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THE FARM STRATEGY APPROACH TOWARDS COMPETITIVENESS UNDER THE CAP REFORMS. THE CASE OF ANDALUSIA IN SOUTHERN SPAIN

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THE FARM STRATEGY APPROACH TOWARDS COMPETITIVENESS UNDER THE CAP REFORMS. THE CASE OF ANDALUSIA IN SOUTHERN SPAIN

ABSTRACT

The evolution of the Common Agricultural Policy (CAP), and its successive Reforms, has caused a loss of both internal coherence and social legitimacy. On the other hand, the Agenda 2000 has situated agriculture within the objective of competitiveness. What may well be asked is whether indeed the different European agricultural systems are converging towards this objective of competitiveness. To be able to reply to this question it is necessary to change from a "meso" analysis of the CAP to a "micro" analysis of farms referring to specific regions. Starting from this context and problem, this paper analyses how the agriculture of the region of Andalusia can be affected by the competitiveness approach in an area which is in an advanced process of modernisation but nevertheless maintains a strong agricultural character and a dependence on the CAP. For this analysis, we have started from the fact that farmers make *strategic decisions* so as to adapt to a changing political situation. The main objective of this work is to contrast the importance of a combination of structural and strategic variables to explain the differences in the competitive position of agricultural systems compared with different situations of the CAP. In order to achieve this objective, analytical instruments of competitive and strategic approaches, normally designed for individual enterprises in other economic sectors, have been used, adapting them to the agricultural system as a whole. The results allow the affirmation that the farmers who obtain the best competitive positions are those who adopt a strategic position concerning their activity, with a greater coherence between the definition of their objectives and of the resource allocation strategies they design in order to achieve them.

KEYWORDS: Common Agricultural Policy, Competitiveness, Strategic Analysis, Agricultural Systems

1. INTRODUCTION

With the Treaty of Rome six European States decided to unite in a common project of ambitious goals and prospects. In order to make the integration project possible they had to find a way to define common interests so as to achieve real unity and an indication of the degree of success of their collaboration. After the war, with domestic food markets short of supplies, all members of the project shared the same aim: guaranteeing the food supply of the population and in future preventing war from being the method of competing for the opening up of the market. Agreement on objectives also meant agreement on the instruments and methods to be used to achieve them. The Common Agricultural Policy (PAC) originated in this manner, after the Stressa Conference, with the necessary political agreement; it was as much a sectoral instrument as a truly common policy.

From the first definition of the aims of the CAP, mentioned in the famous article 39 of the Treaty of Rome, farmers were identified as the beneficiaries of this Policy. Comparably, the European population realised how appropriate the policy was and approved it unreservedly. In this initial stage it could be said that the CAP was genuinely common as no-one questioned the legitimacy of its contents.

The building of the European integration project itself depended on its expansion. With the successive incorporation of new member States the diversity of these grew which led to growing differences of needs and objectives. At the same time, after a clear rise in productivity, the supplying of home markets and price stability was achieved. As a consequence of this development,

the problems of overproduction and surpluses were gradually to replace the initial concern for production.

As from this moment a hitherto-unknown process began: the need of each member State to define its own national aims as “*common*” as an answer to the demands made by its society and a parallel demand for achieving political support from other States to make this possible. The existence of different arguments to support these aspirations started to create uncertainty, confusion and contradictory incentives in the agricultural sector. In this transformation, the CAP began to lose its truly *common* character and was submitted to a series of partial solutions which obscured the will to achieve clear and unanimous shared objectives. Moreover, the interest in including such diverse concerns has led to the appearance of a series of internal contradictions which cause further criticism of its methods (Lamo de Espinosa, 1998): different and sometimes contrasting logic in the protection of continental and Mediterranean products, social alarm due to food crises, the regressive nature of aid distribution or the negative effect on the environment are well-known aspects of this internal criticism which has led to a crisis due to its loss of legitimacy to society.

It is also true however that during the last decade the international economy beyond the borders of the EU has moved towards liberalisation in an unprecedented manner. Globalisation offers a number of opportunities which the European Union, as an exporting power, has had to address in designing its policies. In this new context the incorporation of the argument of *competitiveness* takes on an importance which for the first time is shared by agriculture.

The policy regulating the operation of the agricultural sector in the European Union has undergone significant changes in recent years, and what is more important, will continue to be reshaped in the near future in the light of the recent events. Faced with this changing situation, the adoption of strategic behaviour by farmers becomes particularly important. The Reforms of the CAP have introduced the concept of *competitiveness* as one of the adjustment objectives which are desirable in the face of the profound crises of the agriculture of the European Union (European Commission, 2000a). But any mention of competitiveness is inseparably linked to reflection in *strategic* terms. They are the agents of the changes demanded of its agriculture by European society, which will have to adopt strategic behaviour. In other words, farmers will be obliged to make business medium- and long-term decisions so as to guarantee the viability of their farms in a context of far-reaching changes. Not only have the rules of the game been modified, but with the incorporation of new countries to the EU, with the commitments which may be acquired after the WTO Round, and with the attention to the quality-safety demands asserted by European consumers/taxpayers, the operating rules are still to incorporate even greater changes.

In this context of uncertainty in the face of such profound changes, any strategic management approach demands a future-orientated attitude. The future must therefore be anticipated; we must foresee the probable situations concerning which decisions will be made and consequences simulated. Because of this, it is necessary to reflect on the pertinence of the objective of competitiveness and on the measures of the CAP contained in the 1992 Reform and in the Agenda 2000, so as to determine the degree of coherence between objectives and measures, on the one hand, and to try to assess the distribution of the positive and negative aspects, on the other. Some questions which seem to be appropriate would be those mentioned below.

Are strategies of adaptation to the new Reforms indeed tending towards competitiveness? Is there distortion in the optimising behaviour of farmers, caused by the subsidies, when these become a maximising objective? Do the strategies of the producers comply with the objectives of competitiveness and food quality and safety, as consumers and society in general demand?

2. OBJECTIVES

Given the nature and scope of current and future changes within the CAP, it is necessary to change from a “meso” analysis to a “micro” analysis of farms and agricultural systems, referring to specific regions and areas. Because of this, the essence of this report consists of the analysis of the effects of the CAP reforms on particular agricultural systems of one of the most important Spanish regions for agriculture, Andalusia. To be more precise, the relationships between the *strategic behaviour* of farmers as a reaction to the aforementioned changes are analysed, and the connection with the competitive advantages obtained by the systems they represent.

For the reasons given, the relationship between competitive and strategic aspects is at the core of this research. An attempt has been made to combine analyses based on very different variables: the competitive aspects will be examined by means of quantitative variables which can easily be measured and interpreted by indicators, whereas aspects of strategic behaviour have been analysed by variables, qualitative in many cases, which often cause quantification difficulties. This analysis is based on the fact that farmers make strategic decisions in order to adapt to a changing environment defined by economic globalisation and the new CAP, which has put its faith in *competitiveness*. A modification of their competitive position follows from these changes, which will make them future “winners” or “losers” depending on whether they make the right strategy decisions concerning the new objectives of the Reform.

An analysis is therefore made of how the agriculture of a region can be affected by the new logic of competitiveness. It is particularly important to test to what extent the agriculture systems of the objective proposed by the new CAP converge or diverge. In regions such as Andalusia, which maintains a strong agricultural character and depends on European Union aid, the analysis of these processes is of interest.

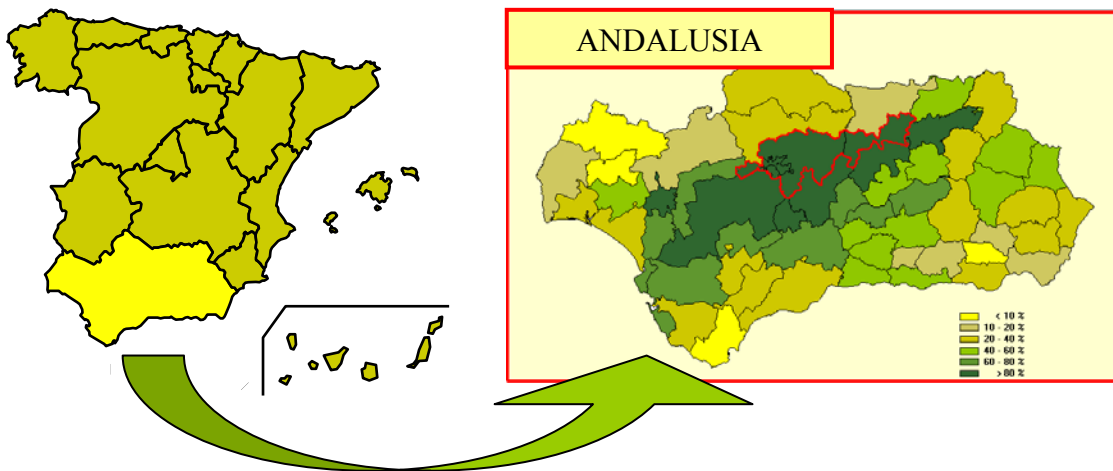
3. THE METHOD

The present report includes part of the conclusions of a Doctoral Thesis entitled “*An analysis of the effects of the Reforms of Common Agricultural Policy and the feasibility of the adaptive strategies of the agricultural systems of the Guadalquivir valley*”. Its author (Rosa Gallardo) and Directors are those signing this paper which was presented in January 2002. The Thesis mentioned, for its part, is included within a European Research Project developed between 1997 and 2000 entitled: “*CAPMEDIT - The CAP Reform and the Development of Mediterranean Agriculture*”- FAIR 3 CT 96-1579. Five Universities from Mediterranean Europe, Lisbon (Portugal), Viterbo and Portici (Italy), and Valencia and Cordoba (Spain) have participated in this project; the authors are full members of this research team.

The geographical area chosen for the research is one of the most representative areas of Spanish agriculture: the Valley of the River Guadalquivir crossing Andalusia, the southernmost region of Spain which occupies some 20% of the surface area of Spain. In this region two agricultural resources, which are very sensitive to the changes occurring within the CAP, coexist and compete for the use of the same areas: these are COP⁴ crops and olive groves. The latter Mediterranean crop in Andalusia in particular represents the largest region of world production (80% of Spanish olive oil production and 30% of world production). Moreover, areas of both dry farming crops and crops needing irrigation were chosen so as to contrast different strategic categories.

⁴ Cereals, Oil products and Protein products

FIGURA 3.1: THE GEOGRAPHICAL AREA



The information was obtained from primary data gathered from a socio-economic survey and a strategic survey of farmers, as well as from the interviewing of experts. This was in turn complemented with the available secondary information. In this way the agricultural systems under study were selected and characterised. Groups of farms were identified which shared similar characteristics, which led to the **design of a farm typology** allowing the synthesis of the whole diversity of results without being excessively specific which would no doubt have diminished the interpretative capacity of the work (Landais, 1996).

The classification typology of agricultural systems has been established on two levels. In order to analyse competitiveness, the classic differentiation variables have been used, in this order: unirrigated-irrigated land, productive orientation and dimension. The first two variables have been used for the identification of systems, while dimension was the differentiating criterion for the types within a system. In their turn, the system differentiation criteria, corresponding to what are known as “*non automatic*” typologies, (Sayadi, 1998) were as follows the degree of diversification, and the complexity of the system (in the case of irrigated land). For the analysis of the adaptive strategies, the differentiating criteria used for both types were attitudes, business objectives and behaviour..

As for the number of types, in the case of this research 17 types have been identified, for which the corresponding “type farms” representing them have been characterised. They are shown in the Table 3.1.

For the *Analysis of Competitiveness* special attention was paid to endogenous aspects, without forgetting the exogenous ones (essentially the political atmosphere and its impact on business competitiveness). For the analysis of the “micro” dimension of competitiveness, its two key components were considered: the adoption of new technologies and the efficient allocation of resources (both internal and external) (Van der Meer & Yamada, 1990). A group of “*specific*” indicators was designed in order to carry out an in-depth analysis of competitiveness. In addition, the behaviour of the agricultural systems studied was simulated in various scenarios projected for 2006: Agenda 2000, Status Quo and Liberalisation.

TABLE 3.1: FARM TYPOLOGY

NON IRRIGATED/ IRRIGATED	SYSTEM	TYPE	DIMENSION ⁵
NON IRRIGATED	S1: COP	S1L (Large)	> 40 ESUs
		S1M (Medium)	8 – 40 ESUs
		S1S (Small)	< 8 ESUs
	S2: OLIVE GROVES	S2L (Large)	> 40 ESUs
		S2M (Medium)	8 – 40 ESUs
		S2S (Small)	< 8 ESUs
NON IRR./IRR.	S2.2: OLIVES	S1.2: COP and OLIVE GROVES	S1.2L (Large) > 40 ESUs S1.2M (Medium) 8 – 40 ESUs
		S2.2	8 – 40 ESUs
IRRIGATED	S3.1: COTTON+COP	S3.1GL (Large)	> 40 ESUs
		S3.1M (Medium)	8 – 40 ESUs
		S3.1S (Small)	< 8 ESUs
	S3.2: HORTICULT. CROPS	S3.2	8 – 40 ESUs
		S3.3: OLIVES GROVE	S3.3L (Large)
	S3.3M (Medium)		8 – 40 ESUs
S3.3 S (Small)	< 8 ESUs		
S3.4: CITRUS FRUITS	S.3.4	8 – 40 ESUs	

Source: CAPMEDIT 2000

The competitiveness of each type farm has been studied using the General Competitiveness Index (GCI); this is understood to mean the capacity of the Net Farm Income (NFI)⁶ to remunerate the factors of owned production⁷ at their respective opportunity costs. The consideration of the scenarios mentioned allowed the analysis of competitiveness both from a private perspective (i.e. considering subsidies) and from the point of view of society as a whole (i.e. without any type of public aid and using international prices).

$$GCI = \frac{NFI_{fc}}{OC_n + OC_k + OC_l} \begin{matrix} > \\ < \end{matrix} 1$$

For the *Analysis of the Strategies* followed by farmers in order to adapt to the environment, the Transactional Behaviour Model was used (Willock et al., 1999), which differentiates three types of strategic variables: backgrounds or *attitudes*, intermediate variables or *objectives* and resultant variables or *strategies*. For each agricultural system analysed the *strategic profile* which characterises it is defined. To complete this analysis of the adaptive strategies, the so-called Strategic Groups⁸ were established which allows the explanation of the differences between enterprises belonging to the same sector, derived from the competitive advantage which is gained from belonging to one strategic group or to another. This approach allows the *integration of the analysis of competitiveness and strategy*, with the aim of detecting that strategic behaviour and those characteristics of the behavioural chain which have a direct influence on competitiveness.

An original contribution of the present work is the rescuing from the strategic and the competitive advantage approaches of those analytical instruments which serve as tools applicable to the specific

⁵ ESU: Economic Size Unit

⁶ The Net Farm Income (NFI) are calculated in accordance with the criteria of the methodology used by the RICA

⁷ Family labour, Capital and Land,

⁸ Hunt (1972), Bustos et al. (1992) and Traill (2000)

problems of agriculture and its adjustment processes. Most of these analytical instruments were conceived for individual enterprises from other economic sectors subject to strong competitive tensions, but which are a long way from the reality which can be observed in the agricultural sector. An initial problem arises when one tries to define the competitors of an agricultural enterprise, an aspect which for its part constitutes the essential nucleus of the strategic decisions in other business spheres. In the context of this research, it cannot generally be accepted that producers from the same sector or farmers which carry out their activities in the same area are in general direct competitors. It is more reasonable to consider that competition must be sought in other agricultural sub-sectors, in other areas, or even in other countries. It is therefore pertinent to undertake a prior analysis of relevant interpretative importance. Part of the proposals analysed throughout the present work can be applied to an agricultural context if they are understood to refer to a specific *agricultural system* which represents a whole group of farms, rather than if an isolated or specific agricultural company is considered. This characteristic of strategies which can be defined as “systemic” is in itself a differential fact which distinguishes agriculture from other industrial sectors.

4. RESULTS

With the objective of analysing the impact of the CAP on the competitive position of the agricultural systems which are the subject of this study, for each of them the competitive results corresponding to different political scenarios projected towards 2006 have been obtained. In that year the application period of the Agenda 2000 will come to an end. Based on these results, what we have called “**Competitiveness Itineraries**” have been constructed, in which the different type farms have been organised depending on the relative competitive position they occupy in each scenario. The comparison of these competitiveness itineraries, in different scenarios, with the development of the representative nature of the agricultural systems analysed in Andalusia, has allowed us to come to some conclusions on the impact of the CAP in the convergence of this agriculture towards the objective of competitiveness.

TABLE 4.1: COMPETITIVENESS ITINERARIES

System	Type	SCENARIOS							
		GCI Baseline	Baseline Position	GCI A 2000	A 2000 Position	GCI S. Quo	S. Quo Position	GCI Liberal.	Liberal. Position
COP Unirrigated	S1S	1.062	15	0.686	16	0.694	16	-0.481	16
	S1M	1.823	7	1.503	7	1.485	7	0.099	11
	S1L	1.723	8	1.364	8	1.277	9	-0.271	15
COP-OLIVE G. Non irrigated	S12M	1.405	12	1.198	13	1.166	11	0.249	8
	S12L	2.289	4	2.091	4	2.004	4	0.375	4
OLIVES Non irrigated	S2S	1.364	14	1.268	10	1.215	10	0.544	3
	S2M	1.39	13	1.22	11	1.141	12	0.177	10
	S2L	1.946	6	1.846	6	1.734	6	0.316	7
OLIVES U-I	S22	1.021	16	0.909	14	0.86	14	0.267	9
COTTON+ COP Irrigated	S31S	0.713	9	0.323	17	0.257	17	-0.974	17
	S31M	1.691	10	1.296	9	1.291	8	-0.195	14
	S31L	2.58	2	1.974	5	1.958	5	-0.167	13
HORTIC. C.	S32	2.641	1	2.259	1	2.284	1	0.708	2
OLIVE GROVE Irrigated	S33S	0.953	17	0.866	15	0.827	15	0.331	6
	S33M	1.414	11	1.2	12	1.114	13	0.009	12
	S33L	2.362	3	2.203	2	2.077	3	0.374	5
CITRUS F.	S34	2.093	5	2.131	3	2.17	2	1.700	1

Source: Authors material

It was observed that the diversified irrigation system (S32) turned out to be the most competitive in all scenarios in which support for agricultural policy was considered, while without public support it fell to second place: the specialised citrus fruit system (S34) took the first place in the competitive itinerary. It must be pointed out that these two agricultural systems are those least protected by the CAP, which could explain the “competitive drowsiness” which can be caused by agricultural subsidies in certain situations. At the other end of the competitiveness itineraries are situated the small farms of the COP system (under irrigation) in all scenarios, except in the base scenario, in which the worst competitive position was that of small farms of irrigated olive groves (S33S). It is equally noticeable that small and medium-sized type farms of the different olive grove systems appeared in all scenarios in positions near the bottom of the competitiveness itinerary.

In spite of the differences that exist, the variations observed between the values corresponding to the Base Year (1998) and the scenarios projected of *Agenda 2000* and *Status Quo* are not of great significance. It must be pointed out that in the simulations carried out for the year 2006, the competitive situation of all agricultural systems worsened in relation to the values corresponding to the base year. As was to be expected, those systems in which direct aid is of more importance showed better results in the *Agenda 2000* scenario than in that known as *Status Quo*.

Those changes in relative position concerning the *Liberalisation* situation are particularly noteworthy. The improvement of the relative position of all small olive farms (S2S, S22, S33S) and medium-sized farms of the COP-olive grove mixed system (S12M) stands out. At the other extreme the worsening of the medium and large type farms of the COP system, both unirrigated (S1M and S1L) and irrigated (S31M and S31L), can be observed.

The evolution of the representative nature of the agricultural systems analysed, in Andalusian agriculture as a whole between 1987 and 1997, is shown in Table 4.2.:

TABLE 4.2: EVOLUTION OF THE SURFACE AREA OF AGRICULTURAL SYSTEMS IN ANDALUSIA (1987-97)

Types	Evolution U.A.A. ⁹ (ha.)	% Increase U.A.A.
Small COP	-51.521	-27,5
Medium COP	31.191	17,3
Large COP	528.599	474,8
Small olive grove	97.092	42,4
Medium olive grove	240.385	98,6
Large olive grove	392.104	310,3
Horticultural Crops	17.281	34,9
Citrus fruits	36.426	21,2

Source: Agricultural Structure Surveys 1987 and 1997 (National Statistics Institute, INE), and authors material.

In other words, the types which have most increased their surface area are large COP farms and small, medium and large olive groves. In all scenarios a good relative competitive position was maintained by large olive groves (between 2nd and 5th place for irrigated and between 6th and 7th for non irrigated groves). However, both small and medium olive groves are very far behind in the competitiveness itinerary in all scenarios. Despite this, small ones improved their relative position significantly in a scenario without public support. The large COP type farms remained between 8th and 9th place in subsidised scenarios, but dropped to 15th in the liberalisation situation for 2006. This means that the greatest increase in surface area which has occurred (of large COP farms)

⁹ UAA: Utilised Agricultural Area

shows one of the worst adaptation capacities to what will more than probably be a free market situation in 2006.

Therefore, three out of every four of the systems which most increased their surface area in Andalusia had serious competitive problems. It is possible that the CAP is sending out contradictory signals to farmers, which leads them to adopt strategies which do not allow them to converge towards the objective of competitiveness. Because of this, it is important to analyse in greater detail the strategies which the farmers are drawing up, using as methodological tools the **Transitional Behavioural Model** and the **Strategic Groups** approach.

The farmers' replies to the questionnaire on strategy have been used as *proxi* variables which have been identified with specific attitudes, objectives and strategic behaviour. In this way, a strategic characterisation of the systems analysed has been drawn up.

The following were identified as farmers' **attitudes**:

- *Quality*: an attitude of concern about the satisfactory achieving of an activity and about the product quality offered
- *Information on the CAP*: an attitude implying great interest in knowing about the new developments relating to the policies which regulate their activity
- *Curiosity*: an attitude showing great interest in information in general, in a detailed analysis of the situation, etc.
- *Insecurity*: an attitude of lack of confidence in the possibilities of obtaining good economic results from their activity
- *Opening up*: an attitude of preoccupation and interest in improving and learning
- *Non-conformism*: an attitude of concern about growing, competing, and not stagnating in the current situation
- *Risk*: attitudes which do not seek security
- *Tradition*: in this attitude the variable key to making decisions is what has been done up to now; everything done is justified by tradition
- *Lack of complication*: attitudes which shun complication in any phase of the activity
- *Environmental concern*: an attitude which pays special attention to environmental conservation.

The **objectives** observed in farmers involved in the agriculture under study are as follows:

- Maximisation of the Gross Margin of the farm, or absolute profitability
- Minimisation of costs
- Minimisation of the labour used
- Minimisation of complications in crop administration
- Minimisation of risk
- Maximisation of the economic results of the company as a whole, including other agricultural and non-agricultural activities
- Success in carrying out the activity
- Maintenance of a Status, i.e. pride in being a farmer and the intention of continuing to be one whatever may happen
- Growth

The objectives of the farmers have been analysed from a double perspective (Sumpsi, Amador and Romero, 1993). Based on the replies to the strategy questionnaire, we have defined what we have called "Declared objectives". However, based on the economic results of the type farms analysed, it

is possible to build indicators which have allowed the identification of the objectives which farmer really pursue, paying attention to their economic results. These are what are known as “Observed objectives”. The detection of coherence between the objectives they manifest and those they really achieve is crucial, as is shown in Table 4.3:

TABLE 4.3: COHERENCE LEVEL OF EACH TYPE

System	Type	Coherence Level
COP Non irrigated	S1S	Medium
	S1M	High
	S1L	Medium
COP+oliv. Non irrigated	S12M	Low
	S12L	Medium-High
OliveGroves Non irrigated	S2S	Medium
	S2M	Medium
	S2L	Medium
Olives Grove Non I-I	S22	Low
Cotton + COP irrigated	S31S	Medium
	S31M	Medium
	S31L	Medium-High
Horticultural Crops	S32	High
Olive Groves irrigated	S33S	Low
	S33M	Medium
	S33L	Medium-High
Citrus fruits	S34	Medium

Source: Authors material

To conclude the analysis of the objectives, the question that was posed was if a greater level of efficiency of aims, as has been analysed in the previous table, leads to a higher level of competitiveness. To answer this question, an analysis was carried out of the correlation between both variables which gave a highly positive result (a Pearson’s Correlation Coefficient of 0.721). This is to say, there is a direct relationship between the coherence of the objectives manifested and observed, and the level of competitiveness which a “type farm” achieves. It can be asserted that those farmers who manifest a “strategic positioning” of their activity, with greater efficiency in the definition of their objectives and in the way of achieving them, are those who obtain the best competitive positions.

Subsequently, based on elements related both to the farm, its structure and its operation, as to the farmer, the **strategy** for each type farm was defined. The variables used in definition were as follows:

- *Level of subsidy*: measured as the relative importance of the subsidies in the GAV_{fc} ¹⁰
- *Productivity*: measured through the Overall Productivity Indicator of the factors
- *Dimension*
- *Economic and Technical Orientation*
- *Labour used*: measured as the relative importance of wage costs compared with total costs
- *Management difficulties*: measured through an Indicator drawn up in order to calculate the difficulty of management, to which variables are added such as the number of crops, the number of harvests per year, the wage-earning ALUs¹¹, the irrigation and the level of indebtedness.

¹⁰ GAV_{fc} : Gross Added Value at Factor Cost

¹¹ ALU: Agricultural Labour Unit

- *Alternative crops*: number of crops present on the farm
- *Increase in surface area*: this is a binary variable which reflects whether the surface has increased in the last ten years
- *Introduction of improvements*: this is a binary variable which reflects whether technological improvements have been introduced in the last ten years.
- *Age of the farmer*
- *Level of training*
- *Time devoted*: this variable differentiates whether the farmer works full-time, part-time or only attends to the “management” of the farm
- *Intensity of dedication*: measured by an Indicator which has been constructed, to which are added variables such as crop diversity, the externalisation of services, requests for technical advice, introduction of technological improvements, increase in surface area, realisation of other activities, level of indebtedness and training. The sign of the variable on aggregate depends on the sign of the impact on the Intensity in management.
- *Externalisation of services*: a variable which measures the service externalisation level of the farm involved
- *Characteristics of the machinery*: this variable reflects whether the farm has a fleet of machinery, and if so whether it is appropriate, or if it is not, whether most of the same is paid off or whether it is oversized.
- *Possibility of succession*: measured by the number of sons working on the farm.

Based on the integration of the previous variables, the so-called **strategic profiles** were defined. The profiles defined for each farm are included in the following table; by profile is understood the most outstanding aspect which for each type brings cohesion and coherence to the group of attitudes, objectives and strategies peculiar to each of them:

TABLE 4.4: STRATEGIC PROFILES

System	Type	Profile
COP Non irrigated	S1S	Minimising farm work and maximising subsidies
	S1M	Maximising productivity
	S1L	Minimum effort and maximum income, through maximising subsidies
COP+oliv. Non irrigated	S12M	Substituting subsidies for direct income (olive groves)
	S12L	Intense Involvement and Dedication to agricultural activity; great preoccupation about improving productivity
Olive Grove Non irrigated	S2S	Diversifying income so as to invest in more olive groves
	S2M	Intensity of dedication, for growth and investment
	S2L	Externalising services
Olive G. Non I-I	S22	Improvement of profitability by irrigation
Cotton + COP Non irrigated	S31S	Diversifying income; greater concern about other activities than about farming
	S31M	Interest in improvement and growth
	S31L	A traditional and relatively conformist attitude, and innovative behaviour, which complicates management
Hortic. Crops	S32	Diversifying high-risk crops
	S33S	New farmer through the diversification of income
Olives irrigated	S33M	Wide and intense dedication
	S33L	Maintenance
Citrus fruits	S334	Maximising competitiveness through quality, production and organisational improvements

Source: Authors material

From the interpretation of the horizontal and vertical dimensions, which are those segmenting the groups defined, it can be affirmed that the *horizontal axis* represents the dimension referring to the *traditional-business character* of agriculture: the groups representing business agriculture (I and IV) would be on the right, and those identified with traditional agriculture (II and III) would be on the left. It must be pointed out that it is always easier to interpret the first dimension (Axis X) than the second (Axis Y), since it is the *horizontal axis* which best explains the variance. The dimension corresponding to the *vertical axis* explains the variance which is not explained by axis X, that is to say it contributes information on phenomena relating to the main phenomenon, which is in this case the differentiation between traditional agriculture and modern business agriculture. If the agriculture situated in the upper box (Groups I and II) and that corresponding to the Groups situated in the lower area of the vertical axis (III and IV) are compared, the *dedication requirement level*, or *management complexity*, would be the explanatory dimension of axis Y. If a comparison is made within business agriculture, that located in the upper box (Groupe I) and that in the lower box (Group IV), it is evident that complex and diversified agriculture, with various crop alternatives, etc..., requires greater dedication from the farmer than that which, although also being business farming, is easier to manage. That is because its competitive advantage depends more on the economic dimension than on aspects such as innovation or complexity, which would constitute the competitive advantage of Group I. If one compares the groups corresponding to traditional agriculture, that situated in the upper box (Group II, olive groves of small economic dimensions) would likewise require greater dedication than the agriculture situated in the lower box (COP).

Finally, some comments are made on the links between the profiles defined for each Strategic Group with the economic and competitive results of the agricultural systems analysed:

- The profile defined for **Group I** is that which achieves the best competitive results. It can be affirmed that innovation, crop diversification, and the complexity and intensity of management directly promote the competitiveness of agricultural systems.
- However, as was to be expected, the agriculture represented by **Group IV**, associated with its dimension, obtains a higher Total Income and also greater overall profitability, measured as much by the Gross Margin per ha. as by Net Farm Income per unit area.
- The agriculture of **Group I** is currently more dependent on subsidies than that corresponding to **Group IV**, which gives better results in a liberalisation situation.
- The link of competitiveness in a liberalisation situation with **Group IV** implies a direct relationship between competitiveness and the two variables which best characterise and differentiate this group: opening up and essentially reliance on quality. Therefore, in the face of the possible end to subsidies, the reliance on quality would be decisive in order to strengthen the competitive position.
- The agriculture corresponding to **Group III** is that in which most of the variable costs are covered by the subsidies received.
- Finally, the agriculture of **Group II** is that presenting the highest indexes of overall productivity of the factors.

5. CONCLUSIONS

The impact of the CAP on the competitiveness of agricultural systems and the strategic behaviour of farmers is clear. All systems analysed improve their competitive levels when agricultural subsidies are considered in their income structure. However, if we take as an initial objective the off-quoted “*European agricultural model*” as the reflection of a social and legitimately desirable situation, it is pertinent to assess whether a process of convergence towards this reference model is

occurring. Carrying out this analysis means assessing whether the competitiveness of the agriculture that the EU is supporting is improving, or whether on the contrary, the CAP is artificially sustaining a situation which is far from being the most desirable. In other words, if the CAP is supporting an agriculture undesired by European society, the gap between the social and private approaches of competitiveness will grow wider and wider.

The CAP may be favouring, even overcompensating, the income of secondary activity farmers more than those whose sole source of income comes from agriculture, which may be having a very negative effect on the debate concerning the legitimacy crisis of the CAP. In terms of efficiency, the fact that the CAP is supporting a specific type of farming generates a social cost. This cost is reflected in wasting resources which could have been socially productive being deviated towards ends which are profitable from a private perspective but have little or no social profitability. The introduction of strategic variables (the intensity of dedication, the reliance on quality, or the desire to grow and improve...) in the segmenting criteria of the allocation of resources of the CAP could favour the recovery of the legitimacy of this policy.

In most systems¹² there is a great divergence between the degree of competitiveness measured from the private point of view of the farmer and measured from the point of view of society as a whole. The diversified irrigation system, specialising in horticultural crops, and that specialising in citrus fruits, are those which present the best competitive positions. They are systems with a high adaptive capacity to changes in the environment, showing a low dependence on agricultural support, and have put their faith decidedly in diversification, risk-taking, and quality.

The greatest increase in surface area which has occurred in Andalusia within the 1987/97 period corresponds to farms devoted to large-scale COP cultivation, which are those showing one of the worst adaptation capacities to a possible free market situation in 2006. This tendency confirms the possible “wishful thinking” caused by the CAP commented on earlier, which may be leading to dangerous processes and strategies for the viability of some farms, in a more than probable future of progressive liberalisation.

From the analyses carried out, it has been confirmed that there is a direct and significant relationship between competitiveness and certain strategic variables, whether considered in isolation or associated in a profile.

- The *attitudes* of opening up, non-conformity and the assuming of risks are associated with the systems which present better competitive positions in a free market situation. On the contrary, the attitudes which are based on the maintenance of tradition, and concern for the CAP, as well as those which seek to avoid management difficulties, are linked with those systems furthest from the optimal level of competitiveness. These results show that the attitudes take the form of previous experiences which influence business behaviour, whether directly or indirectly.
- The farmers who obtain the best competitive positions are those who set themselves *objectives* in accordance with their possibilities, who know which resources they have and their potential and who adopt suitable strategies in order to fulfil these objectives. Therefore, the coherence between the *objectives*, the *strategies* designed and the *results* obtained is a clear source of competitive advantage.
- The *strategic behaviour* of assuming management difficulties, introducing technical improvements, crop diversification, intensifying the dedication to the farm, and intensifying the use of labour means these difficulties are directly linked to competitiveness. However, reliance

¹² All studies, except that specialising in citrus fruits.

on quality is the factor which correlates most closely with competitiveness, in a free market situation.

- The variables which segment agriculture analysed in strategic groups are the “traditional or business character” and the “dedication requirement” of each type of agriculture. Therefore, these results guarantee empirically the confirmation of a well-established body of opinion which affirms the existence of a *dual agriculture* which the CAP helps to polarise. This is however not only due to the structural economic variables but also to the fact that, as has been shown in the analyses presented, the attitudes and strategies of the businessmen in themselves strengthen still further the bipolarisation between the most enterprising and competitive positions and the most conservative or defensive positions. In consequence, what is incorporated is a new explanatory dimension of the dualistic process of European agriculture, which therefore becomes a key factor for the adaptation process to the competitive demand situation designed by Brussels.

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