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## The Future of EU Dairy Policy

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*Even if the quota regime has been extended until 2007/08 as part of the Agenda 2000 reform adopted in March 1999, the European Union (EU) dairy sector is currently experiencing large uncertainty over future policy. This paper examines EU dairy policy issues and assesses their likely implications. It mainly addresses the central question of dismantling the quota and intervention support mechanisms. Simulation results illustrate how three factors (marginal costs of production, import tariffs on dairy products and compensatory payments granted to dairy producers) may affect the outcomes of a quota elimination scenario.*

*Même si le régime des quotas a été prolongé jusqu'en 2007/08 à l'occasion de la réforme Agenda 2000 de mars 1999, le débat sur la nécessité d'une réforme plus importante de la politique laitière européenne n'est pas clos. Dans ce papier, nous analysons les différentes contraintes auxquelles l'UE doit faire face et ses implications pour le secteur laitier communautaire. L'attention est centrée sur les conséquences d'une suppression du régime des quotas et du mécanisme de l'intervention. Les résultats de simulation montrent comment les conséquences d'un tel scénario dépendent de trois facteurs, i.e., les coûts marginaux de production du lait, la protection tarifaire sur les importations européennes de produits laitiers et les mesures de compensation accordées aux producteurs de lait.*

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## **The Future of EU Dairy Policy**

### **Introduction**

Supply management policies are often advocated as a possible response to a situation of overproduction that protects producers' incomes without boosting budgetary costs. This was effectively the rationale for the introduction of milk quotas in the European Union (EU) in 1984. Even if the quota regime has been extended until 2007/08 as part of the Agenda 2000 reform of the Common Agricultural Policy (CAP) adopted in March 1999, the EU dairy sector is still nowadays experiencing large uncertainty over future policy.

In this paper, main economic characteristics of the EU dairy sector are surveyed along with policy arrangements such as Uruguay Round Agreement on Agriculture (URAA) commitments and Agenda 2000 measures. After current dairy policy issues have been analyzed, some thoughts on the central question of an eventual dismantling of quotas are offered.

### **The EU dairy sector: time for radical policy change?**

The first principle underlying the current EU dairy policy is the management of the markets for dairy products in order to secure product prices that permit domestic milk producers to obtain the target price for milk. This mainly involves the annual fixing of both a target price for farm milk and intervention prices for butter and skimmed milk powder (SMP); the public purchase of butter and SMP which is triggered when the market price falls below 92 percent of the intervention price for two consecutive weeks; the payment of aids for the private storage of butter and cream, SMP and certain cheeses; the payment of aids for domestic disposal of some dairy products (mainly SMP for animal feed, butter for pastry and ice cream manufacturers, butter for non-profit making organizations, and milk and milk products supplied to school children); the payments of variable export refunds for a large set of dairy



More than 90 percent of the 120 million tons of EU milk output is delivered to dairies while the remainder goes to direct sales (farm products) or on-farm use (animal feed and human consumption). The EU produces roughly 12 million tons more dairy products (expressed in whole milk equivalent) than the domestic market can absorb and this surplus has to be exported thanks to subsidies which represent about 45 percent of the dairy policy budgetary cost (1605 million Ecus over a total of 3635 million Ecus in 1996). In addition about 10 percent of domestic consumption can only be sustained by butter and SMP internal subsidies which represent more than 40 percent of the dairy policy budgetary cost (1508 million Ecus in 1996). After a long period of decline since the mid 1970's, per capita consumption of butter in the EU-15 has stabilized recently at around 4.7 kilograms per head with however very large disparities across member states (less than 0.5 kilograms per head in Spain and about 8.3 kilograms per head in France). Butter manufacture still absorbs one third of the total milk produced in the EU and 30 percent of domestic consumption of butter is subsidized. The share of SMP used in animal feed is continuously decreasing although about 40-45 percent of domestic consumption is subsidized. In contrast domestic production and consumption of WMP is increasing. Less than 45 percent of production is used within the EU, mainly for human consumption in the food processing industry. EU production and consumption of cheese is on a long-term increasing term since the mid 1970's. Per capita consumption levels are however still very different among member states (less than 7 kilograms per capita in Portugal and more than 23 kilograms per capita in France). Fresh dairy products are the third dairy products for which domestic consumption is going up. While output of drinking milk has been more or less stable over the last decade, other fresh dairy products (mainly cream, acidified milk and milk-based drinks) are on an upward trend. The EU is still nowadays the major exporter of dairy products with more than 40-45 percent of world trade (Table 1). Its market share is steadily decreasing since the mid 1980's mainly



package since a quota elimination option is politically feasible only if dairy producers are, at least partially, compensated for the reduction in price support. If the whole of the difference between current and reduced prices is compensated, the budgetary cost of any compensation package is likely to be prohibitive. On the other hand, milk production would significantly decline, at the limit disappear, in the poorer dairy regions of the EU if compensatory payments are not modulated in their favor. In other words, the extent, nature and permanence of compensation and the subsequent distribution and justification of payments would play a large role in determining the EU dairy sector after quota elimination (O'Leary and Fingleton, 1998).

### **Agenda 2000 reforms and consequences for the EU dairy sector**

In a general way the Agenda 2000 CAP reform will deepen (cereals and beef) and extend (dairy products) the 1992 MacSharry reform through further shifts from price support to direct payments. The dairy reform may be summarized as follows (European Commission, March 1999a and 1999b). Intervention prices for butter and SMP will be reduced by 15 percent in three equal steps starting on 1 July 2005. Support price cuts will be compensated by the introduction of yearly direct payments on a flat rate basis per ton of quota and by an increase in milk quotas. The compensation scheme will include a national envelope which member states are free to allocate according to objective criteria. Dairy producers will also receive some benefit from the beef compensation payments. Quotas will be increased in each member state by 1.5 percent in three steps starting on 1 April 2005. In addition five countries (Greece, Italy, Spain, Ireland and Northern Ireland) will receive specific quota increases in two steps, i.e., 2000/01 and 2001/02. In the whole this corresponds to an increase in milk quotas by 2.4 percent. The quota regime is thus extended, officially up to the marketing year 2005/06, in practice up to the year 2007/08.



i.e., non-subsidized, exports of cheese. Table 3 shows that the ultimate impact of the Agenda 2000 reform on farm milk price will crucially depend on the management of export subsidies and on substitution possibilities between intervention dairy products (butter and SMP) and other dairy products. The second column of this table shows that a 15 percent reduction in butter and SMP intervention prices leads to a 9.3 percent reduction in milk price at the farm gate in France, other dairy policy instruments being maintained unchanged at base period levels. The additional effect of a 15 percent decrease in unit export subsidies on cheese, WPM and fresh dairy products is to reduce the farm milk price by 2.2 points (-11.5 percent instead of -9.3 percent) and the supplementary effect of a 2 percent quota increase is to reduce the farm milk price by 3 points (-14.5 percent instead of -11.5 percent). The last column of this table shows that when substitution possibilities between intervention dairy products and other dairy products are increased, the effects of a reduction in butter and SMP prices on farm milk price are also increased. This last scenario illustrates the recent move from bulk commodities towards higher-value dairy products more closely focused on consumer needs.

The previous analysis is confirmed by the FAPRI-UMC study about the implications of the Agenda 2000 reform for EU agriculture (FAPRI-UMC, 1999). In an attempt to represent not only producer and consumer behaviors but also EC behavior, FAPRI-UMC modelers clearly illustrate the trade-off faced by the EC which may want to "reduce the Euro value of export subsidies, in part because of smaller gaps between EU and world prices" and simultaneously "keep domestic market prices high enough to avoid the accumulation of stocks, so that markets prices are likely to fall less than support prices." One can add that the maintenance of sufficiently high milk market prices is politically essential to sustain the income of smaller, less efficient dairy farmers.



to fall to world levels and third country imports to significantly enter the EU market. Simulation results also depend on two key behavioral parameters, i.e., marginal cost and milk supply elasticity estimates. In addition, these studies do not include any income enhancement from a compensation program. More generally income effects of a quota removal are not explicitly considered in these studies. Finally they ignore the related highly sensitive issue of the number of dairy farmers who could abandon milk production under a quota elimination scenario. It remains to check if taking these elements into account will not paint a black picture of the situation.

In order to illustrate the sensitivity of simulation results of a quota elimination scenario to the different parameters identified above, we use a computable general equilibrium (CGE) model of the French economy benchmarked to data for 1994 (Gohin, 1998; Gohin and Guyomard, 1999; Gohin et al., 1999). The model is a static, single-country, multi-sector CGE model in the tradition of Shoven of Whalley (1984). It highlights agricultural and food sectors, with special attention given to CAP instrument modeling. Two export and import zones are distinguished, i.e., the rest of the European Union (RoEU) and the rest of the world (RoW). This allows us to consider policy scenarios which apply at the EU level. Experiments are detailed in Table 4 and results are summarized in Table 5.

#### *Reference experiments*

In experiment 1, dairy quotas, intervention support programs and domestic subsidy measures are eliminated. Import tariffs on all dairy products and unitary export subsidies on cheese, WMP and fresh dairy products (hereafter called higher-value dairy products) are maintained at base period levels. There are no compensation payments. Relative to the base year, this first experiment triggers a milk price decrease by 26.1 percent and a milk production increase by 4.3 percent. With the elimination of intervention support programs, butter and SMP



value dairy products are maintained, milk output increases relative to the base year (experiment 1). When these programs are simultaneously eliminated, the EU milk price decrease is sufficient to induce a milk production decline relative to the base year (experiment 2). In both experiments, the decrease in dairy producer incomes is too important to imagine a quota elimination policy without a compensation scheme to offset at least part of the decline in incomes.

#### *Robustness to the dairy quota rent value*

Experiments 3 and 4 allow us to analyze the robustness of simulation results to the dairy quota rent value, initially estimated to 27.5 percent of the EU average milk price. The rent equals 17.5 percent of the milk price in experiment 3 and 37.5 percent in experiment 4. When the value of the rent decreases (respectively increases), the effects of a quota elimination policy on domestic prices are reduced (augmented) for farm milk, lower-value dairy products and higher-value dairy products. Although the milk price decline is lower in experiment 3 (-18.9 percent) than in experiment 2 (-28.2 percent), milk supply drops by a larger percentage (-4.8 percent instead of -2.9 percent) due to the upward shift of the milk supply function induced by the lower value of the quota rent. The negative income effect of a lower milk production is more than offset by the positive impact of higher milk prices so that dairy farmer incomes increase in experiment 3 relative to experiment 2. Of course, they fall with respect to the base year and a quota elimination option is still unlikely if it is not accompanied by a compensation package.

As noted by Westhoff and Young (1998), "in approaching the analysis of (a) quota elimination scenario, the analysts face a major challenge (because) the quota program has been in place so long that historical data provides little guidance on likely supply response across the (EU) member states without a quota." Our second set of experiments shows that



A speedy elimination of dairy quotas and intervention support measures seems politically feasible only in the context of acceptable compensation, at least over a certain transition period. In experiment 7, compensatory payments offered to dairy producers are tied to production levels. In experiment 8, they are based on acreage declarations. To make easier result comparison, the total amount of compensatory payments is the same in both experiments, i.e., 14.74 billion 1994 French francs which corresponds to the income loss of dairy producers in experiment 2.

The coupled compensation package of experiment 7 does relatively little to support dairy producer incomes because it translates into a milk price decrease which nearly offsets the positive income effect of payments. Dairy producer incomes fall by 20.4 relative to the base year. In this experiment, production decisions of dairy farmers are based on an equivalent price which is the sum of the market price and the average compensatory payment. As a result, despite the decrease by 53.2 percent in the milk market price, French milk output increases by 6.1 percent with respect to the base year. This increase mainly benefits the dairy industry. For the latter, output price declines (-37.6 percent for lower-value dairy products and -22.2 percent for higher-value dairy products) are more than offset by the positive income effects linked to both the milk price decrease and the milk output increase. As a result, dairy industry incomes raise by 7.7 percent with respect to the base year. By contrast, experiment 8 allows French dairy producers to maintain their incomes at base period levels. Relative to experiment 7, dairy producers now capture most of the benefits of the compensation package to the detriment of the dairy industry and final consumers. However the cost of this full compensation scheme is likely to be prohibitive in the context of a very tight common agricultural budget.<sup>3</sup>

Any dairy quota elimination scenario should include compensation for a least part of the decline in dairy farmer incomes. What our last set of experiments shows is that any



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Table 2. Impacts of the Agenda 2000 reform on the EU dairy sector in 2007 according to CARD-FAPRI-ISU: Changes in percent with respect to the baseline scenario

	EU production	World price	EU price	EU consumption	EU exports
Milk	+1.68	na	-9.48	na	na
Butter	-0.08	+0.40	-10.95	+2.77	-8.98
SMP	-6.07	+3.30	-11.54	+3.86	-17.18
Cheese	+3.06	-1.36	-7.76	+2.61	+5.73
WMP	+2.77	na	-9.32	na	+5.71

Source: CARD-FAPRI-ISU, 1999 (appendix tables). Na: Not available.



**Table 4. Experiment design**

No.	Experiment	Experiment design
1.	Quota removal	Removal of dairy quotas, elimination of intervention support and domestic subsidy programs, no compensatory payments, quota rent equal to 27.5 percent of the milk price
2.	Quota removal and elimination of export subsidy measures	Experiment 1 assumptions, and variable export subsidies on higher-value dairy products set to zero (see end note 1)
3.	Robustness to the quota rent value	Experiment 2 assumptions, except that the dairy quota rent is equal to 17.5 percent of the milk price
4.	Robustness to the quota rent value	Experiment 2 assumptions, except that the dairy quota rent is equal to 37.5 percent of the milk price
5.	No tariff protection with a perfectly inelastic supply function	Experiment 2 assumptions, and import tariffs on all dairy products set to zero with an infinite import supply elasticity
6.	No tariff protection with an elastic import supply function	Experiment 2 assumptions, and import tariffs on all dairy products set to zero with a strictly positive import supply elasticity
7.	Production linked compensatory payments	Experiment 2 assumptions, and production linked compensatory payments for a total amount equal to the income loss of dairy producers in experiment 2 (14,74 billion 1994 French francs)
8.	Area based compensatory payments	Experiment 2 assumptions, and area based compensatory payments for a total amount equal to the income loss of dairy producers in experiment 2 (14,74 billion 1994 French francs)



## End notes

<sup>1</sup> The mixed-complementarity approach is used to model the quota policy and the intervention support mechanism prevailing for butter and SMP. For these lower-value dairy products, the price regime is endogenously determined as part of the model solution. The unit export subsidy is thus an endogenous variable which ensures that the market clears when the market price is equal to the intervention price. By contrast, unit export subsidies for higher-value dairy products are exogenous since corresponding markets are not regulated by an intervention support mechanism. For more details, see Gohin and Guyomard, 1999.

<sup>2</sup> The standard Armington approach is modified in order to allow undifferentiated dairy imports to enter French and EU markets in a regime where tariffs are set to zero. For more details, see Gohin et al., 1999.

<sup>3</sup> The same remark applies to experiment 7.

