hard negotiations to be one of the members of this organization.

⁶ *The Agriculture in Contemporary China*. Contemporary China Press. 1992. p 371

⁷ Lardy, N. *Integrating China in the Global Economy*. Washington, D.C. : Brookings Institution. 2001

2. Challenges China may face in the WTO era

Though to swim into the wave of globalization is consistent with the goal of Chinese development, the course is not easy. There are quite a number of challenges lying in front of Chinese government.

Probably the biggest challenge is not from the tariff rate or quotas of certain items of farm products. Actually the WTO shocks are not as terrible as many Chinese scholars and governmental officials predicted. According to statistics, China's agricultural export increased 13 % in 2002 than that in 2001, from 11.5 billion US dollars in 2000 to 13 billion US dollars in 2002, while agricultural import increased only 3.5 %, from 10.4 billion US dollars in 2000 to 10.8 billion in 2002. The foreign trade in food grains, edible oils and cotton did not have much impact on domestic prices.

The real challenge for China is also not to the farmers or agribusiness. Because the WTO agreements are results of the negotiations among the member countries and it is the duty of the government to comply and implement these agreements and regulations. Hence the management institution and policy choices of the government will have much deeper impacts on domestic agricultural development. For single farmers, agribusiness or agro-traders are usually passive adapters of the policy. They always make relevant adjustments of their structure of production and the distribution of resources according to the changes of the policy. If related policies and institutional environment are extremely unfavorable, they would get away from farming and leave the social responsibilities such as food safety and environmental protection to the government. The government has no choice, but to readjust the policy and improve the environment for agricultural development. Hence, to some extent, whether the government can make institutional innovation and readjust its agricultural policies in time will determine the orientation of agricultural development in the future.

Obviously China has not well prepared for the big transformation. It is well-known that China implemented the command economy for nearly thirty years. The whole economic and political systems were established on that basis. During the past twenty five years of economic reform, China's agriculture has undergone two distinctive stages. The first is from 1978 to the mid of 1990s, policy targeted the supply of farm produce. Since mid-1990s, it entered the second stage, with the policy shifting from the stress of quantitative growth to tackling agricultural competitiveness and raising farmer's incomes. Though considerable progress has been made, a series of problems still lie ahead of farmers and government.

- (1) The biggest challenge comes from the institutional innovation and a fundamental change of the way of management.

At first, the command economic system still hinders the evolution of market economy

During the practice of command economy, government had a tight control of the whole process of production and marketing. What to grow and how much were all decided by the governments. Though, comparing with the situation twenty years ago Chinese farmers have a piece of land in the terms of usage right and more freedom in production and marketing, especially in cash crops, they still face many non-economic restrictions both from the government and institution. In the mid of 1990s China tried to make an experimental opening of the grain market, however the vicious inflation forced the government to abandon the reform and returned to the former practice. Until now, besides a few prosperous coastal areas such as Shanghai, Jiangsu, Zhejiang and Guangdong, grain markets are not open in most of provinces in the middle and western China. Governors are still responsible for grain security and the inter-provincial trades of grains are usually made by provincial governments through negotiations. The prices of silkworm cocoons and chemical fertilizers are frequently decided by the governments. Many local governments are still used to control the production of some staple products such as grains, cotton as well as chemical fertilizers. At present, rate of grain commercialization is only 35 %.

Secondly, the management institution is not adaptive to the development of market economy and many laws and regulations are inconsistent with the agreement of WTO. Due to historical reasons, the management of pre-mid-post-production of agriculture has been responded by over a dozen of ministries and departments, and local protectionism and industrial monopoly prevail in every parts of the country. All this makes the cost of policy-decision, implementation and coordination extremely high and seriously harms the agricultural competitiveness. Though China initiated its economic reform from agriculture, the reform for agricultural decision-making and the way of management lag far behind other economic sectors. Measures for command economy are still taken from time to time by the local governments.

China has been protecting its agriculture by way of high tariffs, the management of quotas and licenses, and the monopoly operation of foreign trade by the state-owned companies. For example, in 1999 the common import tariff for wheat, rice and soybean were as high as 180%. The WTO agricultural agreement demands high duty reduced and non-tariff measures tariff-fixed. Since the prices of major agricultural products in China are lower than those in the international market, it is hard for China to protect its agriculture by way of tariff. Imports of lower priced food grains will force down domestic prices, cutting the direct income of the farmers from food grains.

- (2) Past industrial/urban-oriented policies weakened the competitiveness of Chinese agriculture and left a series of problems for rural development.

For thousands of years, China had been a country of agriculture. Due to the increasing pressure of population, China's agriculture had been long grain-growing dominated. As late as in 1952, China's industry only accounted for 17% of economy, while agriculture 58.6%.

The long time dual economic system with the city separated from the countryside and the national strategy of priority development of heavy industry seriously constrained urbanization. From 1950 to 1980, China's industry increased eighteen times, at an annual rate of 11% and agriculture's share of GDP fell from 58% to 30%, however, the agricultural labors in the total workforce did not change much, it just fell 6 points, from 83% in 1952 to 77% in 1975. From 1952 to 1979 China's rural population decreased less than 1%, from 87.5% to 86.8%.⁸ Right now the rate of China's urbanization is only 32 %, lagging 20 percent behind most countries with the same industrial level.

Today there are still over 900 million people living in the rural area. Large quantities of labors redundant in farming seriously hindered the growth of agricultural productivity. According to statistics, the productivity of agriculture comparing with that of industry has been falling since 1990s, which has widened the gap between countryside and the city. From the below table, one can see that on the contrary to the escalating of farm employment, China's labor productivity has been at a very low level. In 1933 it was 7.2% of that of the United States, while in 1994 it fell down to 1.6%. At present, the available cultivated land for per farm household is only half acre, one two-hundredth to one three-hundredth of the U.S., Canada, and Australia. If China could not reduce the number of farmers and increase relative scale of the farms, it would be unrealistic to improve its labor productivity in agriculture.

Table 3. A comparison of farm employment and labor productivity between China and United States
(1933-1994)(at 1987 US prices)

Year	Farm employment		Value per person engaged		
	China	US	China	US	China/US
	000s		\$	\$	%
1933	166545	8722	341	4754	7.2
1952	161097	5946	323	6130	5.1
1957	172301	5052	351	7607	4.6
1975	262740	2931	312	15838	2.0
1978	256747	2723	338	15414	2.2
1987	268728	2106	524	29342	1.8
1994	279487	2114	646	39421	1.6

Angus Madison: *China's Economic Performance in the Long Run*. P 112

⁸ The State Bureau of Statistics: *China Statistical Yearbook*. China Statistical Press.

Table 4. International Comparison of Agricultural productivity
(per agricultural worker)

Countries	Cultivated area (hectare)	Grain produced (kilogram)	Meat produced (kilogram)
World average	1.21	1703	154
China	0.29	1194	136
The U.S.A.	66.81	100695	10211
Japan	1.07	3410	931
Australia	117.76	46572	6923
India	0.76	884	9
Brazil	3.89	2764	446

<Agricultural Economics Manuscripts> 1998. No.5

Too many redundant labors stagnant in rural area also worsen the situation of farmer's incomes in China. In a shortage economy, increasing agricultural production is in accordance with the intention of raising farmers' incomes. However, things might be different in a surplus economy. In spite that the agricultural output has been increasing, the increasing pace of farmers' incomes has been slowing down since the mid 1990s. According to statistics, in 1983 farmers' per capita net income increased a peak of 53.2 %, but it plummeted to 31.4 % in 2001.

In addition, the urban-oriented focus also established different systems of rural and urban labors in dealing with employment, education, and medical care, widening the discrepancy in the formulation and accumulation of human capital in the countryside and the city. At present, China is still a relatively poor country. Its per capita income is only 11 % of that in the United States and 22 % of that in Korea. According to international standard, China still has one hundred million rural people living under the impoverished line, one thirteenth of the world total.

(3)The agricultural production structure needs to be readjusted.

Before 1980, there were few non-agricultural industries in the countryside. Rural economy was by nature agricultural economy. And the problem of agricultural economy was that of grain production. So for hundreds of years grain crop growing accounted for 80-90% of the total cultivated land.

Table 5. China's Agricultural Structure (1952-1980)

Year	% of Ag GDP in the total	% of Ag labor in the total	crop growing	forestry	husbandry	fishery	% of grain acreage in the total
1952	50.5	83.5	85.9	1.6	11.2	1.3	87.8
1957	40.3	81.2	82.7	3.3	12.2	1.9	85.0
1965	37.9	81.6	82.2	2.7	13.4	1.8	83.5
1975	32.4	77.2	81.0	3.1	14.2	1.7	81.0
1980	30.1	72.1	75.6	4.2	18.4	1.7	80.1

A Complete Statistics of Rural Economy of China (1949-1986). China Agricultural Press. 1989

Only from 1981 China began to shift its “grain priority” policy and made some adaptive changes to the structure of agricultural production. Considerable developments have been seen in forestry, husbandry, fishery as well as some agricultural sidelines. However, until now crop growing still occupies 55% of the agricultural production, among which grain production still accounts for 67%. There's still a long way to adjust the structure of agricultural production.

Probably the negative impact of China's accession to WTO on the most impoverished farmers of the remote areas is minimal, for they seldom take part in the marketing activities. The most unfavorable impact might be on the middle-income farmers of the North, Northeast and Northwest of China. These areas are major producing regions of wheat, corn and soy beans.

(5) Environmental protection will be a big challenge for the sustainable development of China.

For historical reasons, there has been a severe intension in the ratio of agricultural resource and population. China's per capita water resource is only one fourth of the world average, per capita arable land one third, and per capita forest resource one seventh. The supply-oriented policy in the past decades or thousands of years focused on quantities has been exacerbating the exploitation of natural resource and brought great pressure for environmental protection. Since 1980s China has been the biggest user of chemical fertilizer and pesticides and its amount of chemical fertilizer per unit of cultivated land is about 2.5 times of that in the United States and the world average and 4 times of that in India. Because of too frequent and intense agricultural activities, soil erosion has become worse and worse and every year about five billion tons of soil eroded away, accounting for 19.2 % of the world total.⁹ In addition, there are about 13.5% of Chinese land deserted at the present and the desertification expanded at an annual speed of 1500 square meters, three times faster than one hundred years ago. Hence it's really a tough work

⁹ Sun Hongliang: *Theories and Methods of Ecological Agriculture*. Shandong Science and Technology Press.1993. p 83

for China to balance the economic growth and environmental protection in the future.

In one word, what China's WTO accession has brought is a need of a further reform, especially change of the previous institution and the way of management. It depends whether China can establish a whole set of highly effective agricultural macro systems to manage its agriculture and select industries and technologies with comparative advantage to boost up its international competitiveness.

3. Strategies for China's agricultural development in the future

Since WTO's commitments are in general identical with the targets of China's economic reform, China should take the chance to deepen its reform and readjust its policies to improve the macro economic environment and its competitive capabilities. During the transformation considerations should be given to the following aspects.

(1) Institutional innovation and reforming the way of management

To establish an effective and integrated agricultural management system, China should further reduce state intervention in agricultural production and marketing, quicken the growth of product, land, capital and labor and other factor markets and the construction of the farm product quality control and quarantine and information systems and bring into play the market forces in resource distribution.

It includes the following points:

The institution of management: from separation to integration

In order to eliminate departmentalism, industrial monopoly and local blockage it is necessary for China to restructure the government to form an integrated department of agricultural management, which could be responsible for the decision-making and management of all the industrial chains related to agriculture such as supplying of production materials, agricultural production, trading of agricultural commodities, and the processing of agricultural products.

Many present domestic laws and regulations that are inconsistent with WTO agreements have to be discarded or modified as early as possible.

The function of the government: from control to service

Nobody can do everything well at the same time. The government should not play both the judge and the player. It should focus its function on service, leaving practical economic operation to farmers and agribusiness. The government may play a better role in providing farmers with public goods or services such as market information, technical popularization,

quarantine, agricultural disease and pest prediction, disaster relief, and the construction of infrastructure. New employment policy should be made and the rural social security system needs to be established.

Decision-making: from arbitrary judgment to consultation

All public policies represent interests of different interest groups. They are generally results of concessions of the interest groups. If there's no representative taking part in the process of policy making, interest discrimination easily occurs. While a policy is made in short of real information it might face a series of problems after it is put into operation. Transparency of policy-making is a good way to reach common knowledge and makes it more efficient to implement. So to change the present situation, China should encourage the establishment of farmers' organizations in national, local and industrial levels and let the representatives of these organizations take part in the consultation related to rural and agricultural development.

Professional organizations: from emerging to maturity

In a market economy, small farmers face a series of difficulties in competition with big farmers and agricultural corporations. To solve the contradictions between petty production and big market, China needs to stimulate agricultural cooperatives and farmers' associations and let farmers' organizations play greater role in agricultural production, processing and marketing as well as the coordination between farmers and the government.

(2) Readjustment of the structure of agricultural production

Agricultural products can be divided into two categories. One is land intensive produce such as corn, wheat, dry land rice, cotton, rape seed and sugar. The other is labor intensive produce such as most animal by-products, vegetables, fruits, flowers and agricultural processed products. Because of the inelasticity of cultivated land, China has been laying great emphasis on raising land productivity. Right now its per unit farm output is close to the levels developed countries. This means that there is little potential to improve agricultural efficiency by raising per-unit output. However, China has abundant people. China's comparative advantage lies in full utilization of its rich labor resource. As the production of the land intensive products is restricted by the amount of arable land, the opportunity cost of domestic resources is higher than the international market. Generally speaking, most of China's staple grain crops are no longer competitive in world market except high quality rice. At present, the domestic price of wheat is 25% higher than the international price, corn 30% higher, and soy bean 32% higher. Obviously there is no comparative advantage. However, the international prices for labor intensive farm products are much higher than those in the Chinese market. Hence, it is wise for China to shift

its policy from previous “import substitution” to “export-stimulating” and to make full use of its comparative advantage by developing labor-intensive commodities. Even for the sake of grain safety China need not overemphasize the complete self-sufficiency. It can change the “grain safety” policy to “food safety” and increase fodder imports to expand husbandry, which has greater comparative advantage in world competition.

Actually, China has been trying to do so. From 1980 on, China has made tremendous progress in readjustment of structure of agricultural production. Crop growing decreased from 75.6% in 1980 to 55.2% in 2001, among which grain production decreased from 80% to 68%, while the vegetable and fruit production increased from 2% to 12%. Husbandry increased from 18.4 % to 30.4 %, while fishery from 1.7 % to 10.8%. In early 1980s grain export still accounted for nearly 45% of the total agricultural export, while in late 1990s animal, horticultural and aquatic products already amounted 80 % of the total agricultural export. No doubt, further readjustment is still to be made in the future.

- (3) To improve agricultural competitiveness, China also needs to change the previous policy of governmental assistance from the field of trading to that of production.
 - a. To increase investment in infrastructure such as the construction of grain field, road and hydraulic facilities.
 - b. To increase investment of science and technology and rural education so as to lower the cost of production and improve the quality of the products. Though China’s labor intensive agricultural commodities have some considerable advantage in price, they are usually offset because of the small scale, low quality and high pollution. Increasing investment in science and technology is a good way to solve these problems. However, the present situation is not satisfactory. In late 1990s the percentage for China’s investment in agricultural science and technology to total agricultural value accounted for 0.20 to 0.23 %, less than one tenth of the average of the developed countries, even lower than that of the average of the 30 low income countries.
 - c. To establish the systems of quality standard and quality detection of agricultural products.
 - d. To establish marketing and information systems of agricultural products so that farmers may get to know the changes of prices and adjust their production in time.
 - e. To rebuild rural technical extension system, provide farmers better varieties and strains, and popularize agricultural science and technology.
 - f. More attention should be paid to the processing of farm products so as to have them value added.
 - g. To Improve and build financial and insurance systems to stabilize agricultural production.

(4) To strengthen agricultural ecological development.

As noted earlier, one of results of the quantity-oriented policy during the past decades led to a serious deforestation, soil erosion, pollution, and the expansion of desertification, which are severely endangering the environment and the sustainability of Chinese agriculture. In order to reverse the trend, China should carry forward its good tradition of organic farming and advocate ecological agriculture as well as pay more attention to forestation, water control and other environmental construction.

(5) For a long time, the designing of Chinese agricultural policy were based on the setting of shortage, hence the target of the policy was how to meet basic demands of the society. Institution, technology and resource distribution were all developed around this target, which helped form a supply and quantity-oriented agricultural system. Little consideration was put to product quality, farmers' incomes and ecological protection. However, since mid-1990s, agricultural output has generally met the demand and surplus occurred in some parts of the country and for certain items of products. Then agricultural policy has been changed from the previous single target of quantity to multi-targets. How to raise farmers' income and to lessen the pressure for the environment comes to draw more and more attention of the government.

(6) Efforts should be made to develop secondary and tertiary industries to accelerate the transfer of rural labors.

In China, rural population occupies over 70% of the population, among which about there are over four hundred million labors. Though with development of the economic reform China's pace for urbanization is much faster than ever before, the present situation still lags far behind other countries with the same development level. From the below table one can see that the percentage of agriculture in the total added value decreased from 56% to 30%, that of non-farm sectors increased from 44 % to 70%. However, the agricultural labors still accounts for 66.5% of the total rural workforce. The deviation widened from 23% in 1990 to 36% in 2001.

Table 6. Rural industries and the structure of the labor force

Year	Value added(%)			Structure of labor force(%)		
	First industry	Second industry	Third Industry	First industry	Second industry	Third industry
1990	56.3	23.5	20.2	79.4	14.1	6.5
1992	44.2	33.9	21.9	77.9	13.6	8.5
1995	39.7	40.1	20.7	71.8	17.0	11.2
1998	35.5	42.3	22.2	70.1	18.1	11.8
2001	30.5	46.1	23.4	66.5	18.2	15.3

Zhu Xigang: *Technological Innovation and Adjustment of Agricultural Structure*.

China Agricultural Science and Technology Press. 2004. p134

If farmers could not be transferred into non-farm sectors, it's hard to expand the scale of the farm and the low income problem for most farmers could not be solved. Chinese government is aware of the problem and is taking active steps to accelerate urbanization and try to increase the rate of urbanization to 70% in 2030.

China had been the biggest economy in the world for nearly two millennia. Its share of world GDP was almost one third as late as in 1820s. But by the late 19th century its position was taken by the United States and the country was disintegrated. In 1950s its real per capita income fell from parity to a quarter of the world average. One of the major reasons for China's decline was its long-term isolation from the outside world. Only by the late 1970s China came to recognize the past mistakes and started the economic reform. During the past twenty five years China has been making great effort to integrate itself into the world economy by expanding exports and imports and attracting foreign capital. Obviously, China's accession into WTO will be a catalyst for its transformation from the previous command economy to the market. Though there are a series of problems lying ahead, the trend of development is irreversible.

WTO 가

: , ,

()

1. WTO 가 : 가

WTO 가

WTO 가 , WTO
1,600 WTO
가 가 WTO 가
가 , 가

1978

WTO 가

2000

19 10.5%
26.3%, 92.2%¹⁰

19

1840

1.

(1873-1910)

1873	2.6
1893	15.6
1903	26.8
1910	39.1

1873 2.6% 1910 39.1%
가 . 1840 10%
1897 15.8% 가 1936 30%¹¹
가 가 .
L. 가 1933 22 , ,
(76-60%) 가 (37%).¹²
1949
. , , 가 , “ ”
30 .
1 3,000 가 6700 26,000
20 ,
.

2. (1952-1978)

(: 10000)

1952	16391.5	3327.0	20.3
1957	19504.5	4804.0	24.6
1965	19452.5	4668.5	25.0
1970	23995.5	5443.5	22.7
1978	30476.5	6174.0	20.3

2 26 , 1930
.
,
,
,
가 .
.
1978 , .
,
가
가 . 1978 1988

¹¹ : . 1985. p272

¹² L. : . 1937. p 235

가

가

30

25

2

1978

1990

1990

2

가

가

가

(1) 가

가

가

가

20

1990

가

(Guangdong)

(Shanghai),

(Jiangsu),

(Zhejiang),

가

가

가

가

35%

WTO

가

가

가 , 1999 , WTO

180%

가 가 가 가

(2)

가 가

() 1952 17% 58.6%

가 1950 1980 GDP

11% 18 ,

58% 30%

1952 83% 1 1975 6%가 77%

1952 1979 87.5% 86.6% 1%

¹⁵ 32%

가 20% 9 가

1990 , 가

가 1933

7.2% 1994 1.6%

가 가 0.5ha , , 0.02%

0.03%

¹⁵ 가 :

3.

(1933-1994)(1987 가)

			가		
	1,000		%		
1933	166545	8722	341	4754	7.2
1952	161097	5946	323	6130	5.1
1957	172301	5052	351	7607	4.6
1975	262740	2931	312	15838	2.0
1978	256747	2723	338	15414	2.2
1987	268728	2106	524	29342	1.8
1994	279487	2114	646	39421	1.6

: . P 112

4.

가

()

가	(ha)	(kg)	(kg)
	1.21	1703	154
	0.29	1194	136
	66.81	100695	10211
	1.07	3410	931
	117.76	46572	6923
	0.76	884	9
	3.89	2764	446

< > 1998. No.5

가

가 가

가

가 가

가 1990

1983

53.2%

가

2001

31.4%

, ,

가

가

가 ,

11%,

22%

1

가

1/13

(3)
1980

80-90%

5. (1952-1980)

	GDP						
1952	50.5	83.5	85.9	1.6	11.2	1.3	87.8
1957	40.3	81.2	82.7	3.3	12.2	1.9	85.0
1965	37.9	81.6	82.2	2.7	13.4	1.8	83.5
1975	32.4	77.2	81.0	3.1	14.2	1.7	81.0
1980	30.1	72.1	75.6	4.2	18.4	1.7	80.1

(1949-1986).

1989

1981

“ ”

， ，

55%

67%

WTO 가 가

가

， ，

， ，

(5)

가

가

1/4

，

1/3,

1/7

가

1980

가 ，

2.5 ，

4

，

50

19.2%

16 13.5%가 , 100
 3 1,500
 WTO 가 가 ,
 가 가

3.

WTO 가
 (1)
 가 , , , , 가
 , , , ,
 가
 :
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 , , 가 ,
 WTO
 :
 가 가
 가
 , , , , ,

•

가 .

가, ,

•

, 가 ,

(2)

가

가

가

가

가

가

25% ,

30%, 32%가

가 가

“ ” “ ”

“ ” “ ”

. 1980

1980	75.6%	2001	55.2%
------	-------	------	-------

가 80% 68%
 2% 12% 가 18.4% 30.4% 가 45%
 1.7% 10.8% 가 1980 80%
 , 1990
 가

(3)

a. ,

b. 가 가

, 가
 , 1990
 0.20~0.23%
 1/10 30

가

c.

d. 가

e.

f. 가 가가

g.

(4)

, 가 ,
 , , , , ,

(5)

, ,
 , 가 ,

6.

	가가 (%)			(%)		
	1	2	3	1	2	3
1990	56.3	23.5	20.2	79.4	14.1	6.5
1992	44.2	33.9	21.9	77.9	13.6	8.5
1995	39.7	40.1	20.7	71.8	17.0	11.2
1998	35.5	42.3	22.2	70.1	18.1	11.8
2001	30.5	46.1	23.4	66.5	18.2	15.3

2030 70%

2000 가

1820

GDP 1/3

19

1950

1/4

1970

25

. WTO 가
가

가 .
.

THE WTO AND AGRICULTURAL POLICY REFORM IN THE OECD AREA : PAST ACHIEVEMENT AND FUTURE PROSPECTS

Stefan Tangermann (OECD)

Paper prepared for the International Symposium on "The WTO/DDA Negotiations and Agricultural Policy Reform" jointly held by the Korea Rural Economic Institute and the Seoul National University Research Institute for Agriculture and Life Sciences Seoul, 24 September 2004

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Introduction

The Uruguay Round (UR) Agreement on Agriculture (AoA) was the first serious attempt at overcoming the large distortions to international trade in agricultural products and the resulting

discrimination against agricultural exporters. It changed the treatment of agriculture in the international trading order fundamentally. For the first time in the history of the GATT it brought agricultural policies and trade under operationally effective disciplines. This progress was not easily achieved. The negotiations on agriculture were controversial, complex and strenuous. At a number of junctions, the whole UR was on the brink of failure because of agriculture, and it was not before a settlement was found for the agricultural issues that the overall round came to a conclusion.

However, any hopes that the UR might have put agricultural issues in the WTO to rest were soon to prove futile. In the ongoing Doha Development Agenda (DDA) negotiations, agriculture is again at the forefront, and progress or hold-ups in the talks on farm trade once more impact decisively on the fate of the negotiations overall. It was not before agreement on the agricultural elements was reached, after serious tensions and protracted negotiations, repeatedly on the brink of collapse, that the overall framework agreement of July 2004 could be concluded in Geneva, clearing the way to a continuation of the DDA negotiations. The framework agreed for agriculture in Geneva is a significant and welcome step forward and contains a number of rather promising elements, in particular the pledge to eliminate, by a date to be agreed, export subsidies and other export competition measures. However, even this hard fought accord obviously is still far away from the full modalities with numerical reduction commitments that WTO Members had originally hoped they could agree already by March 2003.

Why is it that agriculture is again so difficult in this round of negotiations? Has the UR, in spite of all its success, left too much unfinished business in agriculture? Have the new rules not worked well? Or were reduction commitments a problem? Where are the priorities for this round of negotiations, and is there a chance that progress will be made? In discussing such questions, this paper will first take a look at what the UR has achieved, in terms of how agricultural policies in the OECD area have developed after the new AoA was agreed. Finding that progress was limited, the paper will then address the question of whether this was due to the rules agreed in the UR, or to the quantitative parameters in the reduction commitments. Focusing on the reduction commitments, the paper will then argue that priority should be on reducing border measures and output payments. Regarding the future of the rules, some comments will also be made on the economics of the relationship between export competition and domestic support. The paper ends on some concluding remarks.

Agricultural Policies in the OECD Area After the Uruguay Round

The preamble of the Uruguay Round Agreement on Agriculture (AoA) identifies the long-

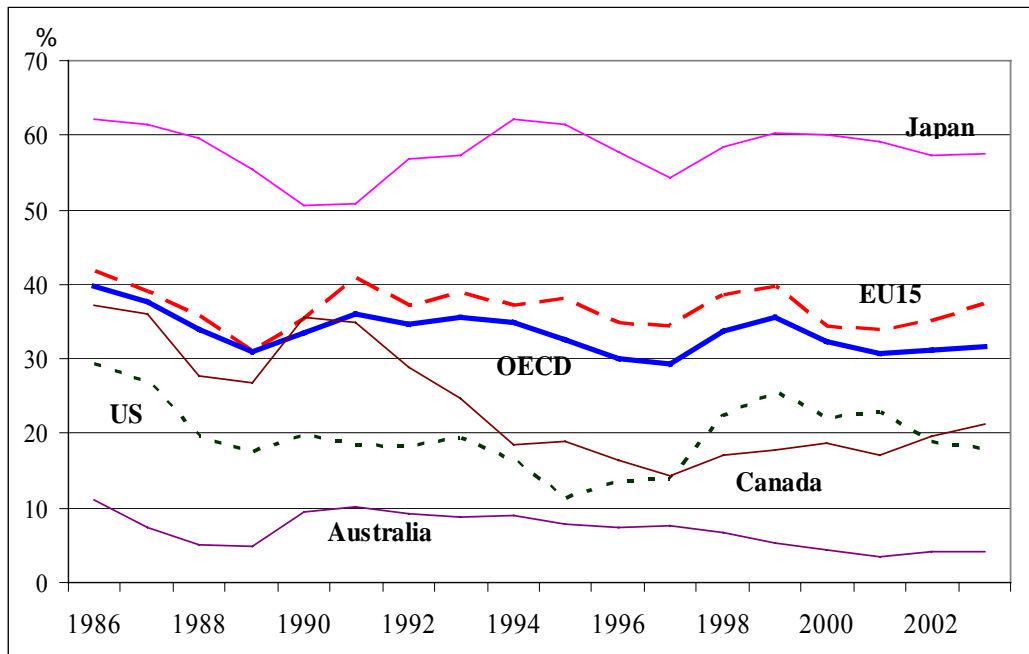
term objective of establishing “a fair and market-oriented agricultural trading system and .. a reform process” providing “for substantial progressive reductions in agricultural support and protection”. Have agricultural policies of the industrialized countries achieved these objectives? Indicators of farm support as calculated regularly by the OECD should provide some insight.

OECD summarizes the policy-induced transfers directly affecting the revenue of individual farmers in the Producer Support Estimate (PSE), the most prominent indicator in the family of OECD’s agricultural support statistics. The PSE can be expressed as an absolute sum of money, showing that in 2003 the 30 member countries of the OECD¹⁷ transferred US 257 billion to their farmers. More telling than this absolute amount is the share in farmers’ revenues that it represents, the %PSE. In 2003, this indicator stood at 32%. In other words, out of each dollar of revenue for the average farmer in the OECD area, 32 cents resulted from government policies, while only the remaining 68 cents came from the market. This is only a marginal decline compared to the situation at the beginning of the UR (1986-88), when the PSE in the OECD area stood at 37%.

A closer look at support developments over time actually shows that most of this slight decline in the %PSE for the aggregate of OECD countries was achieved during the first half of Uruguay Round negotiations, from 1986 to 1989. Since that time, the support level has fluctuated somewhat, but not shown any obvious downward trend (Graph 1). However, there were significant differences among countries. In some cases, support has declined substantially over the last 15 years. In other countries, though, a declining support level in earlier years was later followed by a rise in support. Overall, after the reduction commitments of the Uruguay Round AoA entered into force, i.e. after 1995, farm support in the OECD area has not decreased. As a matter of fact, it is precisely during this period that support noticeably increased in some OECD countries.

¹⁷ Out of the 30 member countries of the OECD, 15 are member states of the European Union. In measuring agricultural support, the EU is treated as one aggregate, because all EU countries are covered by the Common Agricultural Policy.

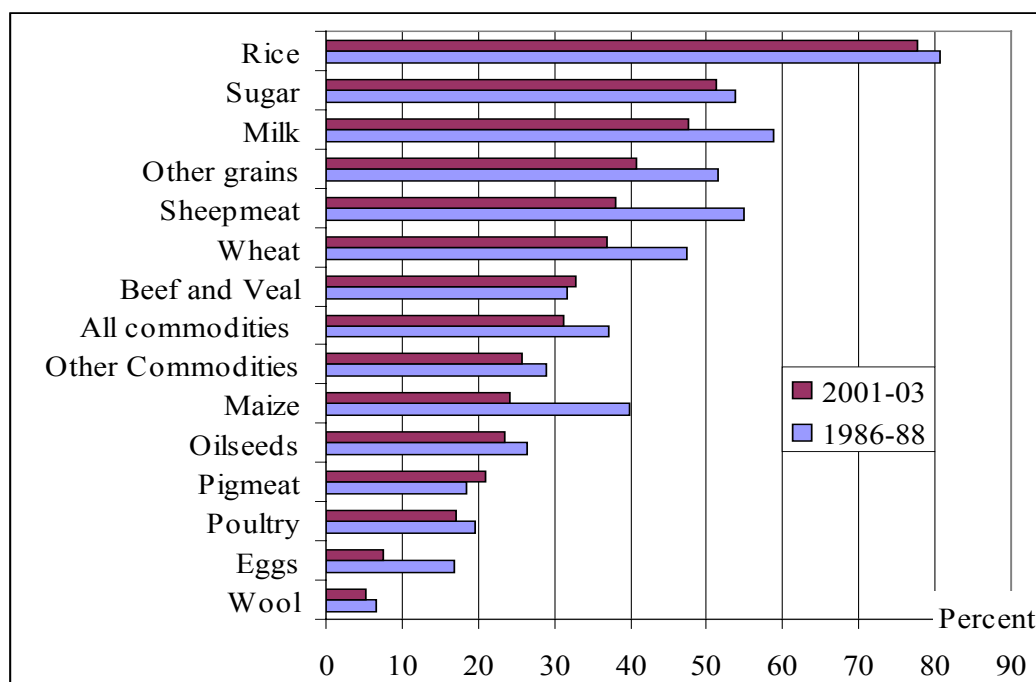
Graph 1: Farm Support in the OECD Area and Selected Member Countries, %PSE



Source: OECD, PSE/CSE database, Paris, 2004.

The commodity composition of support, has also not changed much after the Uruguay Round (Graph 2). The three products receiving the highest support levels remain rice (around 80% PSE), sugar and milk (the two latter around 50% PSE).

Graph 2: Producer Support Estimate by Commodity
(OECD average as % of value of gross farm receipts)



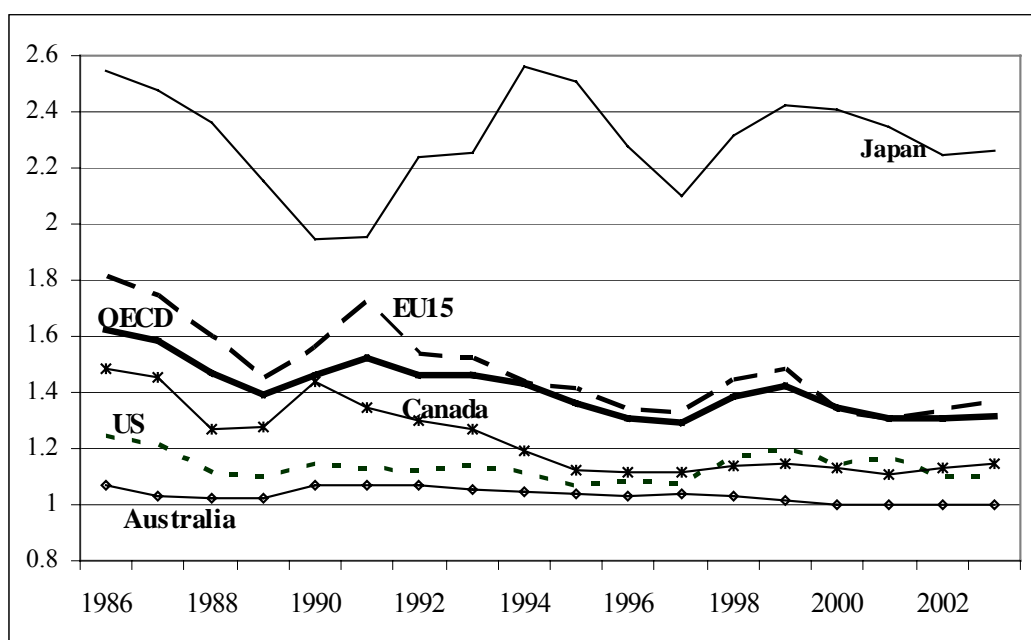
Source: OECD, PSE/CSE database, Paris, 2004.

What about the Uruguay Round's objective of a reduction in the level of agricultural protection? The relevant indicator here is the Producer Nominal Protection Coefficient (NPC_p), measuring the ratio between the average price received by producers (at farm gate), including payments per tonne of current output, and the border price (measured at the farm gate). As portrayed in Graph 3, more progress has been made on this count for the OECD area overall. While in 1986 domestic producer prices in OECD countries were on average 63% above world market prices, by 2003 that gap had halved, to 31%. Again, a good part of this decline occurred while the Uruguay Round negotiations were still going on. But before the implementation period started, in 1994, OECD domestic producer prices were still 43% above the international market level, and thus further progress was indeed made during the implementation period. As in the case of support levels, there are obvious differences in market protection among individual OECD countries, and also the development over time has differed significantly among countries. However, overall, there has been notable progress in the OECD area towards less market protection.

The decline in the level of market protection for OECD agriculture, with significantly less decrease in support levels, indicates that some re-instrumentation of policies must have occurred over time. This change in policy structure is also apparent in the evolution of the composition of the various measures that provide transfers directly to individual farmers, as captured in the

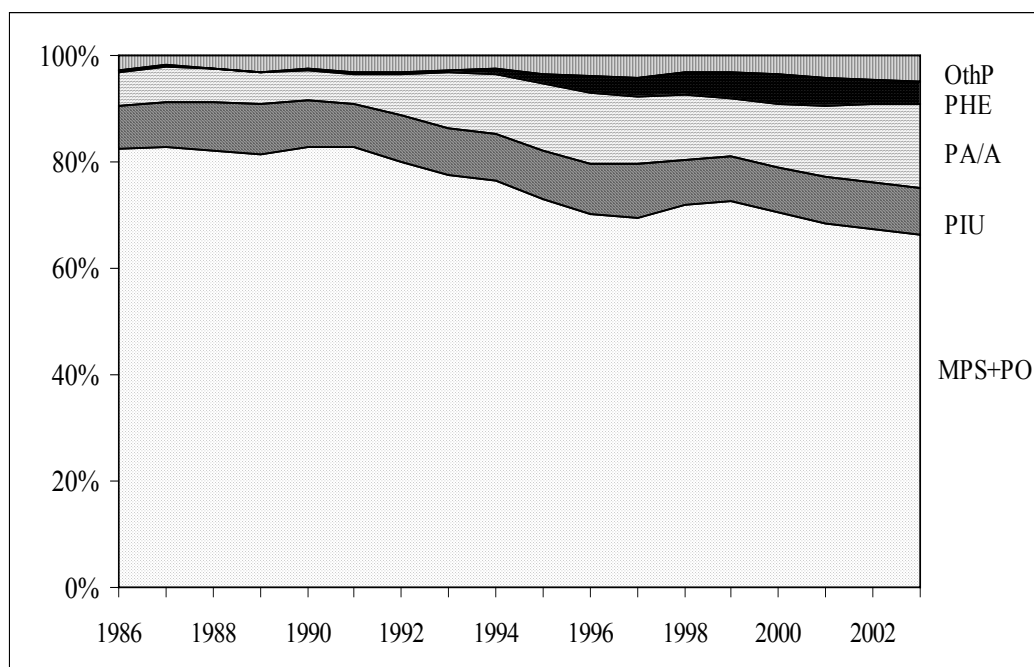
Producer Support Estimate (Graph 4). In particular, the share of overall OECD producer support that comes in the form of market price support (MPS) and payments per tonne of output (PO) has declined significantly over time, from 83% in 1986 to 66% in 2003, and mirrors the reduction in market protection. This decline is an important development, as market price support and output payments are among the most production and trade distorting instruments of agricultural policy (OECD, 2001a). However, for the same reason, it is also noteworthy that two thirds of OECD producer support still come in this form.

Graph 3: Producer Price Protection in Selected OECD Countries (Producer Nominal Protection Coefficient), Average over All Products



Source: OECD, PSE/CSE database, Paris, 2004.

Graph 4: Composition of Producer Support Estimate, OECD Aggregate
(Share of individual policy instruments in overall PSE)



Note: For an explanation of acronyms, see text.

Source: OECD, PSE/CSE database, Paris, 2004.

Payments based on input use (PIU), also strongly market distorting (OECD, 2001a), have exhibited a roughly constant share of aggregate producer support, at 9% in 2003. The share of payments based on area planted and animal numbers (PA/AN) in aggregate producer support has expanded, mainly since the early 1990s. In 2003, such area and livestock payments accounted for a share of 16% in aggregate OECD producer support. These types of payment, while somewhat decoupled from production, can still have significant effects on markets and trade, but are less distorting than market price and output support (OECD, 2001a). Still more decoupled and less distorting are payments based on historical entitlements (PHE), another category of measures whose share in producer support expanded at the expense of market and output support and in 2003 stood at 4% of producer support.

Overall, since the early 1990s, a noticeable shift in OECD agricultural policy composition has taken place, with some movement away from strongly distorting price and output support, towards more decoupled, and hence less production and trade distorting, measures. The extent to which this happened has differed markedly among countries. For example, in Japan, 97% of all producer support still comes in the form of price support, output and input payments, unchanged from the mid-1980s. On the other hand, in the United States, the share of these distorting forms of support in the PSE has declined somewhat (from 70% in 1986-88 to 65% in

2001-03), and in the EU it was reduced significantly (from 96% to 68%). Policy changes continue, but not all countries go in the same direction. For example, the US Farm Bill, passed in 2002, locked in the higher levels of support provided in preceding years through ad hoc payments, and was a step backwards from the decoupling of support (OECD, 2003a). Conversely, the reform of the EU's Common Agricultural Policy, decided in 2003, while maintaining a higher level of support than in the US, made a further significant step towards decoupling support from production (OECD, 2004).

In summary, the record is mixed regarding the extent to which the objectives of the Uruguay Round AoA have been achieved among OECD countries, if seen from the perspective of the support indicators as used in OECD's work on monitoring and evaluation of agricultural policies. Overall, the level of agricultural support has declined somewhat since the beginning of the Uruguay Round negotiations. Progress was more pronounced regarding the nature of policy instruments used. The most production and trade distorting policies, i.e. market price support and output payments, have declined noticeably, and have given place to forms of support that are more decoupled from production decisions. On the other hand, price and output support, as well as payments based on input use, still account for by far the largest share of all agricultural support in the OECD area, jointly making up for three quarters of producer support. Within these overall trends in the OECD area, there are obvious differences among individual countries. In particular, producer support has significantly decreased in some countries, while in other countries it has remained at high levels, and progress towards decoupling support from production has been uneven across countries.

Rules or Reduction Commitments – Where is the Problem?

In spite of some progress, and notwithstanding more recent reform decisions such as those taken in the EU, one cannot say that the AoA has resulted in a fundamental liberalization of agriculture in the OECD area. This lack of deep change has caused some disappointment, not the least among developing countries, and such frustration has added to the tensions about agriculture that have plagued a good part of the DDA negotiations, most noticeably at Cancun. Why is it that the significant progress made on agriculture in the UR has not yielded more in terms of actual policy change and liberalization? There are several conceivable reasons.

One possibility is that countries have simply disregarded the new disciplines in agriculture established in the UR. However, that does not appear to have been the case, as shown, for example by the fact that discussions in the WTO Committee on Agriculture regarding implementation of the AoA have gone reasonably smoothly. Also, there has been only a limited

number of formal disputes regarding central provisions of the AoA. Some of these disputes may have an important bearing on future dealings with agriculture in the WTO, and we shall have to come back to this below. But overall there is no reason to suggest that the AoA did not have much effect because many governments have ignored its provisions.

This leaves us with two alternative potential explanations. First, the new rules on agriculture agreed in the UR might have been deficient and left too many loopholes. Second, the quantitative reduction commitments for tariffs and subsidies established under the AoA may have been too generous and allowed too much scope for continuing to provide high levels of protection and support. Depending on which of these two potential explanations is considered dominant, the priorities of those parties who want to make more progress in the current round of negotiations would have to focus on either refining the rules or agreeing deeper cuts. Let us therefore explore these two potential explanations, in reverse order.

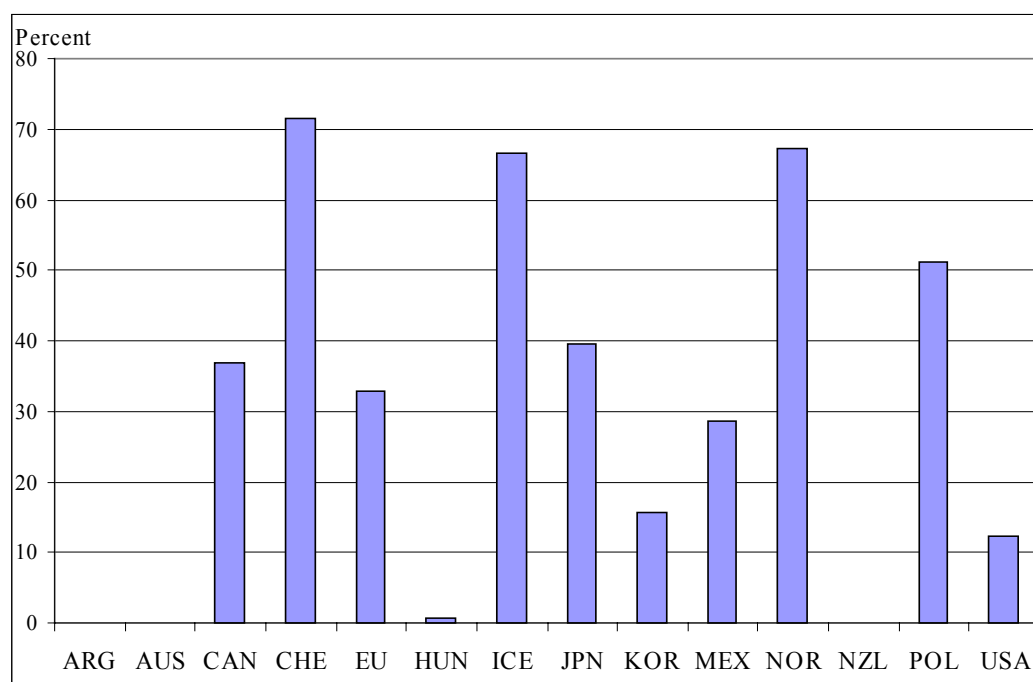
Did the quantitative commitments agreed in the UR contain so much “water” that even the reductions agreed in the Uruguay Round did not yet effectively constrain policies? This was obviously true in many cases, as shown in a number of analyses (for example, OECD, 2001b, 2002a and 2002b; and Diakosavvas, 2004). Let us consider just a few indicators.

Regarding market access, many tariffs in agriculture are still very high indeed. In the schedules of several OECD countries, a substantial share of all agricultural tariff lines exhibits mega-tariffs with rates above 100% (Graph 5). Indeed, many of these tariffs are simply prohibitive, and hence reducing them, in a given range, does no more than squeeze some of the economic water out of these tariffs, without affecting domestic price levels and trade flows. This was a major reason why exporting countries were keen to have minimum access commitments agreed in the Uruguay Round. However, it has turned out that many of these newly established tariff rate quotas, even where within-quota tariffs were significantly below “normal” tariffs, have not so far been fully utilized (OECD, 2002a). There is much speculation and political argument about the reasons for such low fill rates, and a lot of research remains to be done in this regard.

In the case of domestic support, the situation is simply that commitment levels were set at such high levels that in many cases both their original and the reduced final levels provided more room for manoeuvre than actual policies required. This is shown by the large percentage of all country/year observations in which only rather small shares of the domestic support commitments were actually utilized. On aggregate, in the OECD area, the level of Current Total AMS was no higher than 56% of the AMS commitments on average in the years 1995 to 1999, and only 45% in 2000 (Graph 6). It is, though, interesting to note that, even though the domestic support commitments agreed in the WTO were not binding in many countries, the actual level of accountable domestic support as defined under WTO rules still declined during the implementation period, and substantially more than the level of economic support as measured

by OECD. Of course, when interpreting this finding one has to keep in mind that market price support, an important element in the Current Total AMS, is, for WTO purposes, measured between administered prices and fixed external reference prices. Another interesting finding is that the total level of green box support in the OECD area has remained roughly constant since the beginning of the AoA implementation period. In other words, for the OECD aggregate, one does not find a significant shift of support into the WTO green box. This holds true even if one disregards for a moment domestic food aid in the US, a significant share of all green box notifications. Usage of the *de minimis* provisions, though, has increased somewhat recently for the OECD aggregate. Of course, these developments of OECD aggregates hide significant differences in the usage of the domestic support commitments across individual countries. For example, in the US, Current Total AMS has risen from 27% of the domestic support commitment to 88% in 2000 and 75% in 2001.

Graph 5: Mega-Tariffs in Selected Countries, Percentage of Agricultural Tariff Lines in 2000



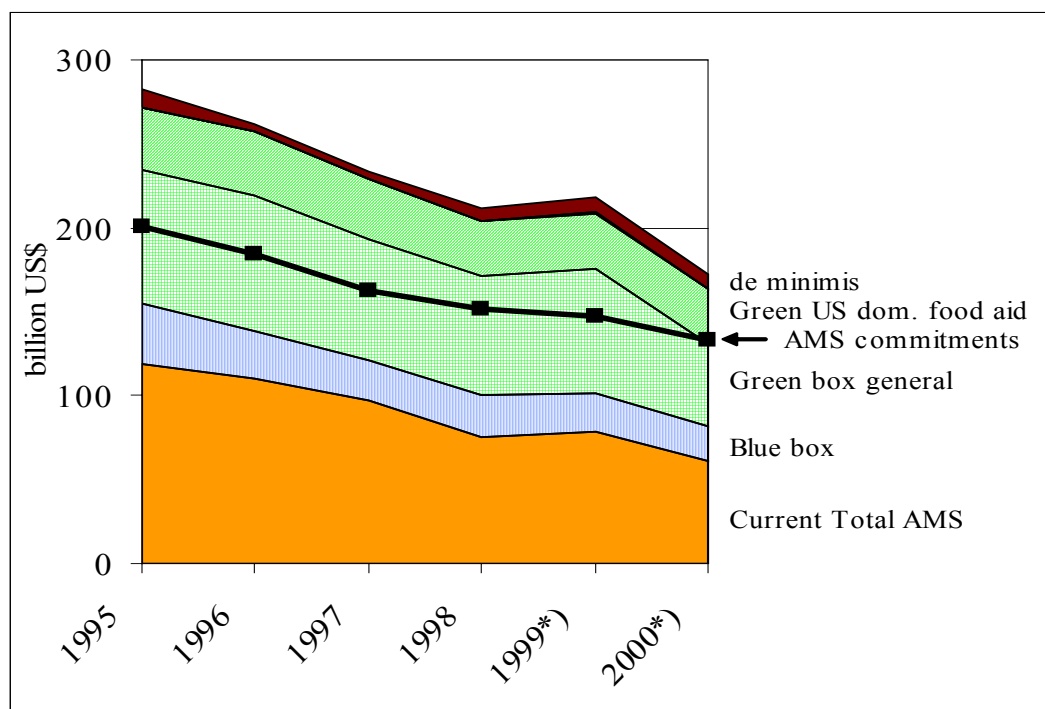
Megatariff is defined as a tariff equal or greater to 100%.

Source: OECD calculations based on 3 152 tariff lines from the AMAD database.

The commitments on export subsidization are generally considered to have been the most binding of all the new quantitative disciplines agreed in the UR. A look at the aggregate usage of export subsidy outlays as notified by all WTO Members, in comparison with aggregate commitments, does not appear to confirm this view (Graph 7). It is evident, though, that the EU

had the lion's share in all notified export subsidies. And for the EU, the export subsidy commitments have indeed constrained the room for manoeuvre in several commodity sectors, as shown by the high degree to which quantity commitments were used for a number of products (Graph 8). On the other hand, there are also product sectors in the EU where the export subsidy commitments have been far less than fully utilized in recent years. Generally, use of export subsidies by the EU, and hence in the WTO overall, has declined noticeably in recent years. In addition to international market developments, reforms in the EU's Common Agricultural Policy have contributed to this decline. The WTO was a factor that contributed to these reforms (Moyer and Josling, 2002) and to policy changes in other countries, and in that sense the UR did have an effect on the actual development of agricultural policies.

Graph 6: Domestic Support and WTO Commitments, OECD Aggregate

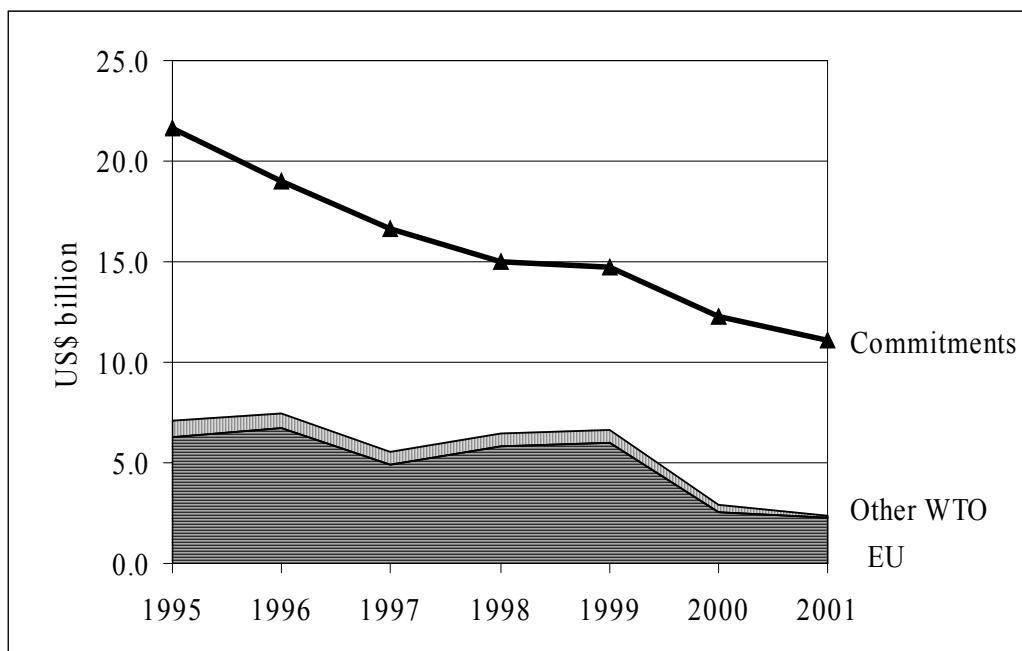


*) 1999 and 2000 notifications do not include Hungary, Mexico and Switzerland, 2000 notifications do not include Canada and Japan.

Note: Domestic support levels notified by the individual OECD countries, as well as their AMS commitments have been converted into US\$ using current exchange rates for the years concerned.

Source: WTO notifications.

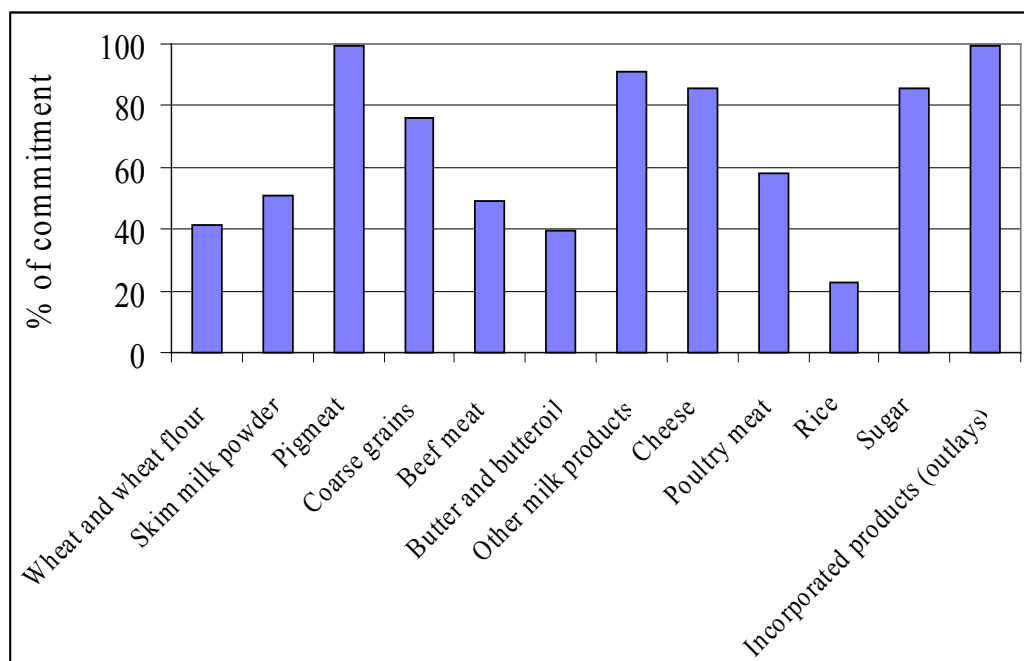
Graph 7: Outlays on Export Subsidies: Aggregate Commitments for All WTO Members



Note: 1999, 2000 and 2001 notifications do not include Cyprus and Venezuela, 2000 and 2001 notifications do not include Australia.

Source: WTO notifications.

Graph 8: Export Subsidisation by the EU: Utilization of Quantity Commitments, Average 2000-02, Selected Products



Source: WTO notifications of the EU.

Overall, many of the new quantitative commitments on agriculture that were agreed in the UR did not constrain policies, and this appears to be the primary reason why the AoA has not yet resulted in more significant changes in agricultural policies in the OECD area. The non-binding character of the new commitments may have been the price that had to be paid during the Uruguay Round for the acceptance of a wholly new legal framework in the WTO for agricultural trade and policies. But further progress on reduction commitments can be made in the current round of negotiations, and a few comments on that subject will be made in the following section.

While the many of the quantitative reduction commitments agreed in the UR obviously contained much water, it cannot be said that the rules embodied in the AoA exhibited many loopholes. It appears that overall they have worked reasonably well, although some issues did indeed become apparent. For example, the rules on domestic support make it possible to reduce notified support by changing commodity programmes such that an administered price is eliminated without much effect on actual producer prices received. This possibility was used in some cases, and contributed to the decline in current total AMS shown in Graph 6. Also, certain issues regarding the interpretation of the rules on export subsidies have become apparent in dispute cases. Moreover, after overt export subsidies were subjected to disciplines in the AoA,

an equivalent coverage of other forms of export competition has become an issue in the current round of negotiations. These issues regarding rules on export competition will be discussed in a later section.

Reduction Commitments: Focus on Border Measures and Output Payments

Given that existing quantitative commitments still contain substantial amounts of water, it is reassuring that there appears to be essentially universal acceptance in the current round of negotiations of the need to agree on further substantial reductions. Indeed, proposals tabled so far appear to suggest that cuts this time may eventually be deeper than in the UR. Moreover, in the framework accord of July 2004, agreement has now been reached that export subsidies and other forms of export competition will finally be eliminated. Though full blown negotiations on numerical reduction parameters still have to start, growing attention has been paid in recent months to market access issues, in particular the formulae for tariff cuts. This is a positive development in the sense that there is a great deal of merit in giving priority to the reduction of border measures in agriculture.

OECD research, and the policy conclusions drawn from it – agreed among all OECD member countries –, suggest that price support provided to domestic producers, maintained behind border protection and export subsidies, is ineffective and inefficient in achieving the objectives of agricultural policies. Hence, from a purely domestic perspective, the reduction of border measures is a priority in agricultural policy reform. The same holds true for government payments per tonne of output or per unit of input. It is easy to see why.¹⁸

The most important objectives pursued by governments in agriculture fall into either of two categories, support to farm income and correction of market failures. Regarding farm income, price and output support is unnecessary, inefficient and inequitable. It is unnecessary because there is not a general farm income problem in the OECD area. In many OECD countries, incomes of farm households are in line with, or above, incomes in the rest of the economy, and where incomes of farm households lag behind, the margin is not big. Price and output support is an inefficient means of supporting farm incomes because only a small share of the money transferred to agriculture through these policies ends up in the farmer's pocket. In a typical

¹⁸ The following paragraphs provide a brief overview of some of the major points made in the report on “Agricultural Policies in OECD Countries: A Positive Reform Agenda” (OECD, 2002c). That report also provides quantitative information that underpins the arguments advanced here, and makes reference to other OECD reports dealing with these issues in more detail.

situation, one extra dollar transferred to agriculture through price support adds no more than 25 cents to the income of farm operators. The remaining 75 cents end up in the hands of landlords and in the input industry, or evaporate through extra resource costs (OECD, 2003b). The reason is that price and output support provides an incentive for farmers to expand output, and in order to do so farmers demand more land and intermediary inputs. This also drives up prices of all these inputs. Hence, a significant share of the extra receipts farmers receive when their selling prices are supported ends up as higher expenditure on inputs. The net result is that no more than a quarter of the extra transfer to farmers from consumers and taxpayers through price support actually results in extra income for the farm operator and his or her family. Finally, farm income policy through price and output support is inequitable as this support is distributed across farms in essentially the same way as production volume, rather than in accordance with needs. The largest farms receive the largest sums of support, and those are not typically the farms owned by the poorest farmers most in need of income support. The 25% largest farms in the EU receive 70% of all government support, and in the U.S. the 25% largest farms even get 90% of support (OECD, 2003b). The irony is that a policy arguably pursuing equity objectives has rather inequitable results.

As far as the correction of market failures is concerned, agricultural policies pursue objectives related to positive and negative externalities (e.g. the effects of agricultural production on biodiversity and the environment) and public goods (e.g. maintenance of a pleasing landscape or providing food security). However, price and output support is not really doing a good job when dealing with such market failures (OECD, 2003c). Negative externalities, such as those resulting from an expansion and intensification of agricultural production, are often actually made worse through such policies. Positive externalities and any public goods that agriculture can provide usually do not come in anything like a fixed proportion with agricultural output, and hence output raising policies such as price and output support often make little, if any, contribution to attaining such objectives, and are in most cases less efficient than payments made directly dependent on the delivery of such services. In only very specific and probably rare cases may the transaction costs involved in making such targeted payments be so high that output support is the preferable approach. In other words, border policies, implemented to provide price support, and output-related domestic payments rarely do a good job in pursuing objectives related to the multifunctional characteristics of agriculture.

What is the alternative to price and output support, in dealing with agricultural issues that cannot be left to the market? Decoupling support from production is a first, very useful step in improving the domestic functioning of agricultural policy. As far as farm incomes are concerned, decoupled payments have at least the advantage that their transfer efficiency is better. For example, compared with price or output support, payments based on historical entitlements can

get double the amount across to farm operators per dollar spent by consumers and taxpayers. Targeting payments directly to the objectives pursued is another very helpful step, because in nearly all cases this is significantly more efficient than supporting farm prices and output.

Hence, for purely domestic reasons, it is promising to move from border measures and output-related payments to payments decoupled from production and targeted to specific objectives. In the context of international trade, a second big advantage of such policy reform is that distortions of production, markets and trade are reduced. This is why the reduction of border measures, i.e. tariffs and export subsidies in all forms, as well as the reduction of payments per unit of output or input, merits priority.

As far as the WTO categories of domestic support are concerned, policy reform in this direction also means moving support out of the amber (and possibly the blue) box and into the green box. In this context, concern is often voiced, in particular from the side of developing countries, regarding the phenomenon of “box shifting” (see, for example, Jank and Jales, 2003). In its simplest form, this criticism suggests that it doesn’t matter in which form the governments of rich countries subsidise their farmers – all forms of support distort trade. Shifting support from the amber or blue box into the green box, as allowed by the AoA, doesn’t improve the conditions on international markets, the criticism goes, and should therefore not be allowed. There is a grain of truth in this view. It is certainly the case, as confirmed by OECD research, that any payment made to a farmer is likely to have some effect on production. In that sense, a policy change that moves support from the amber to the green box is unlikely to eliminate, in a strict quantitative sense, all production and market effects. But OECD research has also shown that the production impacts of strongly decoupled policies, such as payments based on historical entitlements, and not related to current prices, are orders of magnitude below those of typical amber box measures, such as administered market prices and output payments (OECD, 2001a). From that perspective, any “box shifting” of this nature is beneficial for international markets as well as for the domestic economy. Such policy reform should, therefore, be encouraged. At the same time, along with policy reform in this direction, support can also be reduced because, as argued above, decoupled and targeted payments are more effective regarding both farm incomes and dealing with market failures.

Rules: The Support Jungle

As far as refinement of the rules in the AoA is concerned, it appears that the spotlight is on those regarding export competition. How can rules be formulated that extend beyond overt export subsidies and establish equivalent disciplines for other policies with potentially similar

effects, such as export credits, food aid and state trading enterprises? In addition, there is also the more fundamental issue of the definition of an export subsidy, or more specifically of what the relationship is between domestic support and export competition. This issue figured in the dispute on Canada's dairy policies, and from the media news on the as yet unavailable interim reports of the panels dealing with US cotton policies and the EU sugar regime, it appears that this issue played a role in those cases, too.

Negotiators in the UR aimed at a comprehensive set of rules and agreed separate disciplines for the three areas of market access, domestic support and export competition. Given the mechanics of economic relationships, it was clear from the beginning that there are overlaps between these three areas. For example, a domestic administered price above the world market level (covered under the AoA rules on domestic support) can be sustained only behind tariff protection (covered under rules on market access). If this price support results in surplus supplies on the domestic market, exports can only take place with export subsidies (covered under the rules on export competition). In such cases, a given economic phenomenon, resulting in a trade distortion, is disciplined, in the AoA, by more than one rule. The advantage may well be that this creates multiple security.

On the other hand, there are alternative policies with rather similar effects that the AoA covers in different parts of its rules, with the result that different reduction rates and degrees of stringency may apply. For example, a government payment per tonne of output has the same effect on domestic supply (though not on domestic demand) as an equivalent level of price support. However, while in an exporting country with domestic price support the exported share of domestic production is subject to the (product-specific) commitments on export subsidies, an output payment, including that on exported output, is submerged into the sector-wide commitment on domestic support. It would be difficult to argue that this is equivalent treatment of alternative forms of policies with essentially the same effects.

In the same context, it is clear that a watertight distinction between domestic support and export support is difficult to strike in exporting countries. Essentially, export support is the tip of the iceberg of domestic support. What makes a policy have an effect on exports is the incentive it provides, at the margin, to domestic producers (and/or any disincentive to domestic consumers). The implication for rule design is obvious: The tighter the disciplines are on domestic support, and in particular on domestic support for exported output, the less there is a need to rely on rules regarding export competition. In principle, appropriate disciplines on domestic support could substitute for export competition disciplines.

The same logic can also be extended to the relative effects of alternative forms of export competition. What counts here is the extra amount of output that is shipped abroad, over and

above of what would be the case in the absence of the policy measure concerned.¹⁹ In the final analysis, this depends on any extra incentives to produce that domestic farmers receive as a result of the policy measure concerned. Even though the measure is implemented at the point of export (as opposed to a payment to domestic farmers), any incentive to domestic producers, and hence any additional exports, can only originate from an increase in the price these producers receive. In other words, a policy that does no more than make it easier for the importing country to buy the produce concerned, without raising the producer price in the exporting country, will not result in an expansion of exports from the country pursuing that policy.²⁰ From this perspective, too, it can be said that a tight discipline on domestic support (the “iceberg”) might well capture the export competition phenomenon (the “tip of the iceberg”). Hence, sufficiently stringent and demanding rules on domestic support could well bring about equivalent discipline for all forms of export competition, without the need for specific provision regarding the individual export competition measures. Moreover, the link with tariffs, emphasized above, is relevant here too. In the absence of tariffs, domestic market prices cannot be lifted up by any policies. This adds further weight to the priority focus on market access.

Conclusions

The AoA concluded in the UR was a big step forward. Almost half a century after the formation of the GATT, it brought to an end the era in which agriculture had escaped most international disciplines. The price paid for this leap forward was a relatively generous set of quantitative reduction commitments that have often not yet constrained actual policies. In spite of this generosity, the existence of the new rules and commitments has already triggered some important policy reforms. And more reforms will follow if further reductions are agreed in the current round of negotiations.

In this round, agriculture is again one of the most difficult items on the negotiating agenda. Does that say the Uruguay Round has failed on agriculture? Quite the contrary. The AoA has laid the foundations that allow negotiators in this round to focus on the rates of reduction to be agreed. In the UR, agriculture was difficult because it was not clear how the rules should be formulated. In the DDA round, agriculture is difficult because the serious reduction business is

¹⁹ In addition, there are also issues such as market displacement, which are not discussed here.

²⁰ As a matter of fact, this policy may allow the importing country to import more than it might otherwise have done, thereby raising global import demand. This would allow all exporters to ship more, including the exporting country pursuing the policy concerned.

about to begin. In that sense it can also be read as a reassuring sign that agriculture is generally considered to be one of the most challenging elements of the DDA negotiations: governments are aware of the fact that only a big step forward towards reducing protection and trade distorting support will be considered sufficient progress, and they are concerned about the political implications.

At the same time, the current difficulties should not cloud the historical perspective: the process of reform has much advanced. Anyone who in the mid-1908s, in the run-up to the UR, would have predicted that 20 years into the future the issue would not be whether there should be any effective disciplines on agriculture, but whether tariffs on farm products, all meanwhile bound, should be reduced according to the Swiss formula or by a flat rate of possibly 36%, or by some combination of these and other elements, would most certainly have been considered a naïve optimist.

It is appropriate that focus in the negotiations should turn to market access. Price support behind border protection and export subsidies, as well as other forms of directly output-related support, are neither effective nor efficient in reaching the objectives of agricultural policies. It is in the domestic interest of countries in the OECD area to reform these policies, and to move in the direction of decoupled and targeted payments, while at the same time achieving their policy objectives in agriculture with lower levels of support. It is good to know that such policy reforms, in the best domestic interest, also have the double benefit of greatly reducing distortions of production, markets and trade. Agricultural policy reform, therefore, has the potential of generating a win-win situation in the DDA negotiations: national policies become more effective, and in the WTO they allow to make progress, both in agriculture and in other sectors.

As far as WTO rules on agriculture are concerned, the situation is not static, either. An extension of rules on export competition is envisaged, to create equivalence between disciplines for export subsidies and those for export credits, food aid and exporting state trading enterprises, including the pledge to finally eliminate all such forms of government influence on export competition. At the same time, some findings in recent dispute cases have thrown new light on the relationships between domestic support and export competition. Conceptual thinking may be required on how the various support policies affect markets, and how these market effects can be disciplined in an equivalent way.

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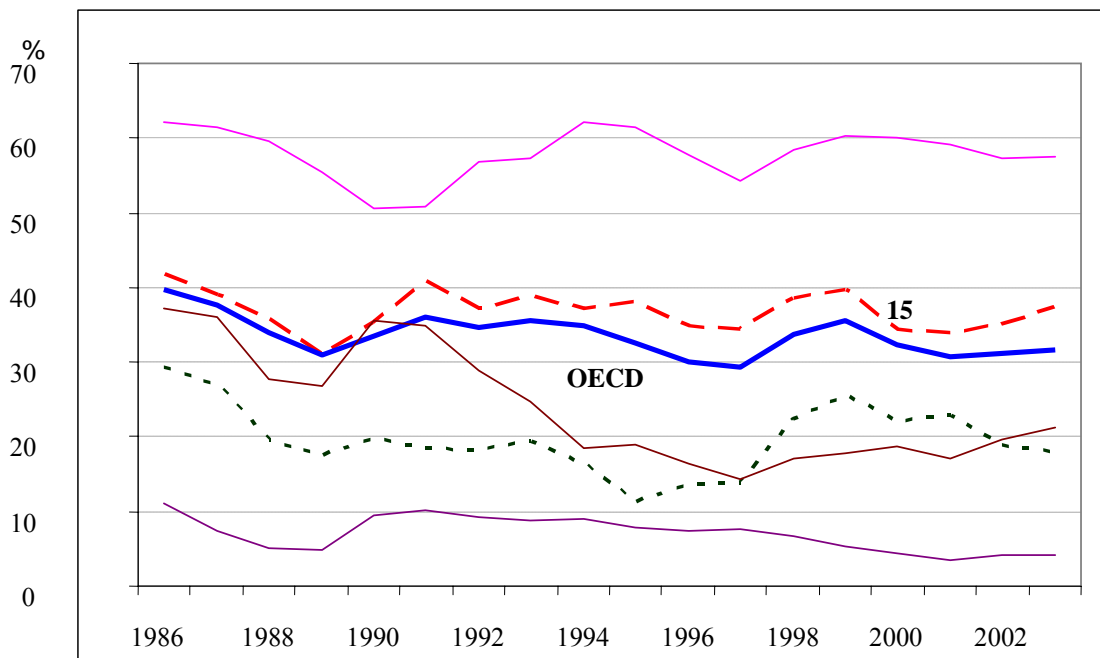
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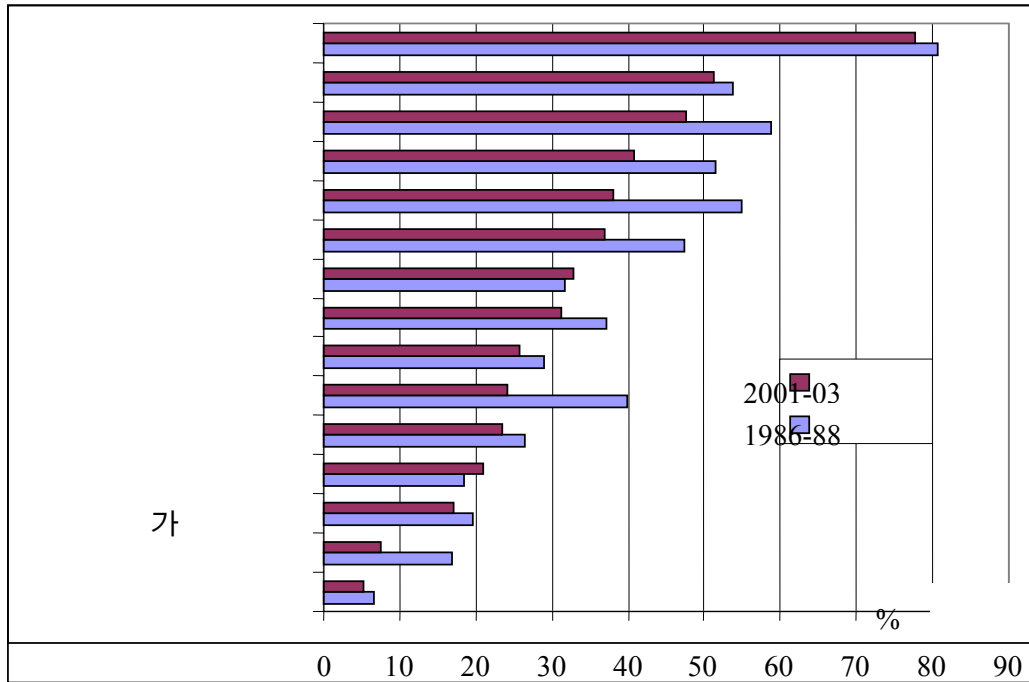
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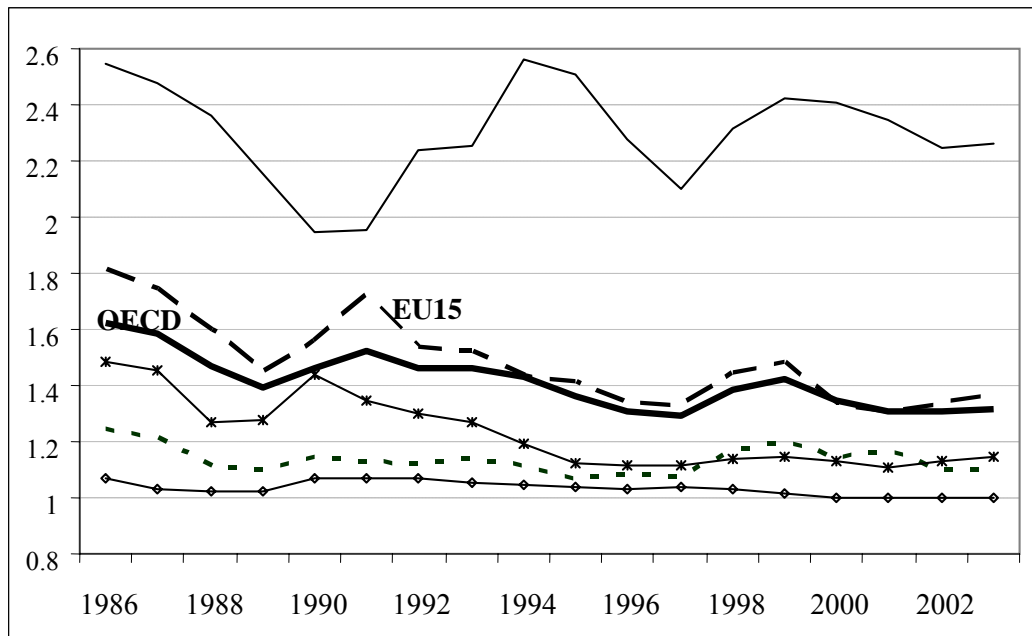


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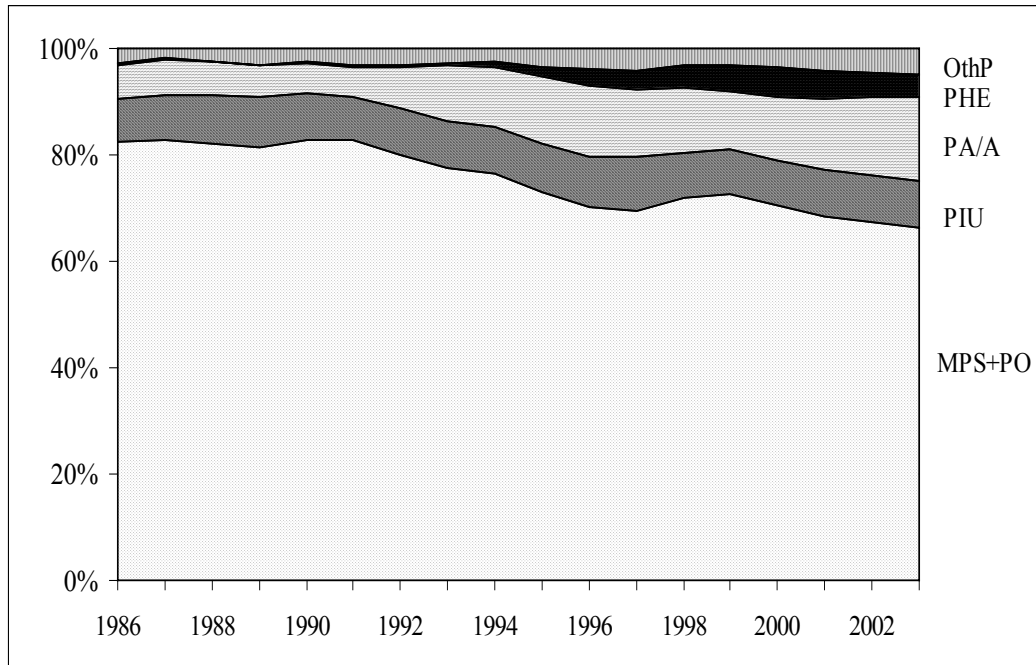
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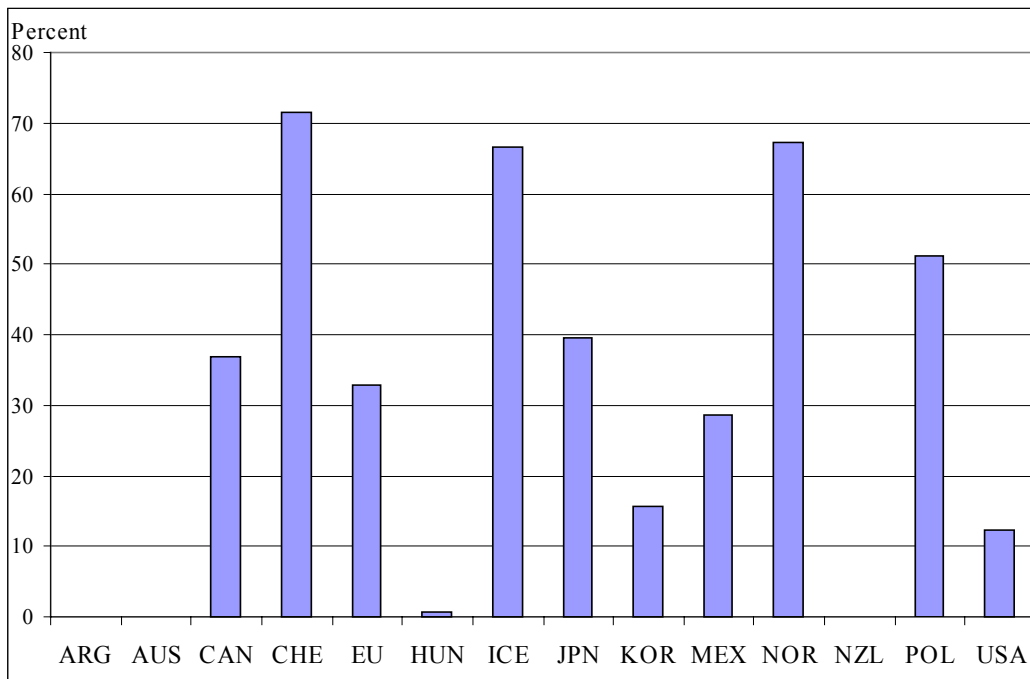
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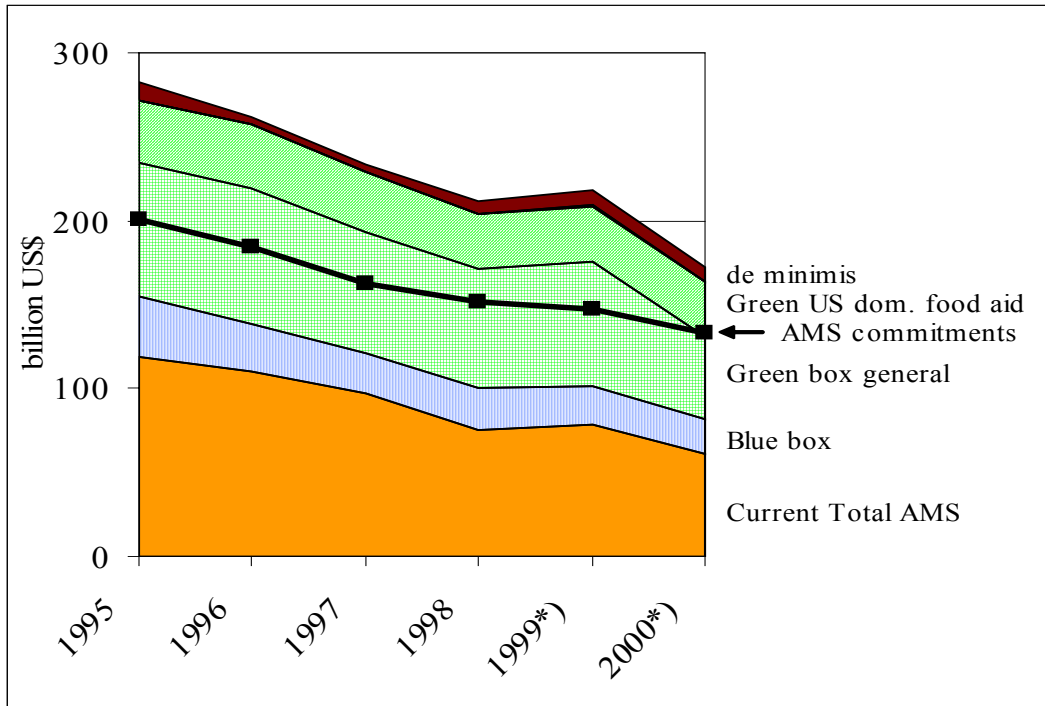
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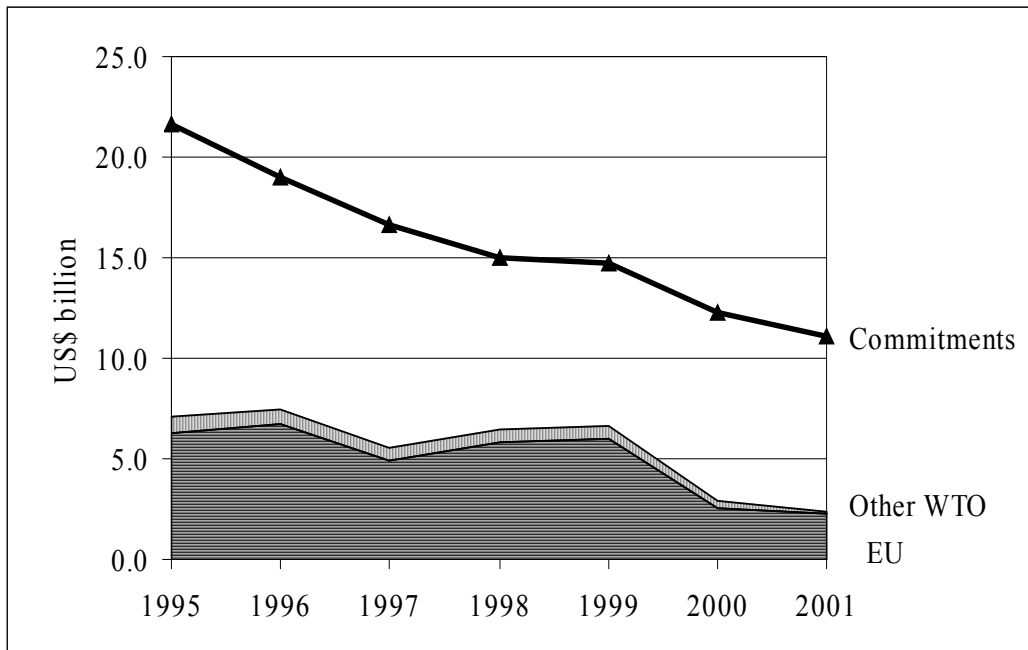


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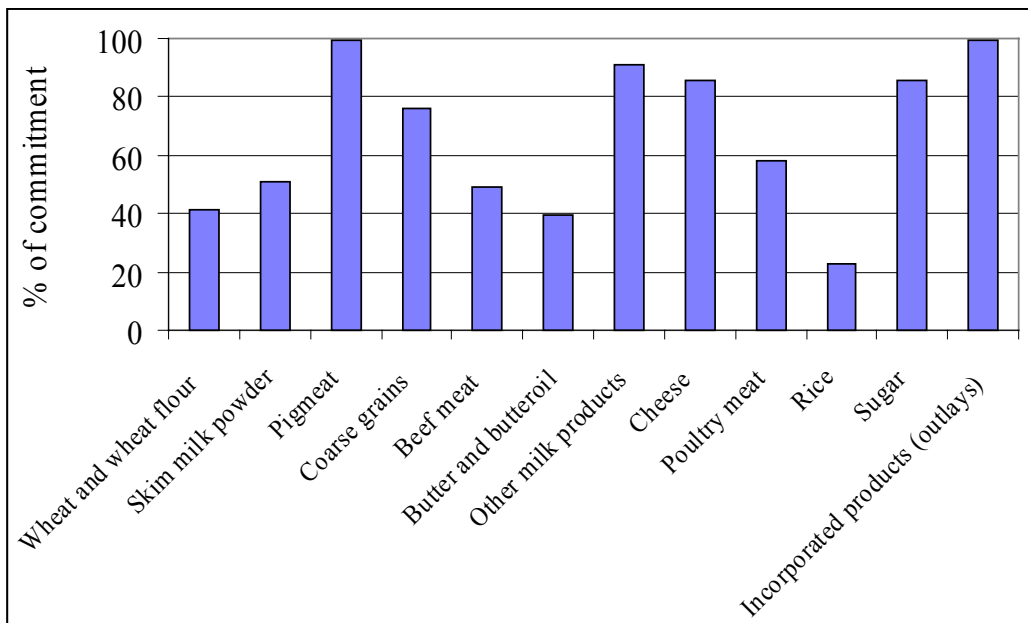
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