The Political Economy of the CAP Reform in Italy

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Abstract This chapter analyses the ex-ante socio-economic impact of the CAP reform on Italian agriculture and the whole economy using a micro-funded general equilibrium model which differentiates the impact at the household level. The political economy analysis of the consequences of the reform has clearly revealed the positions of farmers and agro-food industries, consumers, and farming unions concerning the issue of a total or partial implementation of decoupling. The policy analysis permits both an understanding of the possible social conflicts arising from the implementation of the reform and a unique ranking of the policy alternatives.

Keywords CAP reform · Political economy · General equilibrium · Ex-ante policy analysis

JEL Classification F1 · D5 · Q1

1 Introduction

This chapter investigates the ex-ante impact of the Mid Term Review of the Common Agricultural Policy (CAP) on Italian agriculture and describes the political economy aspects associated with the execution of the reform. Although the reduction of domestic farm supports may lead to a net gain in national economic welfare, some sectors and households can be adversely affected. Tracking the aggregate impacts down at

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the micro level is then crucial to understand the sources of political frictions that may hinder the process leading to the implementation of reforms. The *ex-ante* analysis of the possible causes of social conflicts, the identification of potential losers and the quantification of their losses may help designing accompanying policy actions making the reform politically feasible and enforcing the bargaining position of the institutions supporting the policy change. This motivation has markedly shaped the present research.

The effects of the CAP reform, in terms of producers, markets and levels of well-being of agricultural, rural and urban households, are first evaluated by using an applied general equilibrium model that permits to implement the CAP instruments by modeling the associated market failures, price rigidities and non-linearities. The general equilibrium results obtained with the MEG ISMEA model[1] are further elaborated in order to carry out the political economy analysis of the different scenarios.

The paper first illustrates the three policy alternative scenarios delineated by the Mid-Term Review of the CAP, one with full decoupling of aids and two with different options of partial decoupling. We then present the results of the simulations and their political economy interpretation aiming at ranking the policy scenarios accounting for the producers and consumers' point of view and society's changes in welfare.

2 The Mid Term Review and the Policy Scenarios

The present work analyses the impacts of the policy scenarios delineated in the Mid Term Review of the CAP as approved at the end of June 2003 in Luxembourg.[2] As it is well known, the aim of the reform is to substitute payments "coupled to specific farm activities"[3] with a lump-sum payment which has no distortive effects in the markets and farmers' allocation decisions. In essence, a price subsidy and/or an income subsidy coupled to a specific production is substituted with a decoupled income subsidy which in fact transfers support from the products to the producers. Farmers can thus optimize the activity portfolio according to the allocative information conveyed through the market, ensuring Pareto efficiency. The objective to decouple payments from specific farming activities is achieved while safeguarding

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[1]In this paper, we only show the general equilibrium results that are useful to the political economy analysis of the implementation of the CAP reform in Italy. For a complete discussion of the general equilibrium results, see Finizia et al. (2005).

[2]EC Regulations 1782/2003 and subsequent ones.

[3]Since the Mac Sharry 1992 Reform the direct payments, for the majority of agricultural products, cannot be defined as coupled in strict sense, which is a term that more properly refers to a direct link of the support with the level of production. In fact, payments are computed on the basis of historical yields and are therefore independent of the current level of production. However, by being linked to the declared hectares devoted to a specific crop, they are in this sense coupled as compared to the payment introduced by the Luxembourg agreement, which is decoupled from specific crops. On the other hand, the premia given to the olive oil and tobacco sectors, which have not been reformed in the Luxembourg agreement, are in fact maintained coupled to production in the model.

agricultural incomes, by ensuring an income support as a single farm payment (SFP) representing a certain financial flow, which should help to keep farmers in business and to sustain the rural households' livelihoods (De Filippis 2004).

The main objective of favoring greater orientation towards more and better markets is accompanied by other important objectives such as: favoring greater sustainability of agriculture; assuring more attention towards issues of food security and animal welfare, by asking farmers to sign contracts of environmental cross-compliance in exchange for public support; rising equity in distributing the support with respect to coupled payments which are mainly benefited by large producers; realizing more integration and synergy with rural development; obtaining administrative simplification.

The reform can be summarized in three main pillars (European Commission 2003a, b):

1. modifications of the market policies through variations of the intervention prices and/or variations of the existing premia or introduction of new premia for some products;
2. decoupling of the premia: decoupling introduces a single payment per farm starting from year 2005, whose amount equals the mean of the total direct payments received by the farm during the years 2000–2002, for some productions (cereals, protein crops, oil seeds, rice, livestock, sheep and goats and, from 2008, milk as well). The payment corresponding to the set-aside area in possess during the reference period is attributed separately;
3. modulation of the premia: all direct payments given to farmers (the single decoupled payment and specific coupled payments for durum wheat, protein crops, rice, fruits in shell, olive oil, tobacco) will be reduced in the period 2005–2012 in the proportion of 3% in 2005, 4% in 2006, and 5% from 2007 to 2012. Premia below EUR 5,000 are exempted.

The objective of the modulation, which is mandatory, is to transfer an amount of aids from the first pillar (market support) to the second pillar of the CAP (rural development). The single farm payment (SFP) is the mean of the payments received by the farm during the reference period 2000–02 for cereals; protein crops; oilseeds; rice; dried fodder; bovine meat; sheep and goats and, from 2008, milk. Permanent crops are not eligible. Further, there is a specific payment for the set-aside area. The SFP does not account for: (a) the quality premium for durum wheat, (b) the special premium for protein crops, and (c) part of the rice premium (EUR 453/ha). The eligible land has to be kept in good agronomic and environmental condition and is constrained not to produce fruit, vegetables and potatoes. If the reform is implemented regionally by giving a uniform rate per hectare, then farmers are free to produce any good with the exception of permanent crops.

The SFP that will be received in the future by the farm is composed by the per hectare SFP multiplied for the number of eligible hectares. Because of the link with eligible land, if a farmer reduces in one year the number of hectares, either by selling or renting some land in or out, the SFP will be proportionally reduced. It is then impossible to exert the right to the Single Payment without being in possess of at

least one hectare of land.[4,5] On the other extreme, it is possible to produce nothing on the eligible land, if the land is maintained in "good agronomic and environmental conditions".

The estimation of the transfers generated by the reform takes into consideration two impacts:

- the effects of the variations in the levels of intervention prices and premia in the involved Common Market Organizations (CMO), which modify the comparative advantage across agricultural activities and the absolute level of the premium;
- the non distortive effects of the decoupled lump-sum transfer which determines market-based reallocations of the activity portfolio of the farms.

The effects are microsimulated using farm level data to generate a base scenario depicting the situation of Agenda 2000 (scenario A).[6] Because for some commodities the changes due to the reform are introduced gradually, the impacts of the scenarios are simulated referring to an abstract situation where the reform is fully implemented at year 2008.

The implementation of the Luxembourg agreement requires adjustments to the common market organization mainly for certain arable crops (cereals, oilseeds, protein crops), and dairy products.[7] The adjustments to CMOs are summarized in Table 1. The adjustments in the CMOs, for the products which have been considered in the micro-simulation and in the MEG ISMEA model, are as follows:

1. **Cereals, oil seeds and set-aside**: The direct payment of 63 EUR/ton is the same as for the base scenario.
2. **Durum wheat**: The base premium remains the same as for the base scenario; a reduction has been decided of the supplementary premium for the traditional areas from EUR 344.5/ha to EUR 285/ha in 2006, along with the elimination of the premium for normal areas; a quality premium of EUR 40/ha has been introduced in traditional production zones to farmers who are using certified seed of selected varieties within the limits of current Maximum Guaranteed Areas. We make the hypothesis that all farmers in traditional areas are eligible and access the quality incentive.
3. **Protein crops**: The base premium remains the same as for the base scenario, but the current special payment of EUR 9.5/ton is converted into a crop specific area payment of EUR 55.57/ha; with respect to the base scenario, considering the average historical yields in Italy the premium results to be slightly higher.

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[4]It is not necessary that the land be physically the same. It is in fact possible to sell or rent land that was available in the reference period and sell it or renting it elsewhere.

[5]Livestock production without farming land represents an exception with special right. To claim the right, at least 50% of the livestock which received a premium in the reference period should be maintained.

[6]The variation of the intervention price for a certain good is introduced through a change in both the intervention price and the import price since we assume that the CAP significantly affects the European market.

[7]Other products interested by the reform are dried fodder, seeds, energy crops and nuts; however, the policy regimes for these products are not incorporated in the simulation.

Table 1 A summary of the mid term review policy changes—base situation 2001–2002 and full implementation

	Base year	Full implementation
Durum wheat		
Supplementary aid in traditional areas (euro/ha)	344.5	285
Supplementary aid in other areas (euro/ha)	138.9	0
Quality payment	0	40
Rice		
Intervention price (euro/t)	298.35	150
Payment (euro/t)	52.65	177
Protein crops		
Special payment (euro/t)	9.5	0
Special payment (euro/ha)	0	55.57
Dry forage aid (euro/ha)	19	24
Nuts		
Payment (euro/ha)	0	120.75
Energy crops		
Payment (euro/ha)	0	45
Milk and Dairy products		
Intervention price for butter (euro/100 kg)	328.2	246.39
Intervention price for skimmed milk powder (euro/100 kg)	205.52	174.69
Payment per ton of quota (euro/t)	8.15	24.49
Effective payment per ton of quota in Italy, including national envelope (euro/t)	11.14	33.48
Quota (million tons)	118.891	120.545

4. **Rice**: The intervention price for rice is reduced by 50% to EUR 150/ton and 88% compensation is provided through higher payments. The final compensation increases existing direct payments from EUR 52.65/ton to EUR 177/ton. Hence, for an average productivity of 6.04 tons/ha in Italy the premium is about 1070 EUR/ha, which is about three times the premium of the base scenario.
5. **Milk and Butter**: Dairy quotas are extended until the 2014/15 season. The intervention price of butter is reduced by 25%. The skimmed milk price is cut by 15%. As a compensation, it is introduced a premium of EUR 24.49/ton. Keeping

Table 2 Level of micro-simulated direct payments and changes in intervention and import prices for the commodity disaggregation simulated in the general equilibrium model

Durum wheat	4.3% total reduction of premia
Proteic crops	1.9% total increase of premia
Rice	245% total increase of premia
	50% reduction of the intervention price
	0.6% reduction of the import price
Milk	Payment proportional to the quota owned by the farm
	6.1% reduction of the import price of dairy products
Butter	25% reduction of the intervention price
Skimmed milk powder	Not considered because Italy does not produce SMP

also into account a uniform distribution of the national envelope on a per quota basis, the Italian premium is EUR 34.87/ton.

The policy microsimulation was performed using the farm budgets of the ISMEA socio-economic survey (ISMEA 2005) in the following steps:

1. Determination of the level of premia received by each farm of the ISMEA micro-data considering the Agenda 2000 package and the 2001 situation in order to reconstruct the historical yields to compute the premia and the number of animals which effectively received a premium in the bovine meat CMO.
2. The changes in direct payments and variations in prices described above are then reported to the universe using the 2001 Census of Italian Agriculture and used to compute the SFPs on the basis of the estimated eligible land. The modulation is considered, that is the reduction by 5% of all premia when the reform reaches its full implementation regime.

The non-behavioral microsimulation exercise generates the sector-level impacts that are summarized in Table 2 according to the commodity disaggregation adopted in the MEG ISMEA model. The table also presents the changes in intervention and import prices introduced at the macro equilibrium level as a result of the adoption of the reform. For all other products, we do not consider changes in prices and premia.

Another important feature of the reform is the possibility given to the Member States (MSs) to partially adopt the decoupling regime. This possibility concerns only the application of the arable crops, cattle and sheep and goats regimes. In detail, for arable crops the MSs can choose to couple up to 25% of the base premium for or, alternatively, up to 40% of the supplementary premium for durum wheat.

For livestock, the MSs can choose to couple up to 50% of the actual premia for sheep and goats and up to 100% of the slaughter premium for calves and, further, one of the following alternatives: up to 100% of the suckler cows premium and up

to 40% of the slaughter premium for adult bovines, or up to 100% of the slaughter premium for adult bovines, or up to 75% of the special male premium.

The Reform foresees also the constitution of national reserves by means of further percentage reductions of the premia, in addition to that coming from the modulation. The reserves are intended to permit the access to the activity to new farms, which are excluded by the SFP as they were not active in the reference period 2000–2. The decision about the premia cut for the constitution of the reserve is left to national governments. Other decisions for national governments concern the opportunity to cut part (up to 10%) of the crops, bovine meat and dairy premia and to use this amount of aids for special quality programs or to give incentive to specific productions in the same sectors. As no indication is available regarding the Italian decisions on these subjects at the moment of the simulations, we have not considered these options.

3   The General Equilibrium Model and Simulations' Design

The MEG ISMEA model, which is described in detail in Finizia et al. (2005), is a static multisectoral computable general equilibrium model of the Italian economy with two different trade areas, the European Union (EU) and the rest of the world (RoW). The aim of this distinction is to take into account that the Italian agricultural policy is a European policy (OECD 1988; Gohin et al. 1999, 2002; Gohin 2002). Table 3 reports a summary description of the main features of the MEG ISMEA model.

The MEG ISMEA represents a Walrasian economy where all markets are perfectly competitive, firms maximize their profits, households maximize their utility and the production factors are remunerated on the basis of their marginal productivity. In this "ideal" economic environment some rigidities are introduced, in the goods and in the factors markets, in order to reproduce the main features of the Common Agricultural Policy (CAP) (Weyerbrock 1998; Hertel 1999; De Muro and Salvatici 2001; FAPRI 2003; ISMEA 2004).

The MEG ISMEA model includes 41 sectors and places particular emphasis on the agricultural and agri-food sectors. As shown in Table 4, agriculture is disaggregated into 23 agricultural sectors, food industry in 9 sectors, other industries in 7 sectors, and services in 2 sectors. Each sector produces a single output, using intermediate goods and primary factors: self-employed farm labor, hired labor, land (distinguished in three types), agricultural capital, and animals (distinguished in four types). The other sectors use two production factors: non-agricultural capital and labor.

MEG ISMEA considers 11 household types: 7 farm-household types describing the agricultural sector, 1 rural household type, and 3 urban low-middle-high income classes. The classification of the 7 farm-household types has been derived from the cluster analysis of the ISMEA 1995 Survey about the Socio-Economic Conditions of Italian Agriculture (ISMEA 2005). The social accounting matrix is further articulated into a rural class, and three urban classes graduated in terms of income levels. The information is derived from the Bank of Italy Income Survey. This classification

Table 3 The structure of the MEG ISMEA general equilibrium model

– A single country, multi-sector CGE model of the Italian economy focused on agriculture and agri-food sector
– A static model calibrated on the 1995 ISMEA I/O table
– Perfect competition in all markets and neoclassical macroeconomic closure
– 41 sectors: 23 in the primary sector, 9 in the agro-food sector, 7 in the industrial sector, 2 in the service sector
– 2 trade areas: the rest of the European Union (EU) and the Rest of the World (RoW)
– 2 institutional sectors: the households (11 household categories) and the Italian government
– Two-stage constant-returns to scale production functions with imperfect substitution between inputs, including intermediate inputs using nested CES functions
– 11 types of primary production factors: labor (hired labor and farm self-employed labor); capital (capital and agricultural capital); land (three types of land); animals (four types of animals)
– Household preferences are described using a two-stage CES utility function. In the first stage, the utility depends on aggregate consumption and leisure. In the second step each class decides, on one hand, the optimal allocation of the aggregate consumption across the goods produced by the 41 sectors, and, on the other, the optimal allocation of labor supply between hired labor and self-employed farm labor
– International trade
On the export side, the relation between domestic sales and exports is described with a CET function.
On the import side, domestic and foreign goods are "Armington" imperfect substitutes. We have two cases:
(1) Large country hypothesis for some goods: imperfect substitution between production and import so that their prices are different and the market equilibrium price is endogenous
(2) Small country hypothesis with respect to the rest of the world for wheat, durum wheat, soy-bean assuming perfect substitution between production and import so that their prices are identical and the market equilibrium price is fixed at the world level
Modeling of the Common Agricultural Policy's main features such as the single farm payment, intervention price mechanism, import tariffs, production quotas, set-aside, decoupling
Political economy interpretation using collective choice rules

permits an accurate distributional and welfare analysis of the impact of agricultural policies upon policy relevant farm-household types (ISMEA 2005).

The MEG ISMEA model builds on a Social Accounting Matrix (SAM) describing the economic relations between the structure of production and the income distribution across household classes. The SAM is based on the 1995 input-output table of the agri-food sector (ISMEA 1997). The input-output table is based on the data gathered in 1996 through two ad hoc surveys, the Survey on the Socio-economic Conditions of the Italian Agriculture and the Survey on the Economic Conditions of the Italian Food Industry.

We use the MEG ISMEA model to simulate the general equilibrium effects of the following policy scenarios:

Table 4 Sector definitions

Agriculture		
1	Cereals	Soft wheat
2		Durum wheat
3		Rice
4		Corn and other cereals
5		Fodder (corn silage)
6		Non irrigated forage
7	Vegetables	Potatoes
8		Tomatoes
9		Other vegetables and legumes (beans, peas, garlic, cabbages, mushrooms…)
10	Industrial crops	Sugar beet
11		Soy-bean
12		Other industrial crops (hemp, linen, cotton, peanuts, sesame, other oil seeds)
13		Raw tobaccos
14	Viticulture	Grapes
15	Olive	Olives
16	Fruit	Citrus fruit, fresh and dry fruit
17	Floriculture	Floriculture and other products (flowers and seeds, spices, sugar, coffee…)
18	Milk	Bovine milk
19	Beef	Bovine meat livestock
20	Forestry	Forestry
21	Other livestock	Sheep and goats
22		Pigs, poultry, other animals
23	Fish	Fish and other sea products
Agro-food sector		
24	Meat	Fresh and preserved meat
25	Milk products	Milk and milk products
26	Bread, pasta, trasf. cereals	Cereal products, bread and pastry, pasta
27	Veg-fruit	Processed and preserved fruit and vegetables
28	Oil and fats	Olive oil, other vegetal oil, fats
29	Feed	Prepared animal feeds
30	Tobacco	Cigarettes
31	Other agro-food ind	Sugar and other products
32	Beverages	Wine, alcoholic beverages, beer, non alcoholic beverages, tea, coffee

(continued)

Table 4 (continued)

Agriculture		

Other industries sector

33	Fuel and lubrif	Fuel and oils
34	Energy	Electric power
35	Water	Water
36	Fertilizers	Fertilizers
37	Pesticides	Pesticides
38	Other chemical and pharmaceutical prod	Other chemical and pharmaceutical products
39	Heavy industry	Maintenance, other industrial products, agricultural and industrial machinery, constructions and public works, other industrial productions (products of iron and steel, glass, motor vehicles, ships, aircrafts, spinning and webbing, footwear, furniture…)

Services sector

40	TRCOMUNCRINS	Transports and communication, credit and insurance
41	Other services	Other services (business, hotels and public services, leisure—cultural services, Public Administration services, public and private health services…)

- Scenario A (the base scenario): our ex-ante situation refers to the premia established by Agenda 2000 in its full implementation (period 2001–2). This information has been constructed using a non-behavioral model that has been updated from the 1995 to the 2001 situation and incorporated in our Agenda 2000 situation, as implemented in Italy in the years 2001 or 2002, depending on the products. This is the benchmark against which we evaluate the effects due to the introduction of the reform as described in the following scenarios.
- Scenario D1 (total decoupling, with modulation): we consider both decoupling and modulation. Modulation has been implemented by assuming that all the direct premia, both those which are part of the SFP and those coupled, are cut by 5% with the exemption of the first EUR 5,000.
- Scenarios D2A and D2B (partial decoupling): these scenarios are based on the possible options for the countries to maintain a proportion of payments "coupled" to specific commodities.[8] In the scenarios names, the letters A and B refer respectively to:

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[8]Originally, we considered ten scenarios describing the most important possible combinations of partial decoupling options. For the simulations with MEG ISMEA we selected only those four scenarios identified as the most relevant options for Italy.

Table 5 The partial decoupling scenarios: percentages of decoupled premia in detail

	D1	D2A	D2B
Soft wheat	100.0	75.0	100.0
Durum wheat	66.3	49.7	37.1
Rice	58.7	58.7	58.7
Corn	100.0	75.0	100.0
Forages	100.0	100.0	100.0
Potatoes			
Tomatoes			
Other vegetables			
Sugar beet			
Soy beans	100.0	75.0	100.0
Other industrial crops	100.0	75.0	100.0
Tobacco	0.0	0.0	0.0
Grapes			
Olives	0.0	0.0	0.0
Fruit			
Floriculture			
Milk	100.0	100.0	100.0
Bovine meat livestock	100.0	63.2	63.2
Forestry			
Sheep and goats	100.0	79.0	79.0
Other livestock			

Note 1 In the case of tobacco and olives the premium is coupled to production
2 Empty cells indicate that no premium has been proposed in the Review

   i. the option of leaving 25% of the base payment of cereals coupled (scenario D2A);

  ii. the option of leaving 40% of the supplementary payment per hectare of durum wheat coupled (scenario D2B).

The two scenarios should be considered "maximum" coupling options, where the minimum alternative is represented by the scenario D1 of complete application of the decoupling regime. In fact, each combination considers the maximum percentage of partial coupling admitted by the Regulation. Table 5 reports the percentages of decoupled premia generated by the reform for each product of the model, in the five scenarios. The political economy analysis of the different scenarios, presented in the next section, is carried out using the general equilibrium results obtained with the MEG ISMEA.

4   The Political Economy of the CAP Reform in Italy

The political economy question aims at reconciling the different views of the actors involved in the decision making process into a unique social outcome. With this objective in mind, the scenarios have been ranked according to (a) the agricultural producers' point of view as affected by the impact on value added and interested in production protection, (b) the general point of view of the agricultural and food industry, which includes other aspects besides valued added in agricultural production, and (c) the consumers and society's point of view based on the impact of the reform on the consumer price index of the basket of food goods and on social welfare level.

We use the *Borda* voting rule to aggregate the individual or sector-specific preferences. We also measure the impact of the Mid Term Review on the distribution of incomes among the socio-economic groups of interest and the related effects on society's welfare. The changes in welfare levels of each household class also influences the classes' preference orderings with respect to the policy alternatives, and the equity—efficiency trade-off implied by them, and the prospect that political coalitions are formed thus affecting the distribution of political power and the policy ranking. We examine these issues in sequence.

According to the *Borda* voting rule each person reports his preference relation. Suppose that there are N alternatives. The highest ranked alternative is assigned a fixed point k_i. The alternative in the second preference place is assigned a smaller fixed point $k_i - l_i$, $0 < l_i < k_i$ for $i = 1, \ldots, N$, a third place is assigned a yet smaller fixed point and so on to the last choice which is assigned l point. The sum of the weights gives the social preference ordering and the single best alternative. We assume that the *Borda* social decision function is incentive compatible, that is there are no incentives for strategic behavior by declaring false preferences, because in the present scheme there is only one voter.

The *Borda* aggregation method gives a rational collective preference but the outcome is not independent of irrelevant alternatives. As a consequence, the choice over the number of scenarios/candidates and the number of election outcomes to be aggregated, that is the control of the "agenda", is of critical importance for determining the final collective preference. The voting mechanism is designed for one voter in the vests of a benevolent social observer. It runs in two rounds. In the first round of the elections, the benevolent social observer is asked to vote for J elections by ranking the N alternatives forming the set of alternatives $A_1 = \{D1, D2A, D3B\}$ as if each production sector were a separate industry in the economy in terms of the value added contribution of each sector.

The voting rule ranking the alternative reform scenarios assigns a higher vote to the highest positive percentage change and the lowest percentage change in value added. This is intended to reflect the producers' interest in maximizing profits from agriculture and protecting agricultural production in general. The least preferred gets 0 points, then the sequence increases by equal increments of 1 until N. The weights need not to be equally spaced. The *ex aequo* outcome is attributed when the

differences are within the range [−0.3, 0.3] and receives the lowest vote. In other words, ties are not counted in the sum. In the second round, the social observer is asked to produce a social rule based on an objective weighting scheme reflecting the relative "importance" of the scenarios based on the value added share contributed by each sector. The weighting scheme changes the equal spacing rule of the votes cast in the first round. The intersectoral aggregation is the weighted sum of the *Borda* votes, which gives a unique voting outcome revealing the most preferred scenario from the producers' point of view.

The voting procedure can be summarized as follows:

The election
1 voter being a benevolent social observer
$i = 1, \ldots, N$ alternatives with $N = 3$
$j = 1, \ldots, J$ elections (one for each agricultural sector, $J = 23$)
The voting mechanism
Round 1—Vote for the best scenario per each sector
Round 2—Aggregate each vote using objective weights

4.1   The Producers' Interests

The voting outcome of both the first and second round of elections is presented in Table 6. The simulated changes determined with the MEG ISMEA in the production levels for each agricultural sector are presented in the first three columns of Table 6. The general equilibrium results show that the reform induces marked productive reallocations from cereal crops to fodder. The effect is particularly unfavorable for soft and durum wheat (respectively −27.64% and −36.11%), soy-bean (−80.67%) and other industrial crops (−20.68%). Soft wheat is also less competitive. Vice versa, livestock production is slightly encouraged from the cost reduction, given the higher availability of forage (and consequent cost reduction), with the exception of sheep and goats which are typically raised on extensive agricultural areas.

The outcome of the first round of the voting where all sectors have the same importance weight gives the total decoupling scheme D1 as the winner. The *Borda* score is 23 as compared to 13 for the partially decoupled scheme D2A and 8 for the D2B scheme. The results of the second round of elections can be read in the last row of the last three columns. The weights used to account for the different contribution of each sector to the agricultural value added are shown in the seventh column. The aggregation rule incorporating the weighting scheme preserves the same preference ordering.

Table 6 The agricultural producers point of view

Products	% simulated impacts on production			Borda vote			Value added weight	Weighted vote		
	D1	D2A	D2B	D1	D2A	D2B		D1	D2A	D2B
Soft wheat	−27.64	−18.84	−30.05	1	2	0	2.8	0.03	0.06	0.00
Durum wheat	−36.11	−25.67	−13.19	0	1	2	4.3	0.00	0.04	0.09
Rice	0.20	−0.44	−0.26	1	0	0	1.6	0.02	0.00	0.00
Corn and other cereals	−0.71	0.18	−1.10	1	2	0	9.7	0.10	0.19	0.00
Fodder (silage)	16.32	12.15	17.15	1	0	2	5.6	0.06	0.00	0.11
Non irrigated forage	30.36	22.30	17.45	2	1	0	3.7	0.07	0.04	0.00
Potatoes	1.80	0.27	0.27	1	0	0	1.7	0.02	0.00	0.00
Tomatoes	1.86	0.31	0.30	1	0	0	2.1	0.02	0.00	0.00
Other vegetables	−0.52	0.46	0.45	0	1	1	13.2	0.00	0.13	0.13
Sugar beet	2.48	1.90	2.10	2	0	1	2.3	0.05	0.00	0.02
Soy-bean	−80.67	−74.24	−80.80	0	1	0	0.9	0.00	0.01	0.00
Other industrial crops	−20.68	−13.58	−29.01	1	2	0	0.8	0.01	0.02	0.00

(continued)

Table 6 (continued)

Products	% simulated impacts on production			Borda vote			Value added weight	Weighted vote		
	D1	D2A	D2B	D1	D2A	D2B		D1	D2A	D2B
Raw tobaccos	2.19	1.52	1.74	2	0	1	2.6	0.05	0.00	0.03
Grapes	0.18	0.09	0.09	1	0	0	8.2	0.08	0.00	0.00
Olives	0.38	0.08	0.10	1	0	0	6.6	0.07	0.00	0.00
Citrus fruit	0.32	0.13	0.13	1	0	0	10.7	0.11	0.00	0.00
Floriculture	2.27	1.70	1.87	1	0	0	8.2	0.08	0.00	0.00
Milk	5.21	3.89	4.21	2	0	1	2.4	0.05	0.00	0.02
Bovine meat livestock	1.22	1.09	1.33	0	0	0	3.7	0.00	0.00	0.00
Forestry	2.19	1.41	1.51	1	0	0	1.6	0.02	0.00	0.00
Sheep and goats	−2.49	−1.94	−3.27	1	2	0	1.0	0.01	0.02	0.00
Other livestock	2.35	1.95	1.43	2	1	0	6.1	0.12	0.06	0.00
Total				23	13	8	100	0.95	0.57	0.40

4.2 The General Interest of the Agricultural and Food Industry

Table 7 proposes a more enlarged view, which includes the general interest of the agricultural and food industry and of other sectors related to agriculture such as the chemical sector. From this wider perspective, it is not just the performance of the single sectors that is important but other factors such as the size of the trade deficit of agri-food products, the impact on land prices, the changes in both farm and non-farm labor employment and the impact on income levels are of primary importance.

It is interesting to note that while the outcome of the voting procedure for the producers' point of view depends only upon the choice of the voting rule, the outcome of the more general interest at the industry level depends also on the choice of the weights, that are now subjective, and the "agenda setting" which selects the number and type of elections. While the agenda setting is less of a problem regarding the agricultural producers' view because the number of elections corresponds to the number of sectors included in the model, in the more enlarged view incorporating also the preferences of the agricultural and food industry, the selection of the number of elections is critical.

The subjective weights are assigned according to the following "conformity rule" based on the degree of proximity of a sector outcome to the objectives of the reform. We summarize the reform objectives as follows: (a) greater market orientation and efficiency, (b) income maintenance and employment, (c) low factor use where, in general, extensive choices are preferred to intensive choices, (d) low environmental impact, (e) sustainability of agriculture and incentives for rural development, (f) fairness in the distribution of the level of support. Based on the subjective evaluation of the social observer we assign a conformity score on the basis of a low (0 score), medium (0.5 score) and high (1 score) level of conformity.

The weighted outcome is presented in the right corner of Table 7, which reports the subjective scores assigned to each item of the agenda in the first column. The order of preference ranks total decoupling (D1) first and the partial decoupling scheme D2A as more preferred to the D2B scheme. Interestingly, the conformity weights change the preference ordering of the non-weighted count.

4.3 The Consumers' Interests

In general, consumers are worried about price instability and the impact of policy changes on the level of the consumption price index. Recently, agricultural and food products have been often blamed to be the main responsible for inflationary pressures. This situation justifies the growing public concern for the impact of the Mid Term Review on both the level and variability of the primary commodities composing the food basket and the associated impact of the consumer price index for food products on the overall level of the consumer price.

Table 7 The agricultural and food industry point of view

Products	% simulated impacts on production			Borda vote			Weights	Weighted vote		
	D1	D2A	D2B	D1	D2A	D2B		D1	D2A	D2B
Soft wheat	−27.64	−18.84	−30.05	1	2	0	0.5	0.5	1.0	0.0
Durum wheat	−36.11	−25.67	−13.19	0	1	2	0.5	0.0	0.5	1.0
Rice	0.20	−0.44	−0.26	1	0	0	0.5	0.5	0.0	0.0
Corn and other cereals	−0.71	0.18	−1.10	1	2	0	0.5	0.5	1.0	0.0
Fodder (silage)	16.32	12.15	17.15	1	0	2	0.5	1.0	0.0	2.0
Non irrigated forage	30.36	22.30	17.45	2	1	0	1	2.0	1.0	0.0
Other vegetables	−0.52	0.46	0.45	0	1	1	0.5	0.0	0.5	0.5
Soy beans	−80.67	−74.24	−80.80	0	1	0	1	0.0	0.5	0.0
Other industrial crops	−20.68	−13.58	−29.01	1	2	0	0.5	0.5	1.0	0.0
Milk	5.21	3.89	4.21	2	0	1	0.5	1.0	0.0	0.5
Bovine meat livestock	1.22	1.09	1.33	0	0	0	0.5	0.0	0.0	0.0
Sheep and goats	−2.49	−1.94	−3.27	1	2	0	1	1.0	2.0	0.0

(continued)

Table 7 (continued)

Products	% simulated impacts on production			Borda vote			Weights	Weighted vote		
	D1	D2A	D2B	D1	D2A	D2B		D1	D2A	D2B
Cereal products	−0.05	−0.03	−0.03	0	0	0	0.5	0.0	0.0	0.0
Fresh and preserved meat	0.44	0.38	0.37	0	0	0	0.5	0.0	0.0	0.0
Dairy products	0.47	0.27	0.30	0	0	0	0.5	0.0	0.0	0.0
Fats and oils	−0.60	−0.51	−0.73	0	0	0	0.5	0.0	0.0	0.0
Animal feeds	−2.41	−1.52	−2.22	1	0	1	0.5	1.0	0.0	1.0
Fertilizers	−7.13	−5.01	−4.27	2	1	0	0.5	2.0	1.0	0.0
Pesticides	−3.48	−2.51	−2.59	1	0	0	1	1.0	0.0	0.0
Agri-food trade deficit	7.19	5.62	5.57	0	1	1	1	0.0	0.5	0.5
Land price	18.27	14.23	15.45	0	2	1	1	0.0	1.0	0.5
Hired labor	−0.11	0.08	0.10	0	0	0	0.5	0.0	0.0	0.0
Farm labor	-0.76	−0.35	−0.29	0	1	1	0.5	0.0	0.5	0.5
Farm-hh income (non prof.)	−0.01	0.08	0.11	0	0	0	0.5	0.0	0.0	0.0
Farm-hh income (prof.)	0.55	0.50	0.54	0	0	0	0.5	0.0	0.0	0.0
Total				14	17	10		11.0	10.5	6.5

Table 8 reports the composition of the food basket as derived from the ISTAT Consumer Expenditure Survey for the base year 2001 for the household classes included in the general equilibrium model. The food budget shares are the weights used to compute the change in consumer price index and its variability. As it is apparent by inspecting the overall results, the reform has an impact that may have an economic interest only in the milk sector but the overall impact on both the levels of the consumer index and its variability is negligible. It follows that post-reform pressures on the consumption price index should not be imputed to the agricultural reform.

Also for consumers, the order of preference ranks total decoupling (D1) first and the partial decoupling scheme D2A as more preferred to the D2B scheme.

4.4 Social Welfare, Income Distribution and the Equity-Efficiency Trade-Off

The outcomes of the different policy scenarios affect the distribution of income among socio-economic groups and the level of social welfare. As expected due to the surgical nature of the reform that limits most of the changes to the agricultural sector and the related industries, changes in income are restricted mainly to farm-households (Table 9). In fact, the incidence of the effects varies among farm-household types. The groups experiencing the highest rise in real income are the professional medium-size, large and very large farm households.

The change in relative net output and input prices affects the distribution of value added between sectors and, within sectors, the distribution of value added between wages and rents. These changes, along with changes in the cost of living and lump-sum transfers in the form of SFPs associated with the reform, are responsible for the distribution of income among the household types. The magnitude of farm income changes depend on the size of the elasticity of substitution between labor, capital and land and the intensity of the factor uses due to the post-reform changes in output and factor prices and the size of the lump-sum transfer which is associated with the distribution of rights at the reference situation.

The impact of the different reform scenarios on the distribution of income of the overall society has been measured using Gini coefficients. As shown in Table 9, at the society level, where about 96% of the households are non-agricultural, the differential impact of the reform scenarios on the income distribution is indiscernible. The Gini index of 0.674 is not affected by the reform. The level of inequality for the agricultural society is much lower (0.371) as it is reasonable to expect for a relatively more homogeneous segment of society. As before, it does not vary across scenarios.

The effect on inequality is not the sole dimension of interest in ranking income distributions. It is in general of interest to combine the evaluation with considerations about efficiency as described, in the present context, by changes in society's average level of income. The social evaluation function that we choose to rank any pair of

Table 8 The consumers point of view

Products	Food budget share (%)	D1% change consumer price	D2A% change consumer price	D2B% change consumer price	Weighted D1	Weighted D2A	Weighted D2B
Fish	8.7	0.07	0.04	0.04	*0.006*	*0.003*	*0.003*
Meat	22.8	−0.13	−0.13	−0.12	*−0.030*	*−0.030*	*−0.027*
Milk and Dairy Products	13.8	−1.26	−1.16	−1.18	*−0.174*	*−0.160*	*−0.163*
Bread, Pasta, other cereal products	16.7	0.02	0.00	0.00	*0.003*	*−0.001*	*−0.001*
Vegetables and Fruits	17.6	−0.03	−0.05	−0.04	*−0.005*	*−0.009*	*−0.007*
Oils and Fats	3.8	0.01	0.00	0.06	*0.000*	*0.000*	*0.002*
Sugar, Coffee and Others	7.4	−0.31	−0.26	−0.28	*−0.023*	*−0.019*	*−0.021*
Beverages	9.2	−0.10	−0.09	−0.09	*−0.009*	*−0.008*	*−0.008*
Change in consumer price index for food products					**−0.231**	**−0.223**	**−0.221**
Variance of consumer price index for food products					0.0036	0.0030	0.0031

income distributions is in fact a function that aggregates both a concern for efficiency, as represented by the mean of the income distribution, and a concern for equity, as described by an index of inequality or dispersion of the income distribution:

$$W(x) = V(\mu, I) = \mu^{-G}$$

where $\mu(x) = \sum_{i=1}^{N} x_i / N$ with N being the number of household classes, $I = I(x)$ is an index of inequality of the distribution of income x such as the Gini coefficient,

Table 9 Social welfare rankings

Household class	Initial income level billions €	Population Share	Share of total income	D1% change	D2A % change	D2B % change
Limited-resources	0.353	0.003	0.001	−0.110	−0.008	0.020
Retirement	0.390	0.001	0.001	−0.130	−0.001	0.030
Residential/lifestyle	0.516	0.001	0.001	0.400	0.410	0.450
Farming occupation/lower-sales	0.387	0.005	0.001	0.010	0.100	0.120
Farming occupation/higher-sales	7.044	0.018	0.014	0.770	0.680	0.730
Large family farms	20.656	0.010	0.041	0.490	0.430	0.470
Very large family farms	19.662	0.002	0.039	0.210	0.210	0.240
Rural	61.401	0.130	0.123	0.008	−0.020	−0.030
High income	190.359	0.208	0.382	0.020	−0.010	−0.020
Mid income	163.974	0.415	0.329	0.010	−0.020	−0.020
Low income	33.577	0.208	0.067	0.020	−0.010	−0.020
Total/mean	498.320	1.000	1.000	0.053	0.022	0.020
	Initial	D1	D2A	D2B		
Abbreviated Social Welfare	55.858	55.856	55.867	55.876		
Gini index by scenario						
Society	0.67379	0.67398	0.67398	0.67399		
Agricultural society	0.37110	0.37055	0.37062	0.37060		

and V is a function increasing in its first argument but decreasing in the second argument. Lambert (1989) terms this social evaluation function as the abbreviated social welfare function. As the last row of Table 9 shows, the welfare level of the Italian society, incorporating both a concern for equity and efficiency, is not affected by the reform.

4.5   Social Conflicts and the Distribution of Political Power

Different agricultural reform schemes have a significant impact on the distribution of welfare levels especially, as it is rational to expect, within the farming sector. This affects the distribution of political power among the interest groups representing

the different farm-household types. Are there conflicts among society? How does political power affect decisions? How will the political bargaining weight of the groups of gainers and losers affect the final policy outcome?

To investigate these questions, we use the Pareto criterion to rank the policy scenarios according to the preferences of each household class, and then inquire whether there are common interests across household classes that can be grouped. This process may identify the existence of possible class conflicts among coalitions representing the interests of the groups.

Pareto optimality ranks possible outcomes (economic states) by constructing a preference ordering among the elements of the choice set using the binary relation xRy stating that "welfare at state x is at least as high as welfare at state y". The ordinal preference relation R is complete and transitive and says nothing about the intensity, or cardinality, of the preferences. A strict preference is indicated as xPy; an indifference situation is indicated as xIy. According to the Pareto principle, the economic state x is Pareto superior to state y if xR_jy for all agent j and xP_jy for at least one agent j. In the context of the present social experiment, every household class is at least satisfied with the outcome of policy scenario y and x and at least one household class is strictly better off with x.

Inspection of Table 10, reporting the changes in welfare levels with respect to the base scenario per each policy alternative under consideration, reveals that it is not possible to establish a unique ranking across scenarios because there is at least one class that is worse off with respect to one of the binary comparisons of interest. However, some classes of households show a consistent preference ranking across scenarios. The limited resources, retirement, residential lifestyle, small farms rank *D2 B.P.D2A.P.D1* as shown in the no-shadow area in Table 10. The medium size, large and very large farm-households consistently rank *D1.P.D2 B.P.D2A*. The urban and rural households, the dark shadow area in Table 10, do not consider the agricultural reform as a political issue of interest as a consequence of their revealed indifference *D2B.I.D2A.I.D1* to the different policy scenarios.

We then assume that the less professional classes of farm-households (limited resources, retirement, residential lifestyle, small farms) form a coalition kept together by the common interests of preferring the D2B partial decoupling scenario to the D2A scheme and total decoupling D1 that we term the "small farm coalition." On the other hand, the professional agriculture (the medium size, large and very large farm-households) coalesce to form the "large farm coalition."

Under a political economy perspective, it is interesting to inquire whether the different interest groups have same bargaining power, as reflected by different political weights, to the point that one of the coalitions dominates the policy arena. Does the choice of political weights affect the Pareto ranking?

We assume that these interest groups know the level of gain or losses that is going to occur, that it has perfect knowledge of Table 10 gains and losses with respect to the base scenario, and that the coalitions are self-interested groups. Further, the intensity with which any group cares about a given policy change is proportional to the relative difference in welfare levels between the three alternative policy scenarios. We also define two weights describing the likely political importance of the two coalitions.

Table 10 Pareto rankings

Pareto ranking—% welfare changes	D1 % change	D2A % change	D2B % change
Limited-resources	−0.07	−0.005	0.004
Retirement	−0.08	0.02	0.04
Residential/lifestyle	0.43	0.45	0.49
Small family farms	0.03	0.12	0.14
Medium family farms	0.78	0.68	0.72
Large family farms	0.54	0.43	0.45
Very large family farms	0.28	0.21	0.21
Rural	−0.02	−0.02	−0.03
High income	−0.01	−0.01	−0.02
Mid income	−0.02	−0.02	−0.02
Low income	−0.008	−0.01	−0.02

Note The different shadow areas identify a unique Pareto ranking

The population share weight is based on the number of the farm-households entering each coalition in line with the one person, one vote paradigm; the value added weight is defined in terms of the value added contribution of each farm-household class.

Table 11 shows that the preference rankings are not affected by the different bargaining power of the two coalitions as captured by the population and value added weight. Comparing the differences in weighted welfare levels at the coalition level, it is reasonable to expect a more intense political action capable to dominate the policy arena from the coalition of the professional farmers who would enjoy a much larger gain in welfare by pursuing the total decoupling scheme (0.3 or 0.5 % change depending on the political weight) as compared to the less professional farmers who are expected to have a weaker motivation to pursue their own interest due to the small expected welfare gains from the reform.

5 Conclusions

The analysis of the impact of the CAP reform on Italian agriculture and the whole economy has been carried out within a micro-funded general equilibrium model capable of differentiating the impact by household type of policy concern. The political economy analysis of the ex ante impact of the reform on the interests of the society's groups has revealed the following positions about the issue of a total or partial implementation of decoupling:

- the producers and agro-food industry's interests: both producers, which give each agricultural sector a different importance based on the value added, and the

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Table 11 Ranking and political power

	Value added weight	Welfare level (weighted by value added)			Population share weight	Welfare level (weighted by population)			Ranking
		D1	D2A	D2B		D1	D2A	D2B	
Small farmers									
Limited-resources	0.075	−0.005	0.000	0.000	0.007	0.000	0.000	0.000	
Retirement	0.025	−0.002	0.001	0.001	0.024	−0.002	0.000	0.001	
Residential/lifestyle	0.025	0.011	0.011	0.012	0.034	0.015	0.015	0.017	
Small family farms	0.125	0.004	0.015	0.018	0.005	0.000	0.001	0.001	
Mean		**0.007**	**0.026**	**0.031**		**0.012**	**0.016**	**0.018**	*D2* *B.P.D2A.P.D1*
Large farmers									
Medium family farms	0.450	0.351	0.306	0.324	0.024	0.019	0.016	0.017	
Large family farms	0.250	0.135	0.108	0.113	0.129	0.070	0.055	0.058	
Very large fam. farms	0.050	0.014	0.011	0.011	0.778	0.218	0.163	0.163	
Mean		**0.500**	**0.424**	**0.447**		**0.306**	**0.235**	**0.239**	*D1.P.D2* *B.P.D2A*
Rural and urban households									*D2B.I.D2A.I.D1*

agro-food industry, which weights the industry activities on the basis of the confor-
mity of the impact with the goals of the reform, rank the total decoupling scheme
as the most preferred;

- the consumers' interests: the overall impact of the reform on the consumer price
index for food products is negligible. As a consequence, potential post-reform
pressures on the consumption price index should not be imputed to the agricultural
reform;
- the society's interests—the level of inequality and social welfare of the Italian
society, incorporating both a concern for equity and efficiency, is not significantly
affected by the reform;
- the farming unions' interests: based on the impact of the reform on the welfare
levels of the Italian farm-household types, the small less professional farms prefer
partial to total decoupling. Professional farm-household types invert the ranking.
The urban and rural households are indifferent with respect to the marginal impact
of the reform on their levels of well-being. In general, it is reasonable to expect
a more intense political action from the coalition representing the interests of the
professional farmers who would enjoy a much larger gain in welfare by pursuing
the total decoupling scheme.

The implementation of a totally decoupled reform gives back to the market both
the allocative and the redistributive function thus favoring greater efficiency in the
use of resources in activities and areas of greater comparative advantage. Income
levels of farming households are maintained by granting a non distortive lump-sum
corresponding to the amount of premia received in the reference situation of year
2001–2002. In general, a totally decoupled scheme would mitigate the problem
of distributive justice associated with coupled payments which, by design, benefit
mainly the large producers.

The adjustment process induced by the reform may encourage farmers to adopt
least cost practices and activities with the objective of minimizing the use of labor
and other inputs in agriculture. The increase in pasture production at the expenses of
durum wheat in the Italian south is an example of such a change. This modification of
the activity portfolio does not lead to an exit from the agricultural industry, but induces
the rational adoption of cost-efficient activities and the abandonment of activities,
such as durum wheat, that, without the coupled premium, do not cover operating
costs in the less efficient farms. This type of change, that we term "disactivation,"
releases resources which can be employed more efficiently in other sectors of the
economy. Agricultural surplus labor may give rise to unemployment, especially in the
south, where employment opportunities lack. Lower demand for agricultural inputs
coupled with higher costs of the chemical industry has a positive impact on the
environment. Higher land prices are expected to curb transactions of land properties
but may activate the rental market for land. The land market may also suffer from legal
conflicts due to the unclear definition of property and rental rights in the reference
situation leading to higher transaction costs.

The adoption of a partially decoupled scheme would reveal greater society's aver-
sion to inequality in recognition of the fact that most of the benefits would accrue

to non professional farmers. The evaluation of the pros and cons associated with the adoption of a partially decoupled scheme shows that the benefits would not be sufficient to mitigate the marked structural adjustments associated with the totally decoupled choice, especially in the cereal and sheep and goat production and as a consequence of the "disactivation" process, and would cause a loss of efficiency for the entire sector. Further, a partially decoupled solution has no significant effects in the livestock industry whose productivity is sensitive to market conditions and to the opportunity to gain from the reduced costs of feeding as it can be expected as a consequence of the greater availability of fodder.

In general, an obstacle to reforms is represented by the real or presumed costs of the adjustment imposed on farmers. The New Zealand experience, where in the past decade a market oriented reform without income compensations has been undertaken, teaches that farmers' incomes and the agricultural industry in general, recovered promptly from the initial shocks of *de-regulation* also thanks to other reforms in connected markets and outside of agriculture and the related general equilibrium effects (Rae et al. 2003).

The reform forces a change in the professional farmers' mentality who, despite the larger financial possibilities generated by the single farm payment, have to make production decisions without counting on the previously guaranteed returns stemming from each single activity. As a consequence, the post-reform marketing strategies have to take into account the changed competitive environment, the characteristics of the demand for their products, their competitive advantages and the special strengths of each farm organization.

The reform also imposes a "cultural" change in the quality of the Italian agricultural policy product towards greater market orientation which would foster a restructuring process in favor of better products, more efficient and competitive industries and a more effective integration between agricultural and rural policy. The push towards greater exclusion of the farms already at the margins of agriculture, especially in the South, is not so strong thanks to the single farm payment. It should be remarked, however, that these "less professional" farms are not the main object of interest of agricultural policies, but, more properly, of rural policies, which, curiously not enough, can be financed by the modulation of agricultural policy. What is relevant is then the "coupling" of agricultural with rural policies.

The reform will then be an opportunity rather than a problem, if State and Regions will be using in a modern way market policies that activate (a) the land market in order to favor the consolidation of those farms going out of market, (b) the insurance market and (c) the financial market. This action concerns mainly agricultural policies. If central and regional governments will also intervene by targeting non-professional farms, which do not fully benefit from the reform, by adopting effective rural policies, then, equity *cum* efficiency is a concrete objective.

Appendix

See Tables 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11.

References

De Filippis, F. (2004). Verso la nuova PAC: la riforma del giugno 2003 e la sua applicazione in Italia. Forum Internazionale dell'Agricoltura e dell'Alimentazione, Quaderno n. 4.

De Muro, P., & Salvatici, L. (2001). La PAC nei Modelli Multisettoriali. In G. Anania (Ed.), *Valutare gli effetti della PAC*. Roma: INEA.

European Commission—Directorate-General for Agriculture. (2003a). Reform of the common agricultural policy: A long term perspective for sustainable agriculture, impact analysis.

European Commission—Directorate-General for Agriculture. (2003b). Reform of the common agricultural policy: Medium term prospects for agricultural markets and income in the European Union, 2003–2010.

FAPRI-Ireland partnership. (2003). The Luxembourg CAP reform agreement: Analysis of the impact on EU and Irish agriculture. TEAGASC Rural Economy Research Centre.

Finizia, A., Magnani, R., Perali, F., Polinori, P., & Salvioni, C. (2005). "Il modello Meg-Ismea per l'analisi delle politiche agricole", La Questione Agraria, 4.

Gohin, A., Guyomard, H., & Le Mouël, C. (1999). L'analyse des politiques agricoles: l'apport de l'équilibre général calculable. *Economie Rurale, 25,* 4–10.

Gohin, A., Guyomard, H., & Le Mouël, C. (2002). Tariff protection elimination and Common Agricultural Policy reform: implications of changes in methods of import demand modelling. Working paper 02-01. Rennes: INRA.

Gohin, A. (2002). Le Proposition de Révision à Mi-Parcours de la PAC: Evaluation des Impacts sur l'Agriculture Française à Partir du Modèle MEGAAF. Research Report 02-01. Rennes: INRA.

Hertel, T. W. (1999). Applied general equilibrium analysis of agricultural and resources policies. Staff Paper 99-2, Dept. of Agricultural Economics, Purdue University.

ISMEA. (1997). La tavola delle interdipendenze settoriali del sistema agroalimentare italiano, 1995.

ISMEA. (2004). L'impatto della Riforma PAC sulle imprese agricole e sull'economia italiana. Franco Angeli editore.

ISMEA. (2005). Agricoltura e ruralità: l'indagine socioeconomica dell'agricoltura italiana. Franco Angeli editore.

Lambert, P. (1989). *The distribution and redistribution of income*. Cambridge: Basil Blackwell.

OECD. (1988). Quantifying the Economy Wide Effects of Agricultural Policies. A general equilibrium model. Working Paper, n. 55.

Rae, A., Nixon, C., Lattimore, R. (2003). Adjustment to agriculture policy reform—Issues and lessons from the New Zealand Experience. Paper presented at policy reform and adjustment workshop.

Weyerbrock, S. (1998). Reform of the European Union's common agricultural policy: How to reach GATT-compatibility? *European Economic Review, 42,* 375–411.