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Agenda 2000 and the modulation of direct support : impact on the French agriculture

Article based on Farm Accounting Data Network (FADN)

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Summary

This article aims to present the results of an assessment of the consequences the reform project of the CAP (Agenda 2000) may have on income evolution and direct support in the French farms. These simulations which have been carried out with constant structure and productivity according to the data released by the FADN, point out the rapid increase in public direct support as far as the composition of the farmers' income is concerned. An analysis of two possible issues of the modulation of CAP supports is then conducted to provide key elements about the current debate in France as part of the proposal of the agricultural orientation law.

Key words : CAP reform - Direct supports - Modulation - FADN

1. Introduction

In its document, headed « Agenda 2000 », and in the continuity of the 1992 CAP reform, the European Commission is currently planning a new revision of the way Common Market Organizations (CMO) for cereals, cattle meat and milk operate (Commission of the European Communities, 1998-a). This proposal is focused on a new decrease in institutional prices which will be partly offset by an increase in direct payments made to farms. This reform project is in keeping with the logic of economic analyses and with the recommendations made by international organizations (OECD, WTO) which consider that the market must have an increased role to play in the orientation of agricultural outputs and campaign for a decrease in public supports (OCDE, 1998). According to the Commission's experts, it is completely justified to prepare for the next multilateral negotiations (reduction of internal support and split of direct supports) and to adapt the CAP before the enlargement of the European Union into the Eastern Europe countries (Buckwell, 1998).

This new project arouses concern from the farmers and their organizations, mainly in the sector of stock farming. They feel concerned about the consequences resulting from such a project not only for the evolution of their farm income but also for the keeping of these public supports as well as their legitimacy compared to the other social groups. This project raises questions among the economists about the efficiency of the systems implemented to adapt the agricultural sector to the dynamism of international farm products markets (Henrichmeyer, Witzke, 1998 or Keyser, Merbis, 1998), particularly about the ability of these proposals to combine at the same time an opening towards the world market, a boost for a quality agricultural production and well-thought occupation of the country.

To be able to cope with many criticisms made about the amount of the supports granted to the biggest farms, mainly since the refusal in May 1992 of the Mac Sharry proposals (Allanson, 1993), the European Commission proposes in Agenda 2000 a modulation of these supports over 100,000 ECUS per farm. Moreover, in article 4 of its settlement project, it states that « the member countries can decide to reduce the amounts that would be paid to farmers for the given trading year, if the work force of the farms during the given year, expressed in Annual Work Unit, is lower than reference figures set by the member countries. The reduction of the support granted is limited to 20 % of the amount of the whole payments which would have been made to a farmer during the given trading year. »

In France, the possibility of a modulation of direct supports is put forward by the Minister in charge of agriculture in order to help finance the territorial exploitation contracts as it is referred in the proposal of the agricultural orientation law (Le Pensec, 1997). Following the work conducted by our team on the 1992 CAP reform and on the limitation of this support according to employment (Colson, Chatellier, 1997), this article aims, firstly, at analysing the different impacts of the project Agenda 2000 (version of 18th March 1998) on the evolution of income and direct supports in the French farms and secondly at assessing two issues of modulation of the Community direct support.

2. Method applied

This analysis is based on the data released by the FADN. The 1996 sample, used to carry out the Agenda 2000 projection, groups 7,200 farms which account for 428,900 professional farms, after having applied extrapolation coefficients. These farms represent 95 % of French agricultural production and benefit from 90 % of the direct support granted in 1996.

2.1. Distribution of farms according to 4 types of production

In order to clearly identify the impacts of the CAP reform project, farms are divided into 4 groups : « dairy farms », « beef farms », « cereal farms » and « other farms » (table 1). Among the 428,900 farms, 241,000 are considered as « cattle farms » because they have more than five livestock units (LU). Among the latter, the application of a minimum of five dairy cows makes it possible to differentiate the 140,900 dairy farms from the 100,100 « beef farms ». Among the farms which are not part of the cattle farms, the 77,800 farms having a compulsory set-aside whose surface is more than zero, are considered as « cereal farms », the remaining 100,100 farms are gathered in the same typological group, headed « other farms ». This classification method, which is different from the Type of Farming one, makes it possible to group almost the total of the cattle livestock and the milk production into two farming groups.

Table 1. Share of the production types in the French agriculture (in % - 1996)

	Dairy farms	Beef farms	Cereal farms	Others	All farms
Number of farms	33%	24%	18%	26%	100%
Agricultural work unit (AWU)	32%	19%	17%	32%	100%
AWU - salaried	8%	6%	20%	66%	100%
Usable agricultural area	34%	28%	26%	12%	100%
Cereals, oilseeds and protein area	22%	20%	50%	9%	100%
Main fodder area	53%	39%	3%	5%	100%
Agricultural output	33%	15%	22%	31%	100%
Gross added value	29%	9%	21%	40%	100%
Direct subsidies	25%	31%	34%	10%	100%
Farm income	28%	17%	27%	28%	100%

Source : French FADN 1996 / INRA Nantes

In cattle farms (milk and beef), the work force is mainly a familial, since they account for 57 % of all farms, but only employ 14 % of farm workers. Dairy farms represent one third of French farms and occupy 34 % of the Usable Agricultural Area, 53 % of the fodder areas and 22 % of the Cereals, Oilseeds and Protein-areas (COP area). In 1996 they account for 29 % of the added value and were granted 25 % of the direct payments. Beef farms account for almost one quarter of the farms and 85 % of the livestock are suckler cows. Mainly located in difficult areas, they use 28 % of the usable areas, 39 % of the fodder areas and collect 31 % of the direct support contributing to only 9 % of the added value. Cereal farms, which account for 18 % of the work force employed, have 26 % of the usable agricultural areas, 50 % of the COP areas (57 % of oilseeds areas and 62 % of protein-rich plant areas). They accounted, in 1996, for 34 % of the direct support and 26 % of the farm income for 17 % labour units. The other farms, which account for 26 % of the total number of farms but 66 % of the workers, represent a limited occupation of the country (12 % of the usable agricultural area).

2.2. The simulations of the Agenda 2000 project based on a 1997 reference situation

Having in our possession only data released by the FADN in 1996, we have re-designed a central situation for 1997 based on the evolution recorded in the national agricultural accounts for the trading year 1997 and concerning the production value, inputs costs, proportion of set-aside and the variation of fodder areas. The supports exceptionally provided to beef farmers in 1996 because of the Beef Spongiform Encelopathy (BSE) are no longer taken into account in 1997.

On the basis of the proposals made by the European Commission on 18th March 1998, the simulations of the Agenda 2000 project are conducted with constant structure, productivity and volumes from this 1997 reference situation (Colson, Chatelier, 1998). The farm income evolution (ΔFI)[2] between 1997 and 2002 are calculated by adding four groups of factors : the decrease in the agricultural production value (ΔAP), the variation of inter-

mediate consumption (ΔIC), the revaluation of the CAP direct payments (ΔDP) and the impact of the European modulation of these supports (Δ'DP) taking into account a maximum of 100,000 ECUS per farms.

$$\Delta FI = \Delta AP - \Delta IC + \Delta DP + \Delta' DP$$

** The decrease in the agricultural production value*

Price variations, which are applied to the production value (= sales + home consumption + stock variations - purchases) are set in the simulations at -20 % for cereals, -30 % for beef meat and -15 % for milk. This condition presupposes that the decrease in intervention prices is entirely deducted from the decrease in the market price paid to the producer.

** The variation of intermediate consumption*

Compulsory set-asides are abolished, they are step by step used as cultivated areas according to the importance of the areas devoted to cereal, oilseeds and protein-oil crops. This disposition leads to an increase in the productions concerned and results in additional cultivation inputs. The voluntary set-aside is kept to the level noticed in the 1997 study.

A 5 % decrease in the costs of concentrated food products eaten by cows has been applied in order to take into account the logical impact of the decrease in the cereal price. This price decrease has not been used for the simulation regarding the concentrated food products used by farms specialized in pig and poultry productions which could at the same time record a drop in the selling price of their livestock.

To take into account the proposal to increase by 2 % the European milk quota, a 10 % increase of the quota has been simulated for farms located in mountain areas, no modification has been brought to the milk quota of young farmers. The income earned per additionnal milk litre being assessed at FF 0.85.

** The revaluation of the CAP supports*

Supports granted for cereal areas (including fodder maize but excluding durum wheat) are revaluated by 22 % from 54 to 66 ECUS per tonne based on the current reference yields. The modification affecting the regionalization plan of the reference yields has not been included in this work. A decrease of the amount of direct supports of 23 % has been taken into account for oilseeds (from 86 ECUS which was the amount paid in 1997 to 66 ECUS) and of 8 % for protein-rich plants (from 78.8 ECUS, which was the amount paid in 1997 to 72.5 ECUS). Supports concerning compulsory set-asides are abolished and supports concerning the voluntary set-asides have decreased by 4 % (from 69 to 66 ECUS).

** The revaluation of the supports for the beef production sector*

In the milk production sector, a Community minimum premium of 135 ECUS per theoretical dairy cow (100 ECUS for milk and 35 ECUS for meat) has been decided. The calculation of the theoretical dairy milk that can benefit from the premium is based on the division of the milk quota of the farm by the average European yield (5,800 kg). In the suckler cow sector, the Community premium per suckler cow has been increased by 35 ECUS (from 145 to 180 ECUS). The domestic additional support paid for suckler cows is abolished (30 ECUS for the first forty cows) but the maximum amount of 120,000 kgs of milk from which farms are not entitled to benefit from suckler cow premiums is kept. The European premium for male cattle is increased by 85 ECUS (from 135 to 220 ECUS) for bull calves which have been awarded once at the age of 10 months et by 61 ECUS (from 109 to 170 ECUS) for beef cattle awarded twice between 10 and 22 months.

Cattle premiums are paid according to two stock densities. The first one is composed by a reduction level of maximum 2 livestock units per hectare of main fodder area (MFA). As currently, the registered area can include not only maize silage but also home consumed cereals, the calculation method used for the livestock units (LU) remains unchanged. The second stock density taken into account is an maximum exclusion rate, under which is paid a highly revalued « extensive complement » (from 30 to 100 ECUS per eligible animal). However, the calculation method of stock density which is used to grant this complement is hardened compared to

1997. The stock density is now calculated by including the beef cattle as a whole (even if they have not been awarded) and by basing the calculation only on the grass areas.

Together with these Community minimum supports, the cattle sector benefits from flexibility funds whose sharing out remains the responsibility of the member countries (paying attention not to exceed a given maximum level). In this study, these funds have been shared out according to the « Santer 1 » community logic which is planning to revalue minimum Community supports for theoretical dairy cow by 80 ECUS (among which 45 ECUS are for milk and 35 ECUS for beef meat), an increase of 35 ECUS as far as the supports devoted to potentially rewardable suckler cows are concerned, the remaining funds will be used for male cattle (+57 ECUS per rewarded bull calves and +44 ECUS per steer for both age ranges).

** Modulation of the CAP direct supports from a maximum level of 100,000 ECUS per farm*

The proposal made by the Commission to modulate direct supports from a maximum level of 100,000 ECUS per farm (-20 % between 100,000 and 200,000 ECUS and -25 % above 200,000 ECUS) has been included in the calculation of income and support growth. This measure concerns, according to our estimates, 3,000 farms in France for a budgetary saving of 100 million francs.

2.3. The two possible projects of domestic modulations of the CAP 2000 supports

The aim of modulating CAP support according to employment is to maintain supports for small farms and to reduce them for large farms. It aims at a greater balance and a more important efficiency in the distribution of public money, the amount saved collectively are supposed to be used for environmental protection projects.

This text presents the analysis of the impacts of the two possible projects of domestic modulation of the CAP direct support on the income of the French farms. They have both in common the level from which a modulation is applicable (αi). It has been proposed at 20,000 ECUS per farm. This figure has been chosen because it is close to the average amount of CAP support paid to the French farms. To take into account the workforce element (Wi), this level has been increased for all farms hiring more than two workers. The calculation is based on 10,000 ECUS per job above two annual work units (AWU). For the small farms which are granted less than 20,000 ECUS as a support, no modulation is planned for administrative feasibility reasons and because of the weak economic and social impact it might have.

The simulation of the variation in the direct payments provided (Δ''DPi) is made for each farm (i) of the sample used, in order to take into account the amount of CAP support (DPi), the number of jobs (Wi), the economic dimension measured by the gross product per AWU (GPi), the level from which a modulation is applicable (αi) and the modulation rate applied (βi). The impact of the modulation is limited, in both issues, to 20 % of the support amounts to be paid to each farm.

$$\Delta''DPi = f(DPi, Wi, GPi, \alpha i, \beta i)$$

Δ''DP = Variation in the support provided and directly linked to modulation
DP = Amount of the CAP direct payments
W = Work provided measured in Annual Work Units (AWU) per farm
GP = Amount of the gross product (production of the trading year + direct support) per farmer (in ECUS)
α = Level from which the modulation is applicable, per farm and in ECUS
β = Modulation rate of direct payments

The first issue is based on a modulation applied according to the amount of the CAP support provided but it does not take into account the economic dimension aspect. The modulation rate (βi), which is applied for each support bracket above the maximum level (αi), changes as follows : -20 % for the bracket between 0 and 10,000 ECUS, -30 % for that between 10,000 and 20,000 ECUS, -40 % for that between 20,000 and 30,000 ECUS and -50 % above 30,000 ECUS. Two farms benefiting from the same amount of CAP support are penalized in the same way even if they have far different economic dimensions. Thus, for example, a specialized farm operating 100 hectares of cereals and a farm having in addition to its 100 hectares of crops, 50 hectares of sugar beet and facilities for pig production, experiences according to this issue the same decrease in the amount of their direct CAP support and very different impacts on their income.

The second issue is based on a modulation of the CAP support according to the economic dimension. This modulation is applied to amounts due above a maximum level (αi) and for farms having a gross product per worker (GPi) higher than 75,000 ECUS. The modulation rate (βi), which is applied to support exceeding the maximum level set (αi), amounts to -20 % for the farms whose gross product per worker is between 75,000 and 100,000 ECUS, to -30 % when it amounts to between 100,000 and 125,000 ECUS, to -40 % between 125,000 and 150,000 ECUS and to -50 % when it amounts to a figure higher than 150,000 ECUS.

Method : modulation of direct payments

if Wi<=2 then αi=20 000 ; else αi=20 000+((Wi-2)*10 000)

First issue (H1)

if (DPi-αi)<=0 then Δ''DPi=0

if 0<(DPi-αi)<=10 000 then Δ''DPi=0,2*(DPi-αi)

if 10 000<(DPi-αi)<=20 000 then Δ''DPi=2 000+0,3*(DPi-αi-10 000)

if 20 000<(DPi-αi)<=30 000 then Δ''DPi=5 000+0,4*(DPi-αi-20 000)

if 30 000<(DPi-αi) then Δ''DPi=9 000 + 0,5*(DPi-αi-30 000)

if Δ''DPi>(DPi*0.2) then Δ''DPi=DPi*0.2

Second issue (H2)

if (DPi-αi)<=0 or ((DPi-αi)>=0 and GPi<75 000) then Δ''DPi=0

if (DPi-αi)>=0 and (75 000<GPi <100 000) then Δ''DPi=(DPi-αi)*0.2

if (DPi-αi)>=0 and (100 000<GPi <125 000) then Δ''DPi=(DPi-αi)*0.3

if (DPi-αi)>=0 and (125 000<GPi <150 000) then Δ''DPi=(DPi-αi)*0.4

if (DPi-αi)>=0 and 150 000<GPi then Δ''DPi=(DPi-αi)*0.5

if Δ''DPi>(DPi*0.2) then Δ''DPi=DPi*0.2

The maximum levels are calculated in order to avoid weakening the farms concerned by this modulation. It has been set to a maximum of 20 % of the initial amount of supports due in order to soften the possible impact of competition imbalance which might be noted because of the implementation of this mechanism.

3. Consequences of the Agenda 2000 project on the sharing out of direct support

In 1991, direct supports only accounted for a low share of public expenditure made for the productive agricultural sector, the support of agricultural product prices (intervention mechanism, exportation refunds, surpluses storage) represented at that time amounts which were four times higher than the sole direct support (Blogowski, Hairy, 1996). With the CAP reform in 1992 and the Agenda 2000 project, this situation has been considerably altered.

Table 2. Evolution of the sharing out of direct supports in the French agriculture (in billion French francs)

	1991	1997	2002
COP compensatory payments (including fodder maize)	0	32,2	35,4
Animal direct subsidies (including flexibility funds)	4,7	9,5	18,9
Modulation of CAP direct subsidies	0	0	-0,1
Others direct subsidies	7,0	5,9	5,9
Direct subsidies (total)	11,7	47,5	60,1

Source : French FADN / INRA Nantes

Thus, according to our estimates (table 2), the overall amount of direct support paid to the French agriculture jumped from 11.7 billion francs in 1991 (that is 22,200 francs per farm) to 47.5 billion francs in 1997 (110,800 francs per farm) and to 60.1 billion francs according to the Agenda 2000 project (140,100 francs per farm).

3.1. Impact of the Agenda 2000 reform project on income growth

If we consider French farms as a whole, the variation of the agricultural production, in value, amounts to 23.5 billion francs among which 37 % concern beef meat, 33 % cereals and 30 % concern dairy production. It is borne mainly by dairy farms (-14 %) and by beef farms (-15 %). Direct support increase by 12.5 billion francs among which 9.4 billion are devoted to animal support (including 3.8 billion francs as flexibility funds) and 3.2 billion francs for COP support (including 0.7 billion francs for maize-forage areas). The increase in direct support (12.5 billion francs) is mainly centred around the dairy farms (+73 %) and beef farms (+22 %).

Table 3. The consequences of the Agenda 2000 project on the French agriculture
- analysis according to the production type (in francs and in % per farm) -

	Dairy farms	Beef farms	Cereal farms	Others	All farms
Number of farms	140 900	100 100	77 800	110 100	428 900
AWU per farm	1,70	1,47	1,68	2,25	1,77
Agricultural output 1997	648 700	404 500	790 400	785 800	649 700
Variation 2002/1997 (%)	-14%	-15%	-6%	-1%	-8%
Gross added value 1997	215 700	96 000	287 100	397 400	245 000
Variation 2002/1997 (%)	-41%	-63%	-19%	-2%	-22%
Direct subsidies 1997	83 100	148 400	205 200	43 700	110 800
Variation 2002/1997 (%)	73%	19%	6%	5%	26%
Farm income 1997	164 600	124 100	280 100	210 900	191 200
Variation 2002/1997 (%)	-17%	-22%	-16%	-3%	-13%

Source : French FADN / INRA Nantes

The gross added value of the French agriculture records with the Agenda 2000 project, a decrease of 22 % (table 3). This decrease is particularly important for cattle farms (-63 % for beef farms and -41 % for dairy farms) and restrained in the cereal production sector (-22 %). If a market price decrease occurs in the same conditions as the decrease in intervention prices and if it occurs without a proper adaptation of the farmers, the revaluation of direct supports is not enough to offset the price decreases (Blanc, Blogowski, Mathurin, 1998). The farm income will thus decrease by -22 % for beef farms, by -17 % for dairy farms and by -16 % for cereal farms.

The simulations of income evolution are sensitive, on the one hand, to price variation and on the other hand to productivity gains (Henrichsmeyer et al, 1998). In order to enable a better interpretation of these results, it seemed to us important to conduct the assessment of some alternative issues to the main situation. To assess the sensibility to price variations, an optimistic issue is contemplated according to which the decrease in market prices is equivalent to a decrease for the two-thirds of the intervention prices (that is -13 % for cereals, -20 % for beef meat and -10 % for milk). In this situation, the decrease in farm income are considerably softened for the cereal sector (-9 % against -16 % as contemplated in the main issue) and the beef cattle sector (-4 % against -22 % as contemplated in the main issue). As far as dairy farms are concerned, they benefit from a slight increase in the income (+4 % against -17 % as contemplated in the main possibility). This analysis confirms the gap observed between the decreases in prices of the Agenda 2000 project and the amounts of compensatory payments offered.

The analysis of the potential impacts of productivity gains has been carried out over a six-year period (1996-2002) separating the partial productivity of intermediary consumption from that of labour, that of capital being considered as zero compared to past trends. As far as the productivity of intermediary consumption is concerned, taking into account an average gain of 0.7 % per year over fifteen years, we considered that each farm will earn a gain of 0.5 % from the overall amount of the intermediary consumption (that is 3 % in six years' time). This improvement in added value (+10,300 francs on a domestic average compared to the reference situation which refers to a constant productivity) is different according to the types of production. The impact is more important for dairy and beef farms (+10 % of the income) than for cereal production units (+4 %) because the return « intermediary consumption to added value » is lower in the latters. These productivity gains, which are different from one farm to another because of the geographical location, of the technical system used and of the skills and abilities of the farmer, prove insufficient to counterbalance the negative mechanical effects of the Agenda 2000 project.

The enlargement growth of farms has substantially increased since the last CAP reform (+5 % of area per farm and per year from 1991 to 1996) owing to both early retirement decisions and the absence of a maximum level of direct support per farm. During the next ten years, demographical studies show that the number of farmers who are going to retire will sharply decrease in France. A possible growth of 1.5 % a year of labour productivity leads to a global income estimate of 18 % per farm over a six-year period. This estimate has to be linked with the difference of price growth for agricultural products compared to the general consumer price index. It has also to take into account different individual situations. The real estate pressure in the different production areas, the farmer's age, the diversification opportunities as well as labour constraints are among the factors which have an impact on the ability of such or such farm to increase its labour productivity.

3.2. A considerable increase in direct supports for livestock farming

According to the Agenda 2000 project, the average amount of direct support per farm is of 140,100 francs (table 4). The proposals made lead to a narrowing of the gaps between the amount paid as part of the direct support to livestock farms and crop farms. It amounts to 143,700 francs per dairy farm (among which 45,200 francs are COP support and 23,500 francs concern support for fodder maize areas), 176,100 francs per beef farms (among which 58,000 francs are COP support and 5,400 francs concern support for fodder maize production) and 217,300 francs per cereal farms. The amount of direct support per farm worker (79,200 francs on a domestic average) is then very similar not only for beef farms (120,300 francs) but also for cereal farms (129,400 francs).

Table 4. Direct support after the Agenda 2000 project in the French farms
- analysis based on the type of production (in francs per farm) -

	Dairy farms	Beef farms	Cereal farms	Others	All farms
Total direct subsidies 2002 (FF)	143 700	176 100	217 300	46 100	140 100
- COP compensatory payments	68 700	63 400	208 600	26 400	82 400
- Animal direct subsidies	62 900	91 100	1 700	6 500	43 900
- Others direct subsidies	12 100	21 600	7 000	13 200	13 800
Direct subsidies / UAA (ha)	2 290	2 510	2 480	1 650	2 300
Direct subsidies / AWU (FF)	84 500	120 300	129 400	20 500	79 200
Direct subsidies / Agricultural output (%)	26%	52%	29%	6%	24%
Direct subsidies / Farm income (%)	105%	163%	92%	22%	85%

Source : French FADN / INRA Nantes

Direct supports which accounted for 18 % of the average farm income in a French farm in 1991, represent 58 % of the income observed in 1997 and 85 % of that, simulated after the implementation of the reform proposals. The amount of direct support is, on average, higher than the farm income in dairy farms (105 %) and beef farms (163 %) and almost the same in cereal farms (92 %). The amount of the 2002 direct support is higher than the farm income in 44 % of the French farms and it is lower than half of the income in 27 % of the farms. This dependence on public financial support is particularly important in beef farms where direct support account for more than 150 % of the farm income in one production unit out of two. As far as the dairy production sector is concerned, nearly half of the farms benefit from an amount of direct support which is higher than their income.

3.3. Evolution of the concentration of direct supports per farm workers

In 1991, 20 % of the farms benefited from 66 % of the direct support amounting to 11.7 billion francs. These farms which are very often located in mountain areas and specialized in beef and sheep productions, were not more profitable than the average despite this important additional financing. In 1997, 20 % of the farms benefited from 55 % of direct supports amounting to 47.5 billion francs. These production units which are mainly specialized in cereal production, have a remuneration of the farm labour substantially higher than the average, a situation which did not exist before the CAP reform where direct support aimed at providing a necessary income complement for farms located in disadvantaged areas. With the Agenda 2000 project, the rapid increase in direct support for livestock farming units will lead to a slight reduction of this concentration, 20 % of the farms benefiting from 46 % of the direct support amounting to 60.1 billion francs by the year 2002.

The redistributive effects resulting from the Agenda 2000 reform project remain low as shown in the income of farms according to the deciles of 2002 direct supports paid per farm worker (table 5). The decrease in farm income per farm from 1997 to 2002 rises slightly with the classification of the 2002 direct support per farm worker but income gaps remain considerable.

Table 5. Farm classification according to the deciles of direct support per AWU after the implementation of the Agenda 2000 project - analysis based on all French farms

Deciles of direct subsidies 2002 / AWU		Variation 2002/1997 - en %		Farm income 2002 / FWU (FF)	Concentration of direct subsidies 2002
		Farm income	Direct subsidies		
Decile 1	0 à 700 FF	0%	0%	169 900	0%
Decile 2	700 à 20 200 FF	-2%	11%	123 600	2%
Decile 3	20 200 à 40 300 FF	-8%	34%	72 700	4%
Decile 4	40 300 à 55 800 FF	-13%	43%	74 100	6%
Decile 5	55 800 à 71 500 FF	-15%	46%	73 700	7%
Decile 6	71 500 à 89 400 FF	-17%	43%	80 500	9%
Decile 7	89 400 à 114 700 FF	-17%	38%	96 000	12%
Decile 8	114 700 à 149 000 FF	-19%	31%	115 700	14%
Decile 9	149 000 à 208 100 FF	-19%	22%	140 900	18%
Decile 10	> 208 100 FF	-20%	12%	232 900	28%
All farms		-13%	26%	114 100	100%

Source : French FADN / INRA Nantes

The less supported farms (deciles 1 and 2 that is to say less than 20,200 francs per farm worker) are specialized mainly in productions which are not covered by the reform project (wine growing, horticulture and market gardening). They have a 2002 farm income per Family Work Unit (FWU) which is substantially higher than the average and quite similar to the farm income of the most supported farms (deciles 9 and 10).

The farms ranking last decile (with an amount higher than 208,100 francs of direct support per farm workers) benefit from 28 % of the total direct support and have a farm income amounting to 232,900 francs per FWU that is to say an income which is three times higher than that reached on average by the farm ranking deciles 3 to 6.

4. Simulation of a modulation of the CAP support after the implementation of the Agenda 2000

Taking into account the large amount of direct support granted to the European agriculture and the importance of the EAGGF budget in the total community expenses (50 %), the question of a modulation is fraught with economic consequences (adaptation of the farms concerned), budgetary impacts (sharing out of the EAGGF credits among countries) and political effects (justification of public support). It seems that it has become a necessary condition for the acceptance of a policy of continuity of the current levels of supports provided to the farming sector.

4.1. A choice of public policy

The fairness in the sharing out of public support, the economic efficiency of state intervention (Buckwell, 1997) regarding the agriculture and the implementation of a decoupling are the main arguments in favour of a modulation of the support.

Being compensatory payments, support can now be considered as direct support to the farm income. They can no longer be regarded as economic support devoted to production. A greater fairness in their repartition is the first element put forward to justify the need for a modulation.

The second argument is that of economic efficiency of public fund transfers. Two indicators can be used for this analysis, added value and employment. Statistically speaking, the ratio gross added value to direct support decreases the higher the volume of direct payment per farm is. For the farms which benefit from an important amount of CAP support, the added value amount is far lower than that of support. As far as employment is concerned, we can clearly put forward the fact that for a same support volume, the number of workers decreases in the groups of farms having a high level of support. We can thus notice the paradoxal situation of large farms,

which are usually presented as economically speaking performing farms, are today completely dependent on direct support which amount to the level, sometimes more, of their income.

The third argument is that of the necessary decoupling of production direct support, according to the requirements of the World Trade Organisation (WTO). Restricting the role of support in the production orientation of large farms, the modulation represents a greater incentive of the necessity to take into account the market indicators for these companies whose adaptation abilities are higher than the average.

4.2. Impact of the possibility of modulation according to the amounts of the CAP support (possibility H1)

The possibility (H1) concerns one third of the French farms and enables a budgetary saving of 4.8 billion francs that is to say 8 % of the 60.1 billion francs of direct support that will be paid to the French agriculture in 2002. Among the 428,900 farms, 142,300 farms will be affected by the modulation, 115,400 of which are family structures having less than two workers and 26,900 represent farms of more than two AWU (table 6). These farms, which gather 31 % of farm workers, benefit from 67 % of direct support and contribute to 45 % to the overall farm income.

Table 6. Repartition of the farms based on their positioning regarding the modulation's threshold and the number of AWU per farm (possibility H1)

Type of farms		Farms		Agricultural Work Unit	Direct subsidies 2002	Farm income 2002
		Number	%			
With modulation	Less than 2 AWU	115 400	27%	21%	49%	32%
	More than 2 AWU	26 900	6%	10%	18%	13%
Without modulation	Less than 2 AWU	224 200	52%	40%	26%	30%
	More than 2 AWU	62 400	15%	29%	7%	25%
All farms		428 900	100%	100%	100%	100%

Source : French FADN / INRA Nantes

The 142,300 farms which are directly affected by the modulation process, have on average 109 hectares for a gross product of 604,000 francs per worker and a farm income of 126,000 francs per FWU after the modulation has been applied. The 286,600 farms which are not affected by the modulation process have 36 hectares for a gross product of 292,700 per AWU and a farm income of 95,500 francs per FWU. The first type of farm has an added value ratio compared to production of 20 % against 40% for the second type of farm. They are more dependent on direct support and this dependence increases according to the modulation classification (direct support account for 137 % of the income of the farms concerned by the maximum level of modulation set at 50 %).

The modulation process leads to an average decrease of income amounting to 33,700 francs per farm concerned (that is to say -12 % of the 2002 direct subsidies and -15 % of the farm income). After the modulation has been applied, these farms keep receiving an average amount of direct support of 147,900 francs per farm worker and keep having a farm income per FWU amounting to 126,600 francs (that is to say one third more than the farms which are not affected by the modulation process). The relative loss of farm income goes from 4 % for farms affected by the moderating coefficient of -20 %, to -26 % for those which are affected by the 50 % coefficient. These latters, which experience a decrease of 19 % of their initial amount of direct support, benefit however, after the modulation has been applied, from 198,400 direct support per AWU and from 165,200 francs of farm income per FWU.

Table 7. Impact of the modulation project (possibility H1) according to the type of production - analysis based on the positioning regarding the modulation's threshold -

	Dairy farms		Beef farms		Cereal farms		Others		All farms	
With or without modulation	Without	With	Without	With	Without	With	Without	With	Without	With
Number of farms	93 600	46 500	55 300	44 800	33 800	44 000	103 100	7 000	286 600	142 300
Agricultural work unit (AWU)	1,56	1,98	1,41	1,53	1,89	1,52	2,27	1,51	1,82	1,67
Usable agricultural area (UAA)	45	99	42	105	42	123	22	123	36	109
Gross product / AWU	337 800	577 200	254 300	492 400	354 100	756 800	342 400	749 900	331 100	604 000
Gross added value / total output 2002	24%	21%	14%	7%	38%	26%	51%	27%	40%	20%
Direct subsidies / Farm income 2002	100%	116%	151%	175%	67%	111%	18%	105%	51%	123%
Impact of the modulation (FI)	0	-25 600	0	-29 500	0	-45 600	0	-41 400	0	-33 700
Impact in % of direct subsidies 2002	0%	-10%	0%	-11%	0%	-14%	0%	-14%	0%	-12%
Impact in % of farm income 2002	0%	-12%	0%	-19%	0%	-16%	0%	-14%	0%	-15%
Direct subsidies / AWU (*)	62 600	114 300	73 100	158 800	30 800	178 800	10 100	174 600	38 400	147 900
Farm income / FWU (*)	66 900	105 200	53 100	89 500	118 400	191 800	142 400	188 800	95 500	126 600

(*) Results 2002, after modulation of CAP direct subsidies Source : French FADN / INRA Nantes

The modulation concerns 33 % of dairy farms, 45 % of beef farms, 56 % of cereal farms. The 46,500 dairy farms which are under the modulation process lose, on average, 25,600 francs of support that is to say 12 % of their 2002 farm income (table 7). Compared to the number of the family farm workers, and after modulation, the net farm income of these farms amounts to 105,200 francs that is to say a level of remuneration substantially higher than that of the dairy farms which are not affected by the modulation (66,900 francs). The 44,800 beef farms under the modulation process are highly dependent on direct support (175 % of their income) and are characterised by a considerably reduced productive efficiency (the ratio gross added value to production amounts to 7 %). Owing to the modulation process, they lose on average 29,500 francs (that is -19 % of the farm income) and have a farm income per FWU amounting to 89,500 francs (that is 36,400 francs more than the income of the farms which are not under the modulation process). The 44,500 cereal farms affected by the modulation process have an important average farming area (123 hectares). Because of the modulation, they experience an average loss of 45,600 francs (that is -16 % of their income) and have a farm income per FWU amounting to 191,800 francs compared to an amount of direct support of 178,800 francs per AWU. For the other farms, (in particular those operating a sheep production), the modulation process leads to a decrease in income of 14 % for the 7,000 farms concerned which have a farm income per FWU quite similar to that of cereal farms (188,800 francs per FWU).

4.3. Impact of the possibility of modulation according to the economic dimension (possibility H2)

The possibility (H2) is more selective than the possibility (H1). It concerns only 19 % of the French farms for a budgetary saving amounting to 3.8 billion francs that is 6 % of the total amount of direct support provided to the French agriculture (2002). Among the 142,300 farms which are under the modulation process in the first possibility (H1), 59,500 farms are not affected in the second possibility (H2) (table 8). They are granted an amount of 2002 CAP support higher than the amount taken into account (20,000 ECUS per farm +10,000 per AWU when exceeding two AWU per farm) but they are not under the modulation process because of their small dimension (having a gross product lower than 75,000 ECUS).

These farms (with H1 and without H2), among which many are beef farms are characterised by a considerable dependence on public support (160 % of their 2002 farm income), by a limited gross product per worker (366,300 francs) and by a ratio added value / production which is particularly low (11 %). In the possibility H1, they experience a loss of income amounting to 15,200 francs (that is -11 % of their farm income). The final farm income per farm worker is, for both possibility contemplated, lower than that of the farms which are not under the modulation process (76,400 francs compared to 95,500 francs). Protecting these farms, the possibility H2 is less penalizing and enables to obtain the budgetary savings from farms of greater economic importance, that is to say farms employing less workers but having a greater capacity of adaptation.

Table 8. Combination of both possibilities of modulation H1 and H2

	Without modulation with H1 and H2	Modulation with H1 and without H2	Modulation with H1 and with H2	All farms
Number of farms	286 600	59 500	82 900	428 900
Agricultural work unit (AWU)	1,82	1,72	1,61	1,77
Usable agricultural area	36	88	125	60
Gross product / AWU	331 100	366 300	775 400	421 600
Gross added value / total output 2002	40%	11%	22%	32%
Direct subsidies / farm income 2002	51%	160%	119%	85%
Directs subsidies 2002	69 800	218 900	325 600	140 100
Farm income 2002	136 500	136 700	285 400	165 300
Impact of the modulation H1 (FF)	0	-15 200	-47 000	-11 200
- In % of farm income 2002	0%	-11%	-16%	-7%
Farm income / FWU (*)	95 500	76 400	174 200	106 300
Impact of the modulation H2 (FF)	0	0	-46 300	-8 900
- In % of farm income 2002	0%	0%	-16%	-5%
Farm income / FWU (*)	95 500	85 900	174 800	107 800

(*) 2002 after modulation of CAP direct subsidies

Source : French FADN / INRA Nantes

The farms under the modulation process keep not only an important farm income per FWU (174,800 francs) but also a substantial amount of direct support per AWU (172,900 francs). The limitation of the decrease in direct supports set at 20 % of the support due enables these farms to be prevented from a too important income decrease. In the short term, the productivity gains of these farms will not be sufficient - according to our pessimistic possibility of price after the implementation of the reform - to offset the income decrease resulting from the modulation process. The situation will not be the same in a favourable price environment, these farms being thus able to valorize their labour productivity.

The number of farms affected by the modulation process goes from 33 % (in the possibility H1) to 19 % (in the possibility H2) for dairy farms, from 45 % to 17 % for beef farms and from 56 % to 43 % for cereal farms. In the possibility H2, dairy and beef farms, which are under the modulation process with a modulating coefficient higher than 40 % are seldom (less than 4 %) whereas they still account for 12 % of the cereal farms. The second possibility (H2) represents, in a greater proportion than the first one (H1), a real incitement to employment in farms likely to undertake or continue a diversification process, particularly in livestock farming, and likely to resort to wage-earning labour force. The incitement to enlarge the size of the farms being reduced for the most important farms, the modulation of support could encourage family employment through the settlement of young farmers. This dynamics will remain locally dependent on the dynamics of agricultural organisations.

5. Conclusion

Following the 1992 reform of the Common Agricultural Policy, the Agenda 2000 reform project implies the new adaptation of agriculture to the rules of the World Trade Organisation (WTO) (Gohin, Guyomard, Le Mouël, 1998) and it also takes into account the future enlargement of the European Union into some of the Eastern Europe countries.

The simulations made on the FADN sample show that, for an identical structure and productivity, a significant decrease in income is experienced by farms specialized in beef production (-22 % of the farm income) than by dairy farms (-17 %) and cereal farms (-16 %). If the project marginally modifies the income ladder among the French farms, a number of uncertainties remain concerning the evolution of the market price. It is in fact really difficult to forecast precisely, for the different types of products, the impact of the decrease in intervention prices (Commission of European Communities, 1998-c). In the beef production sector, the giving up of the intervention mechanism and the wide range of products strengthens this uncertainty, even if most experts agree on the fact that the risks of gap between market prices and institutional prices are higher in this sector than in that of field crops. The possibility of a reduced decrease in market prices which has been contemplated confirms the fickle feature of the income evolution simulated. The latters are considerably influenced by the increase in productivity gains, as noticed since the latest CAP reform. The improvement in the productivity of intermediate consumption is not able to offset alone the income losses simulated over the period studied. The continuity of the farm restructuring and concentration process allows us to forecast new gains of labour pro-

ductivity. It raises however the question of the consequences in terms of farm employment and of the fact that the strengthening of the income of the farms benefiting from a rapid area increase is mainly linked to the increase in the corresponding direct support.

The simulations made also point out the determining role that direct support will play, by the year 2002, in the making out of the French farm income (140,100 francs on average, that is 85 % of the income). This dependence on direct payments is more important for beef farms (163 % of the income) than for dairy farms (105 %) and cereal ones (92 %). The increase in direct support (+26 % on average) enables, in the short term, to bring a greater economic stability to the farms having to cope with a substantial decrease in market prices. However, this evolution raises also the question of the perenity of public support and on the economic and social meaning to be given to direct payments.

The proposal made by the Commission of European modulation of support above a maximum level of 100,000 ECUS per farm has a very limited impact in France and its symbolic value will be opposed to the results expected in terms of a better balanced of the sharing out of support. It is completely different as far as the two possibilities tested are concerned, because they tend through a modulation of support, to limit restructuring and to encourage the settlement of young farmers. The amount saved (4.8 billion francs in the case of the possibility H1 and 3.8 billion francs in the case of the possibility H2) could be used to enable a substantial re-balancing of public support according to a mechanism putting the emphasis on employment and / or the valuation of most sensible rural areas. The implementation of a modulation of direct support according to employment may be a step forward to socially justify a part of the public support provided to agriculture. It seems to be the prerequisite for an adaptation of farms to the new expectations of the society concerning distribution of jobs in the country as a whole as well as those regarding the maintenance and the valuation of the European rural areas, which represent an element of our common culture. The awareness of this type of concern will depend on the conditions of the implementation of the project of agricultural orientation law presented by the French Government and on the negotiations between the ministers of the fifteen member countries of the European Union regarding the future CAP reform.

Notes

1. In France, a farm is considered as « professional » when it provides at least 0.75 Annual Work Unit (AWU) and when its Standard Gross Margin (SGM) is higher than 8 European Size Units (1 ESU = 1,200 ECUS). The SGM is an estimate of the potential added value, based upon the application of coefficients, that may be variable according to regions, to the physical production units.

2. The farm income used to assess the impact of the reform project, is calculated as follows : gross added value + fixed VAT repayment + direct subsidies + insurance compensations - taxes - labour costs - depreciation + financial yields - financial costs.

3. In France, flexibility funds amount to 577.9 million ECUS (187.9 million ECUS for milk production and 390 million ECUS for beef production).

4. The modulation process concerns the 2002 CAP direct support which group support provided to COP areas, support for animals (including the flexibility funds), taking into account the deduction resulting from the Community modulation process. The other direct support which include partly domestic financing (subsidies for disadvantaged areas, agri-environnemental subsidies, subsidies for climatic disasters, etc...) are not taken into account.

5. The control of the number of workers per farm can be linked to that concerning the payment of social contributions. The dismantling of farms trying to avoid the modulation can be controlled from the list of the current support recipients. Any farm setting up that is likely to benefit from public support should be subjected to an authorization provided by the government and the agricultural organisations of the region concerned.

6. To enable a more effective control, this method could be applied to the turnover of the previous trading year, whose authentification is based on the farms' VAT returns.

7. This concentration is based on the « professional » farms accounting for 60 % of the farms. A similar calculation based on all the 735,000 farms recorded in the structure survey has a higher concentration figure than the latter.

8. The limitation to 20 % of the support modulation represents, in the possibility we contemplated, an amount of 800 million francs that is one sixth of the budgetary savings made.

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