

Agricultural Outsourcing in France: A Statistical Perspective on an Emerging Phenomenon

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Abstract – The purpose of this article is to provide an overview of the emerging phenomenon of outsourcing in agriculture, which has been happening since the early 2000s. Although very little is known about this practice, it now affects no fewer than six out of ten farmers. Given the methodological difficulties resulting from its covert nature, a mixed approach was developed to characterise this phenomenon, combining statistical analyses of secondary data and other original data from two surveys conducted in 2018 and 2021, with qualitative analyses of surveys of stakeholders in agricultural outsourcing. The results highlight different aspects of the phenomenon, including the outsourcing of multiple tasks and full delegation, which represent a departure from traditional practices. Significant changes on the supply side are also highlighted, among which the rise of agricultural outsourcing enterprises and the arrival of new stakeholders. These results also point to economic puzzling questions and controversial debates that are happening alongside this emerging phenomenon, with major challenges for agriculture as a whole.

JEL classification: Q12, Q13, L24

Keywords: agricultural outsourcing, full delegation, farm work organization, organisational innovation

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Between 2000 and 2016, French agriculture¹ lost a quarter of its workforce, especially farmers, co-farmers and family helpers, who form the basis of the family farm model. The majority of farms still mainly rely on family labour. However, they have decreased in number by 37% (Forget *et al.*, 2019). As a result, a growing number of agricultural holders are working alone and are increasingly calling on external labour (Dupraz & Latruffe, 2015; Courleux *et al.*, 2017; Legagneux & Olivier-Salvagnac, 2017; Chardon *et al.*, 2020). Hiring permanent and fixed-term employees directly is the preferred option to cope with this new way of working. This figure increased by 7 points in 2016, representing 29% of labour supply. However, at the same time, we are seeing growth in the external workforce from ETAs (*entreprises de sous-traitance agricole* – outsourcing enterprises), CUMAs (*coopératives d'utilisation de matériel agricole* – co-operatives for shared use of agricultural machinery) and GEs (*groupements d'employeurs* – employers' alliances). Although this external workforce accounts for just 4% of farm labour supply, the corresponding volume of work (in annual work units or AWUs) almost quadrupled between 2010 and 2016, from 8,000 to 29,760 AWUs. Furthermore, its proportion within the total number of non-family workers increased, to the disadvantage of employees hired directly by the farms themselves (Forget *et al.*, 2019). According to data from the MSA (*Mutualité sociale agricole* – agricultural social security), the number of workers employed by a legal entity other than the farm itself (ETA, temporary employment agency, foreign service providers, GEs, etc.) increased from 76,500 to 227,000 between 2002 and 2016. This marked contrast in the changing patterns of labour supply suggests that the family farm model, with or without employees, is declining, moving towards new ways of organising work based on a sub-contracted workforce.

This change in the organisation of farm work is not without consequences. Disruptions in the agri-food sector since the beginning of the COVID pandemic in 2020, particularly in the fruit and vegetable sector, have highlighted the risks of a shortage of agricultural labour, despite the apparent gains in labour productivity that have been enabled by the modernisation of the sector since the 1960s (OECD, 2020). At the same time, numerous debates on the status of farmers or on supporting agricultural jobs in rural areas are disrupting ongoing negotiations regarding the reform of the Common Agricultural

Policy (CAP). How have French farm managers re-structured the work on their farms over the last 20 years? Despite their obvious importance, these issues have received little coverage in the literature, with the exception of rare pieces (Mundler & Laurent, 2005; Harff & Lamarche, 2007; Béguin *et al.*, 2011; Gasselin *et al.*, 2014; Hostiou, 2016; Forget *et al.*, 2019).

The purpose of this article² is to contribute to the understanding of the upheaval in agricultural labour practices, by focusing on one of the little-known, yet emerging forms of production organisation: farm outsourcing, also called custom farming. How important is farm outsourcing? How is it organised? Who are the main stakeholders and what are their motivations? While farmers have historically outsourced certain agricultural work and activities³ to a third party, such as harvesting or bale wrapping, this phenomenon often has little visibility. The growth of the agricultural outsourcing market, which we believe dates back to the 1990s, is more recent than the rise of outsourcing in the industrial sector, which has been happening since the 1970s (Hébrard, 2001; Chevalier, 2007).

Here, we are suggesting that the growth in outsourcing and fully delegating agricultural work is a marker of change and a shift towards a new model of production organisation, which we will call “delegated agriculture”. Our study provides a glimpse into farming strategies and practices that resemble those of the industrial sector (Holcomb & Hitt, 2000; Milberg & Winkler, 2013), while still maintaining some singularities. This model may represent in a new type of agricultural producers and organisation of work. Beyond that, may imply a new way of farming. Beside family farmers who either hire directly or work together, there are farmers who outsource a significant amount of work to a third party for various reasons, as well as a range of stakeholders in various legal forms who take

1. Here and throughout the article, we are referring to Metropolitan France unless otherwise stated.

2. The article is part of the continuation of the research conducted in the following projects: The Agrifirme project (2011-14) from the ANR (Agence nationale de la recherche – French national research agency) on the emergence of large corporate farms; the REPRO-INNOV project (2015-20) from PSDR4 on innovations in agricultural companies; the ActifAgri project (2019-20) on the transformation of jobs and activities in agriculture; the H2020 AgriLink project (2017-21) on the re-structuring of farm advice; and CasDar AmTrav'Ovin (2018-21) on organisational innovations in sheep farming. It also draws on various studies initiated by the GERMEA teaching and research chair, dedicated to changes in agricultural enterprise.

3. Article L. 722-2 of the French Code rural (rural code) defines agricultural work as work which is part of the plant or animal production cycle, work to improve agricultural land and ancillary work required to conduct the aforementioned work.

on work for others (Forget *et al.*, 2019; Nguyen *et al.*, 2020). With these new labour relations, the agricultural sector would be re-structured around new professional groups, skills, rules of play and representational spaces, developing ties to other sectors such as services and agricultural machinery. The service offer would also be re-structured in line with these changes. Currently, for six out of ten farmers (Barry & Polvêche, 2021), this practice would be a determining factor in both ensuring agricultural supply and preserving farming employment in some rural areas, with varying levels of intensity and visibility.

The rest of the article is organised into three sections. After having defined outsourcing in agriculture, the first section outlines the methodological approach developed to characterise the emergence of the phenomenon. In the second section, we present several stylised facts to capture emerging aspects of the growth in agricultural outsourcing. In the third section, we return to methodological and theoretical questions, looking in particular at how, while the analysis can be used to provide an outline and assumptions behind the rise of this phenomenon, it also reveals seemingly “economic irrationalities” that upend theoretical frameworks and require further studies.

1. Methodological Approach to Highlight an Emerging Phenomenon with Little Visibility

1.1. Economic and Legal Definition of Agricultural Outsourcing

Using the definition of industrial outsourcing as a starting point,⁴ agricultural outsourcing may be defined as a service transaction in which a farmer (the contracting party) entrusts all or some of the operations carried out on his farm, whether technical or managerial, to an external entity (the contractor) who will perform these operations according to specifications established by the contracting party. According to economic theories, the decision to “contract out” or “outsource” can be explained by prohibitive costs associated with the ‘make’ strategy, thus favoring the ‘buy’ option. The latter consists in refocusing on the core business and outsourcing to gain a competitive advantage (Mildberg & Winkler, 2013; Baudry, 2013). Outsourcing thus takes the form of an interfirm relationship, a form of intermediate or “hybrid” organisation between the integrated firm and the market (Ménard, 2021). On the one hand, this is characterised by a more or less

marked dissociation between the ownership of the assets and their management, and on the other, by a relationship of authority between the contracting party and the contractor. In agriculture, however, such defined outsourcing relationships are not always easy to identify or, at least, they present ambiguities for certain types of arrangements and stakeholders, as we will see later. Nevertheless, we can distinguish between three major types of outsourcing situations, based on the intensity (estimated using the number of outsourced operations) of the relationship: (i) “simple outsourcing” when the transaction consists of simply entrusting a third party with a single technical operation or multiple operations⁵ (for example, fertilizer application including the actual spreading operation and the transportation of the liquid manure); (ii) “full delegation⁶ by refocusing” which involves all the work for one or more productions (for example, all cropping operations for a mixed crop-livestock farm); (iii) “full delegation by abandonment”, which involves all aspects of production and in some cases even the administrative and economic management of the farm. In our view, the latter is the most advanced form of outsourcing, as it implies a complete dissociation between the ownership of farm assets and their management, where the farmer retains his position but no longer controls his farm.

With regard to contracting parties, it should be remembered that farm outsourcing is defined as a commercial activity in legal and fiscal terms and the completion of such activities is regulated. Thus, unlike processing and marketing activities, which the French rural code (Article L. 722-2) defines as an extension of production, outsourcing cannot theoretically be carried out on the side by farms, but only by service companies, such as outsourcing enterprises (ETAs) or temporary employment agencies. In addition, since 2013, the requirement for companies to be certified for phytosanitary services means that farmers can no longer undertake this type of work under their own farm business and requires them to create a trading company.

1.2. Difficulties in Identification

In spite of these frameworks, identifying outsourcing in agriculture remains difficult and represents a real methodological challenge. The

4. See <https://www.insee.fr/en/metadonnees/definition/c1670>.

5. Since the data do not allow jobs and basic operations to be distinguished, we will refer to “tasks” or “jobs” for the remainder of this article.

6. The different forms of full delegation (by refocusing or abandonment) refer to what is commonly known as the “A-to-Z” by industry professionals.

lack of data in this area is reflected in the very small number of studies available (unlike for outsourcing in industry). A review of the literature from the last 20 years with a specific focus on agricultural outsourcing only reveals approximately thirty international references (including recent works from Zhang *et al.*, 2017; Nye, 2018; Belton *et al.*, 2018) and four French studies (Hébrard, 2001; Chevalier, 2007; Anzalone & Purseigle, 2014; Nguyen *et al.*, 2020).

The statistical data available are fragmented and heterogeneous. The database includes three questions in the latest censuses and structural surveys conducted by the French Ministry of Agriculture, data from Insee,⁷ data from the MSA on labour, data on the creation of establishments from the Infogreffe Trade and Companies Register, data on CUMAs from the HCCA (*Haut conseil de la coopération agricole* – High council for agricultural cooperation), and various data from the ETAs and CUMAs.⁸ For the same variable, such as working time measured in AWUs,⁹ the differences in value and meaning may be substantial, depending on whether the data was collected by public surveys (agricultural census – AC – and *Enquête sur la structure des exploitations agricoles* – Farm structure survey, hereafter FSS) or by state authorities in France and the MSA. Research by Depeyrot *et al.* (2019) stresses how difficult it is to distinguish and evaluate the different categories of agricultural employees (employed by a farm, an employers' alliance, an ETA or a temporary employment agency) and the volume of work provided by each of them. In general, these statistics have hardly been used in recent official reports on key agricultural features, apart from in the most recent report from the *Conseil général de l'alimentation, de l'agriculture et des espaces ruraux* (French general council for food, agriculture and rural areas, see Fréconon *et al.*, 2021), which suggests that agricultural outsourcing is only a minor occurrence.

Another major difficulty is the way in which outsourcing is practised and perceived by stakeholders in the agricultural sector. Contractual arrangements involve a great deal of informal activity, especially when the activity is not carried out within a dedicated company, making it difficult to quantify.

It is also worth noting that some practices come under the guise of outsourcing, for example, in the case of “complete custom services”¹⁰ developed by certain CUMAs acting as employers' alliances GE. The latter are akin to a situation of simple outsourcing, or sometimes full

delegation by refocusing, where the farmer does not carry out the work himself and entrusts it to CUMAs instead. Similarly, farmers do not always consider certain services (e.g. removal of animals, cleaning of buildings, etc.), which are often included in integration contracts between farmers and agricultural cooperatives or food processing industries, to be part of a contracting-out relationship. The same applies to certain jobs (pruning, harvesting, etc.) in viticulture, arboriculture or market gardening, which are carried out by teams of fixed-term workers (posted or not) who are managed entirely by French temporary employment agencies and foreign service providers, for whom the distinction between hiring an external workforce and contracting-out is not obvious.

The legal definition of the scope of the outsourcing activity also poses a problem when collecting field data. While they help to identify this type of activity, the rules governing it can be circumvented. A certain number of operations become informal in nature and tolerances and exemptions are applied in order to carry it out. For example, aside from legitimate stakeholders, i.e. commercial ETAs, farmers are granted some leeway to carry out custom contract up to a value of 30% of their agricultural revenue or €50k. Farmers working as contractors to diversify their activity can thus operate under their own farm business or create a dedicated company. In the same way, the services offered by CUMAs, particularly those called “*chantiers complets*” (complete custom service), are available exclusively to members, as per CUMA regulations. However, an exemption allows such cooperatives to offer these services to non-members for a charge, up to a limit of 20% of their turnover. Finally, while it is difficult to assess the extent to which this occurs, the existence of specific outsourcing schemes, based on

7. Data relating to support activities for crop production (nafr2-01.61Z) and support activities for animal production (nafr2-01.62Z).

8. The FNEDT (Fédération nationale des entrepreneurs des territoires – French national federation for land contractors) is the umbrella trade union organisation that brings together ETAs and forestry companies. It is important to note that not all ETAs are affiliated with the FNEDT, in the same way that not all CUMAs are members of their federal network, the FNCUMA (Fédération nationale des CUMA – French national federation of CUMAs), which adds an extra layer of difficulty in obtaining comprehensive data about these stakeholders.

9. Unit of measurement used for agricultural statistics based on the amount of human labour equivalent to a year of full-time employment for one person.

10. Since 2006, CUMAs have been authorised to develop an employers group business within a certain limit of their salary costs. This limit was lifted in 2016. This allows them to hire an employee on an open-ended contract to operate CUMA equipment and perform work for their members. Picking up basic technical operations grouped together in jobs performed by employees with machines purchased by the CUMA is called a “complete job” (e.g. silage work with harvesting, transport and packing).

organisational and tax optimisation practices, needs to be noted. Generally, for large corporate farms consisting of several productive divisions or a group of farms structured as a holding company, these practices involve creating an ETA to house the resulting, often large fleet of equipment, with a GE alongside to hire the operators. These types of ETA operate almost exclusively on behalf of the entities of the parent company and function as an internal division. However, they are nevertheless accounted for as independent outsourcing enterprises in the statistical system.

The complexity of the scope of agricultural outsourcing and the existence of informal practices thus contribute to the poor statistical visibility of this phenomenon. Figure I shows a diagram of outsourcing relationships in agriculture, including those that are difficult to quantify for the reasons detailed above.

1.3. Mixed Methodology for Highlighting Stylised Facts

To understand the “emergent” nature of agricultural outsourcing, our approach first aims to identify stylised facts, specifically empirical patterns from which emerging issues may lead to assumptions. In view of the difficulties discussed above, our overall approach was based on a mixed methodology, combining qualitative approaches and statistical analyses.¹¹ It consists of four parts, a brief description of which is given below.

In the first part, in-depth, semi-structured surveys of key figures in the agricultural sector

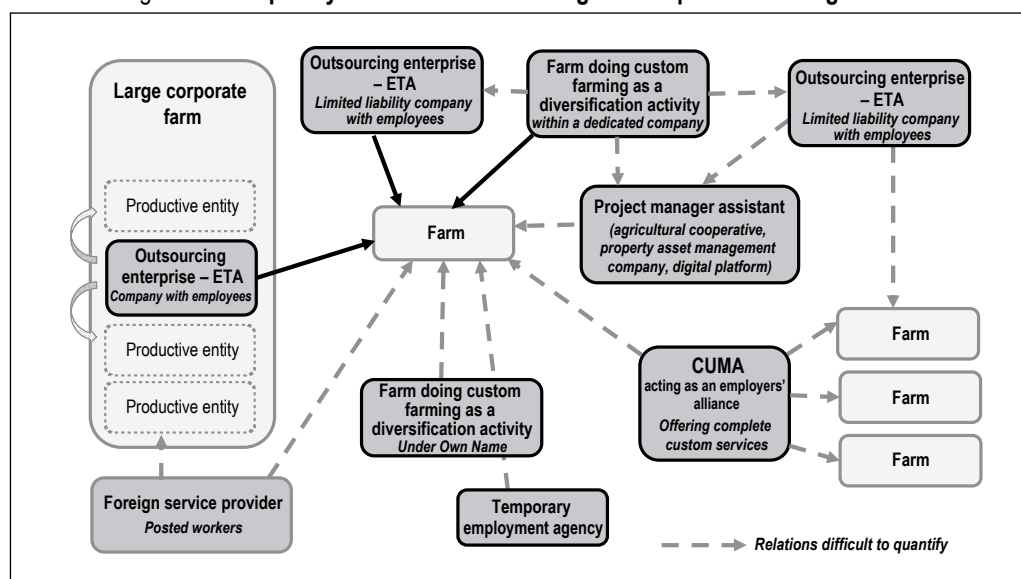
were conducted between 2012 and 2016. These included members of the *Société des agriculteurs de France* (a French farmers’ think-tank), representatives of farmers’ unions, representatives from FNEDT and FNCUMA, cooperative leaders and so on, as well as several farmers and service providers. The objective was to identify and characterise new practices and the scope of a new outsourcing market. These key figures were interviewed again in 2021 to gather their views on the progression of the outsourcing market. In particular, the surveys confirmed the advancement of full delegation, previously regarded by Harff & Lamarche (1998, p. 10) as a faint indication of a “profound rift in the idea of the farming profession”.

The second part consisted of statistical explorations in an attempt to quantify the growth of outsourcing, and of full delegation in particular, on a national scale. All statistics from the state authorities in France, in addition to data from the various sources cited above, were reviewed. Qualitative surveys for this first part have enabled key indicators to be created. The latter were used to develop a typology of farms according to the criterion for the provision of different types of labour (family, salaried, external) with a top-down and nested classification method.¹² This allows us to isolate farms that make significant use of outsourcing. Quantifying the growth in full delegation in particular (by refocusing or

11. Details of the various ways in which the data was collected and analysed are available from the authors on request.

12. Top-down method as we started with the selected population and gradually removed groups and a nested method as we distinguish between two hierarchical levels (types and sub-types).

Figure I – Complexity of the farm outsourcing landscape in French agriculture



abandonment), on a national scale, represented a major methodological challenge, as farms that had adopted full delegation before 2016 could not be identified directly from the agricultural statistics data. The method of identification and extrapolation used to identify them is detailed in Appendix 1.

In the third part, conducted alongside this statistical identification, in-depth surveys were conducted in two main waves, covering various types of service providers and their customers across several regions. This allowed us to produce monographs of stakeholders and outsourcing arrangements.¹³ These were selected to represent the diversity of practices, both conventional and emerging. Respondents were asked about their activities, what motivates them, how outsourcing is organised, and formal and informal contractual arrangements. The first wave, between 2012 and 2018, involved 32 ETAs and 33 of their customers, while the second wave, in 2021, involved 16 ETAs and 3 CUMAs performing complete custom services.

The understanding of the outsourcing practices and arrangements obtained from these qualitative surveys then led to a statistical study in the fourth part to quantify the facts. This is based on two large surveys. The first one was conducted in 2018 (OTEXA 1), in the South-West of France, a region characterised by a diversity of productions and by the high levels of full delegation. Here, data was collected *via* a self-administered questionnaire by farmers located in 12 French administrative departments. The other survey (OTEXA 2), took place in 2021 and again covered the South-West of France, but also included the North-East and West of the country to take other agricultural contexts into account.¹⁴ After cleaning up the response base, 1,267 and 1,591 observations were selected for analysis respectively.¹⁵

All the data collected was subject to mainly descriptive statistical analyses to highlight the “stylised facts” and to formulate relevant theoretical assumptions ready for testing (the first results from the work carried out up to 2018 are presented in Forget *et al.*, 2019 and Nguyen *et al.*, 2020). In this article, all the results are presented, including the most recent data collected over the 2019 to 2021 period.¹⁶ The aim is to define the “emergent” nature of agricultural outsourcing based on two main “stylised facts”: the rise of a new type of farm since the year 2000 with a new demand and innovative

outsourcing practices, and the re-structuring of the market on the supply side.

2. The Growth of Outsourcing Since the Early 2000s and Its Scope

2.1. Growing Demand Shaping a New Type of Farms

Between 2005 and 2020, farmers increasingly turned to services provided by ETAs and CUMAs, with the value of services purchased by the sector increasing by 17% from €4.1 billion to €4.8 billion.¹⁷ The share in the volume of work (external labour) provided by ETAs, CUMAs and employers’ alliances also increased steadily (Figure II). These developments confirm the trends that were highlighted by Chevalier (2007) between 1979 and 2005. The labour-share approach, however, does not distinguish between what is strictly classed as outsourcing (work carried out by an ETA or by a CUMA within the framework of complete custom services) and

13. Some of these monographs are included in Anzalone & Purseigle, 2014; Purseigle *et al.*, 2017; Nguyen *et al.*, 2020.

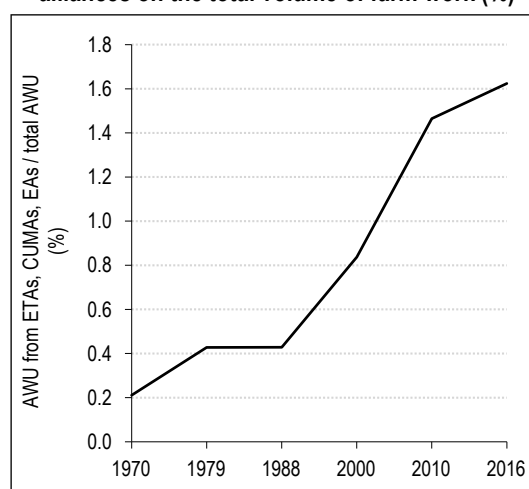
14. The OTEXA 2 survey was part of the GERMEA Chair’s research activities. The survey sample of farmers were put together from lists of farmers who were members of three French agricultural cooperative groups, Euralis (South-West), Terrena (West) and Vivencia (North-East).

15. The response rates for the OTEXA 1 and OTEXA 2 surveys were 25% and 6% respectively, with original samples of 5,000 and 24,600 farmers respectively. The low response rate for the OTEXA 2 survey could be due to several factors, including a high number of requests being sent to farmers, who also had to complete the Agricultural Census questionnaire in 2021. In addition, we were unable to set up a phone reminder. The characteristics of the populations surveyed were compared to those of the 2010 agricultural census to check that there were no significant biases.

16. Excluding data from the 2020 Agricultural Census not available at the time of writing.

17. Data from the French annual national accounts for agriculture drawn up by INSEE.

Figure II – Change in the share of the volume of work* provided by ETAs, CUMAs and employers alliances on the total volume of farm work (%)



* Measured in annual work units (AWU).

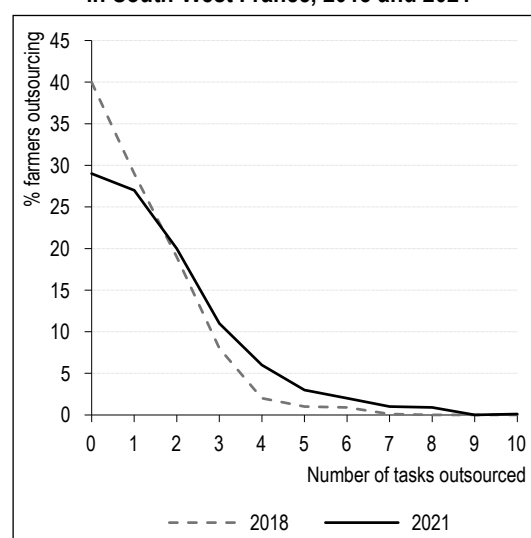
Sources: 2000 and 2010 Agricultural Census and 2016 FSS, authors’ calculations.

shared work (an employee hired by a CUMA or an employers' alliance and made available to a farmer); nor does it include contracted hours worked by a neighbouring farmer under his own farm business.

The typology developed in the second part of the study and the data collected in the fourth part were used to define trends. Among farms that contract out at least one task at a national level, we are particularly interested in those that make significant use of the service (see Appendix 1). Changes in these farms confirm the significant increase in outsourcing since 2000, especially over the 2000-2010 period, with an overall increase of 51% (Table 1-A). In 2016, it represented 6.6% of the total number of farms, 5.5% of the standard gross output (SGO) and 4.6% of the total agricultural labour force in the sector (Table 1-B). Compared to the evolution of other forms of work organisation over the past 20 years, outsourcing appears to be in second position in terms of highest growth between 2000 and 2016 (+53%, Table 1-A), behind work-sharing based on the association of several unrelated farms (+79%, see Forget *et al.*, 2019, p. 28) and ahead of the hiring of permanent employees (+23%, *id.*). Moreover, the comparison of the OTEXA 1 and 2 surveys for the South-West of France, which has been particularly affected by this phenomenon, does in fact suggest a relative stabilisation between 2018 and 2021 in terms

of the number of farms outsourcing at least one task. However, there is an increase in the number of tasks outsourced by each farm, which could reflect a change in practices and motivations (Figure III). At a national level, a third of the farmers surveyed who made use of the service provision in 2021 contracted out three or more tasks.

Figure III – Proportion of farmers who outsource according to the number of outsourced tasks in South-West France, 2018 and 2021



Sources: Data from the OTEXA 1 (2018) and OTEXA 2 (2021) surveys, authors' calculations.

Table 1 – Change in significant use of farm outsourcing, 2000-2016

A – Number of farms

	Number of farms			Average annual rate of change (%)			Total change (%)		
	2000	2010	2016	2000 to 2010	2010 to 2016	2000 to 2016	2000 to 2010	2010 to 2016	2000 to 2016
Farms which outsource a significant amount of work, inc.:	16,689	25,159	25,542	4.2	0.3	2.7	51	2	53
Medium and large ⁽¹⁾	8,810	16,139	17,889	6.2	1.7	4.5	83	11	103
Small ⁽¹⁾	7,879	9,020	7,653	1.4	-2.7	-0.2	14	-15	-3
Total number of farms	538,409	419,528	388,705	-2.5	-1.3	-2.0	-22	-7	-28

⁽¹⁾ Because of differences between the logic behind delegating work and the pace of change, we have two separate categories which are based on the SGO. These are small farms (SGO < €25k) and medium and large farms (SGO ≥ €25k). The SGO indicates the productive potential of farms and is used to classify them according to their economic size. It is calculated by applying coefficients to the number of hectares and/or herd sizes. Sources and coverage: 2000 and 2010 Agricultural Census and 2016 FSS, treatment by the authors. The study sample excludes farms in French overseas departments (DOM), very small farms (SGO < €5k) and "other establishments", such as farms managed by agricultural colleges.

B – Share of farms using significantly outsourcing (%)

	Share of total number of farms			Share of total SGO		Share of total AWUs	
	2000	2010	2016	2010	2016	2010	2016
Farms which outsource a significant amount of work, inc.:	3.1	6.0	6.6	5.3	5.5	4.5	4.6
Medium and large	1.6	3.8	4.6	5.1	5.3	4.0	4.2
Small	1.5	2.2	2.0	0.2	0.2	0.4	0.4

Sources: 2000 and 2010 Agricultural Census, and 2016 FSS, authors' calculations.



Table 1 – (contd.)

C – Distribution by type of production (OTEX – *orientation technico-économique*) in 2016 (%)

OTEX		Farms with significant levels of outsourcing	Total number of farms
15-16	Grain	55	28
28-29	Horticulture	0	3
3500	Viticulture	24	15
3900	Arboriculture	1	3
4500	Dairy Cattle	2	9
4600	Beef Cattle	4	13
4700	Mixed Cattle	0	2
4800	Sheep, Goats and Other Herbivores	4	10
5074	Poultry	2	5
6184	Mixed Crops/Mixed Livestock	6	12
Total		100	100

Sources: 2016 FSS, authors' calculations.

2.2. A Diversity of New Outsourcing Practices and Motivations

For a long time, the use of outsourcing in agriculture, in addition to mutual assistance, remained limited to small farms that did not own the necessary equipment or labour. Outsourced operations consisted mainly of grain and forages harvesting, and traditionally involved more or less informal arrangements with nearby farms or with CUMAs. The use of outsourcing can therefore be considered as resulting from an inability to complete a task due to a lack of equipment (combine harvesters, silo fillers, etc.). However, trends observed since 2000 suggest a completely different story (Table 1-A). As a matter of fact, the strong overall growth in the number of farms outsourcing a significant amount of operations between 2000 and 2016 (+53%) mainly stems from medium and large farms. The proportion of these types of farms among farms that outsource is growing (+103%). This is even more remarkable given that the proportion of medium and large farms out of all farms fell by a relative 22% over the same period. It would be hasty to conclude that small farms rely less on the service. By comparing the forces behind outsourcing with the wider forces driving the consolidation of farms, it can be assumed that a certain number of small farms that used to outsource significantly have been integrated into larger structures. Gradually delegating more or even all operations could mean an impending exit from the activity (retirement). In addition, in a context of strong growth in demand from medium and large farms, smaller ones have increasingly been able to turn to more informal arrangements, such as the use of neighbouring farmers who do contract work

under their own farm business, or to complete custom services offered by CUMAs.

In addition to the size of the farms, the intensity of outsourcing also depends on the type of production. Graing farms and wine farms are the most concerned, with 55% and 24% respectively resorting to significant levels of outsourcing in 2016, even though these two types of farms only represent 28% and 15% respectively of the total number of holdings (Table 1-C). These results are not surprising in themselves because harvesting, which represents the central operation, is traditionally entrusted to a third party in these types of farms. However, they are more so if we consider their significance – a situation close to full delegation – which indicates that many tasks, other than harvesting, are delegated. The results of the OTEXA 2 survey in 2021 (part 4 of the study) do show that grain farms, which represent 44% of respondents, contract out the spreading of organic manure, sowing, storage and pesticide application to an outsourcing enterprise in 24%, 10%, 6% and 6% of cases, respectively. In addition, the correlation coefficients between outsourced operations, calculated for the variables of the OTEXA 2 survey, indicate a tendency to outsource a combination of operations (for example, sowing, along with organic manure spreading and pesticide application). Respondents to the OTEXA 2 survey are also significantly¹⁸ more likely to delegate tasks when they are not engaged in labelled productions, such as organic farming, which requires strict adherence to a standard guideline. Livestock farms are significantly less represented in this category, with rates ranging from 2% to 6% depending on the type

18. Student average comparison tests on the OTEXA 2 survey data.

of livestock (Table 1-C). However, it would be wrong to think that outsourcing does not happen in livestock farming. According to the responses to the two surveys, for some integration contracts in poultry and pig farms, certain operations are often sub-contracted, such as animal removal, prophylaxis or the cleaning of buildings. At the same time, a new range of services (heifer rearing, milking, calving assistance) provided by outsourcing companies is being developed in response to the structural change in some cattle and sheep farms (André, 2019).

Regarding the motivations for making use of outsourcing services, the farmers surveyed often cited a lack of equipment and/or labour, the aim to reduce production costs and improve the technical-economic performance of the production, or strategic objectives¹⁹ (Table 2). These motivations are often interlinked and integrated into agronomic reasoning (when considering the constraints of the production process: optimal work schedule, technical requirements, etc.), economic reasoning (when considering the opportunity cost of scarce resources on the farm, such as the number of work hours and investment capital), or both. According to the

service providers and customers interviewed, some farmers have confidence in using a service provider for sowing or phytosanitary treatments for example, in order to access better equipment and thus reduce the cost of inputs. By outsourcing phytosanitary treatments, they also seek to contract out not only investment costs (obtaining the required authorisations, purchase of suitable equipment, training) but also risks to their health, and the management of potential conflicts with neighbours. The socio-economic context in the 1990s was that of a rise in environmental concerns and a CAP reform that searched to promote sustainable agriculture. As a result, it is not overly surprising to see the development of multi-service ETAs offering “precision farming” or “sustainable agriculture” custom services.²⁰ For others, the shortening windows for certain types of cropping operations, such as sowing and harvesting, due both to the use of high-yield

19. The response options suggested to respondents regarding the reasons for turning to outsourcing are detailed in Appendix 2.

20. For example, “precision farming” services can combine organic and mineral application operations preceded by soil analysis and the use of modulation maps and machines equipped with sensors, while “sustainable farming” services offer, for example, soil-preparation operations without ploughing and direct sowing.

Table 2 – Characteristics of outsourcing practices for three types of farms

OTEX in 2021	Main operations outsourced	Main reasons	Main selected service providers	Criteria for selecting service providers	Distance (in Km) from the farm to the providers
Grain farms	Harvesting	Equipment, cost	ETA, other farmers	Equipment, availability, trust	10 to 50
	Spreading of organic manure	Equipment, cost	ETA	Technical expertise, trust, availability	<10
	Sowing	Equipment, time, cost, strategic reasons	ETA, other farmers	Availability, trust, geographical proximity	10 to 50
	Pesticide application	Equipment, time, cost	ETA	Equipment, technical expertise, availability	<10
Dairy farms	Regrouping of animals	Time, equipment	Other farmers, cooperatives	Trust, technical expertise, availability	10 to 50
	Processing	Technical expertise	Other farmers, self-employed providers	Technical expertise, geographical proximity	10 to 50
	Hay baling	Time, equipment	CUMA	Availability, equipment, trust	< 10
	On-call work	Time	CUMA	Equipment, technical expertise	< 10
Wine farms	Harvesting	Equipment, cost	ETA, other farmers, foreign service provider	Technical expertise, trust, equipment	<10
	Pruning	Time, technical expertise	ETA, foreign service provider, self-employed providers	Technical expertise, availability	10 to 50
	Storage	Strategic reasons, time	Cooperative, ETA	Technical expertise, trust, price	<10
	Pesticide application	Equipment, time	ETA	Technical expertise, trust	<10

Notes: The response options suggested for the reasons behind outsourcing and the criteria for selecting the service provider are detailed in Appendix 2.

Sources: Data from the OTEXA 2 survey (2021).

seeds and increasing climate uncertainty, cause farmers to turn to outsourcing enterprises to ensure that the work is carried out on time. Finally, according to the 2021 OTEXA 2 survey, the ownership of farm equipment does not prevent farmers to outsource. Among other things, they may outsource in order to complete several cropping operations at the same time on multiple plots of land that are far away from each other (as frequently occurs on large grain farms).

2.3. A Little Less Farming, a Little More Managing: Are we Moving Towards a New Type Farmer?

Outsourcing of agricultural operations such as sowing, which can be considered to be part of a farmer's identity, seems to us to be a major indicator of profound changes that are not only characterising the practices of outsourcing but also the farming profession. Similarly, the development of full delegation would, in our view, be the other marker of profound changes in outsourcing practices and, more generally, in the organisation of labour on farms. As highlighted by Harff & Lamarche (2007) and later by Anzalone & Purseigle (2014), this practice remained "off the record" for a long period of time and was often mistaken with the farm being run by a manager hired as a permanent employee. The type of full delegation that we are interested in here is a dissociation between ownership and asset management ranging from almost-complete (full delegation by refocusing) to complete (full delegation by abandonment), based on contractual relationships of varying levels of formality between a farmer as a contracting party and a service provider, listed as an external labour force.

We have been able to identify and characterise three major types of full delegation arrangements according to the stakeholders's characteristics and the governance of the organisation. The first, and oldest, is based on a more or less informal relationship, which has sometimes existed for several generations, between the farmer as a contracting party (very often on behalf of an owner's family who does not always reside on the premises) and a trusted, neighbouring farmer who carries out the service under his own farm business. The second links the farmer as a contracting party to an outsourcing enterprise, an ETA, through a formalised contract. The third, seen from 2010 onwards in France, engages a third stakeholder as a kind of project manager assistant, who mediates the contractual relationship between the farmer as a contracting party and a pool of ETAs, and organises the

operations (Nguyen *et al.*, 2020). Although it is not possible to differentiate between them, the statistics from the AC and FSS can be used to approach the extent of full delegation based on the latter two types of arrangements, thanks to an explicit question in the questionnaire regarding the management of all farming work. Note that it is very difficult to quantify the first type, which leads to the extent of this practice being underestimated.

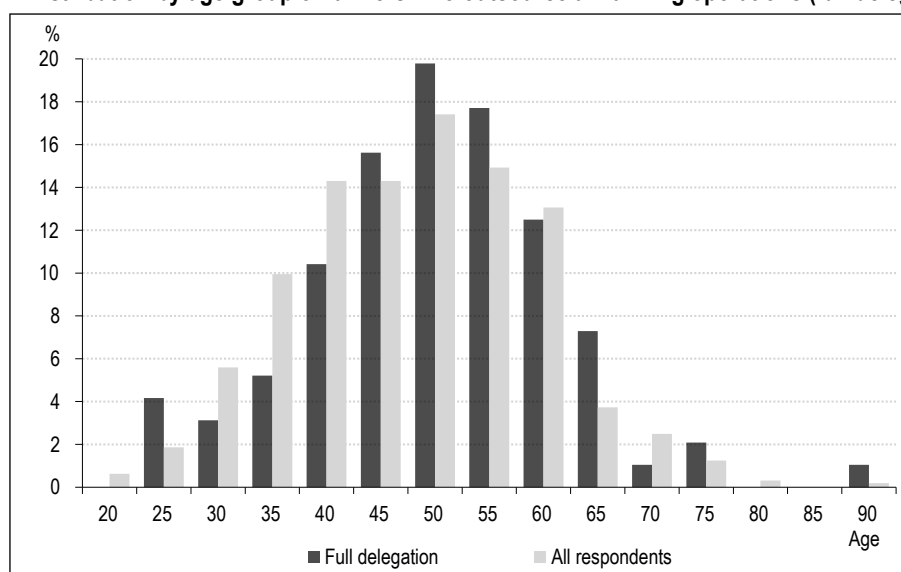
The statistical classification using data from the 2010 AC and 2016 FSS (see part 2 and Appendix 1) describes a growing practice: although "off-the-record" in the early 2000s, it has since been adopted by at least 7% of farms across all types of production. Grain farms are the most involved (12.5% in 2016) with an increase of 2.7% between 2010 and 2016.²¹ Going back to our definition of full delegation, the type practised by grain farms can reasonably be described as "abandonment", because it involves all of the cropping operations. However, livestock farms also stand out, using full delegation²² at a level of about 6% regardless of the type of livestock. For these farms, full delegation can be classed as "refocusing", because it involves delegating all cropping operations to free up time for breeding, processing or marketing. Again, the marked rise in full delegation is mainly due to medium and large farms (+28%), half of which are managed by agricultural holders with multiple jobs, while the number of fully delegated small farms fell by 21%. Thus, in 2016, no less than 26,500 farms were involved in this practice, with at least 500,000 hectares of arable land entrusted to service providers. The map of the phenomenon (see Forget *et al.*, 2019, p. 40) draws an agricultural France that is divided into two, with an area extending to the south-west/west/north-east regions on the one side, where the fully delegated farming rate can reach 18% (whether it is mostly "abandoned" for grain farms or "refocused" for wine or livestock farms). On the other side is an area covering the central/central-east/south-east regions where full delegation is at relatively low levels.

On the basis of the 2021 OTEXA 2 survey, we can characterise the population of the farmers concerned and their motivations more precisely. Out of the 1,591 responses to the

21. The figures for full delegation cited in this paragraph are taken from Nguyen *et al.*, 2020, p. 59–62.

22. It should be noted that the statistical data on full delegation in the AC and FSS is based exclusively on farming work.

Figure IV – Distribution by age group of farmers who outsource all farming operations (full delegation) (%)



Sources: Data from the OTEXA 2 survey (2021), authors' calculations.

online questionnaire, 97 respondents (6%) use this practice, one point below the national figure from the FSS. The distribution by age group (in the sample surveyed) of the sub-population of farmers who delegate fully (Figure IV) shows that this phenomenon appears across all age groups, but more specifically in three of them: those aged 25, those around the average age of 50²³ and retirement-age farmers, at 65.

For this sub-population as a whole, the main reasons are time constraints (23%), strategic objectives (19%), access to specific farm equipment (12%) and reduction of production costs (12%). An examination of the characteristics of this population in the three main areas most affected by full delegation reveals significant regional differences for certain variables, such as the average acreage of the farms concerned,

age, number of non-family employees, the main reasons behind delegation and the service providers selected (Table 3). This information, supplemented by in-depth surveys of farmers (see parts 1 and 3), can be used to distinguish and characterise three main types of farmer, while referring to different practices and regional presence:

- Profile 1: farmers who are fairly young, in the under-50 age group, with farming as the main job and mainly wanting to refocus on their core business and on production (breeding, wine production, other industrial and specialised crops), tasks (processing, marketing) or related

23. A Student test was conducted to compare the average age of the sub-population of farmers who delegate fully and that of the sub-population who do not. The result means that the H0 assumption that there is no difference between the two averages cannot be rejected.

Table 3 – Characteristics of farms affected by full delegation in three areas

Areas		South-West	West	North-East
French administrative departments		Pyrénées Atlantiques, Landes, Haute-Garonne, Gers	Indre et Loire, Vienne, Mayenne, Loire-Atlantique	Aube, Marne, Seine-et-Marne
Average farm size (ha)		138	57	121
Average age of farm managers		50	46	47
Average number of non-family employees		6	3	2
Main reasons (number of responses)		Strategic reasons (27), equipment (16), time (16), cost (16)	Time (43), strategic reasons (11), equipment (11)	Strategic reasons (26), time (14), equipment (11), human resources (11)
Selected service provider (number of responses)	ETA	81	56	51
	Other farmers	6	15	43
	CUMA		26	
	Cooperatives	5		
		5		3

Sources and coverage: OTEXA 2 survey data (2021), population of respondents with full delegation. Authors' calculations.

activities (methanisation, agritourism) which generate high added value. Instead of recruiting, they tend to delegate all cropping operations, preferably to an ETA, for cost reasons, especially when the service provider also offers other services, such as the purchase of inputs or the marketing of crops. This profile of farmer can be found at the head of livestock farms in the western region or at the head of grain and mixed cropping/livestock farms in the central-east and north-east regions.

- Profile 2: farmers managing medium to large farms, in the over-50 age group, who are retired (or nearing retirement), cannot find a buyer or who do not want to lease their farms due to the leasing contract status, which they deem to be too restrictive. They thus prefer to delegate the management of the farm to an ETA while waiting for a hypothetical takeover or a future sale. This advanced form of delegation is common in cereal areas, particularly those characterised by a low level of tenant farming and by issues with farm succession, such as the South-West.

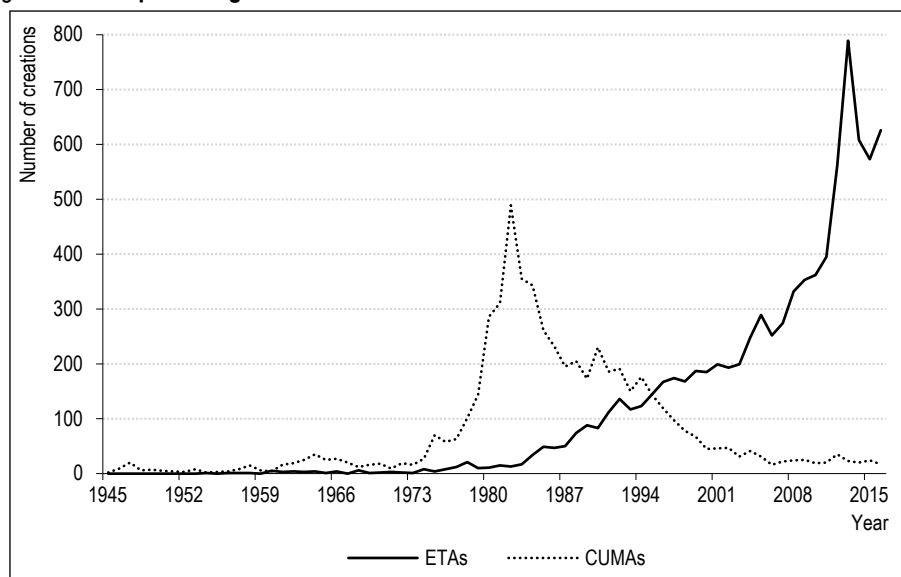
- Profile 3: farmers with multiple jobs, across all age groups, who are short of time and who, just like the first profile, prefer to outsource rather than hire a manager, not only for cost reasons, which include the wage and other transaction costs (finding employees, work supervision and managing possible conflicts), but also to avoid having to invest in equipment. We believe that this profile can be found in all regions, suggesting that “abandonment” (profiles 2 and 3) is the most prevalent and widespread logic behind full delegation.

2.4. An Increasingly Substantial New Offer in a Market Under Construction

Quantifying the offer is much more difficult than quantifying demand, in particular because of the previously discussed issues regarding the legal scope of the activity and the lack of data on the volume of activity for certain categories of service providers (cf. Figure I). However, on the basis of the MSA data and data from the Infogreffe register, we can see that the 1990s are characterised by a marked increase in both the number of AWUs from ETAs, CUMAs and employers’ alliances (cf. Figure II) and the growth in the number of ETAs created (Figure V).

Behind this growth in the offer are significant changes that require, in order to understand them properly, a reminder that as a sector, agriculture has long been marked by collective activity embodied in farmers’ organisations, such as cooperatives, which were designed to be an extension of farms. What the farmers were unable to do because of lack of resources was taken care of by the farmers’ organisations. Traditionally, when farms lacked adequate capacity in terms of equipment and sufficient labour, they turned to CUMAs. Figure V clearly shows the central role of the CUMAs, the rise of which, as seen from the forces behind their creation, corresponds to the laborious modernisation of agriculture between 1960 and 1980, following the creation of the CAP. The ensuing period sees an inversion in the creation curves of CUMAs and ETAs, marking a major divide in the logic behind a collective and commercial service. Recognised

Figure V – Comparative growth in the number of ETAs and CUMAs created from 1945 to 2016



Sources: Infogreffe, authors' calculations.

by the profession in 1930, the activity of the ETAs remained relatively “off-the-record” until 1980. Since then, they have undergone a remarkable level of development, particularly since 2003. Without understanding all the determining factors at this point, the rapid growth in the number of ETAs could be linked to the implementation of new tax measures at the time, which prompted farmers to create service companies providing farming support. It could also be an unexpected effect of the various CAP reforms that took place from the 2000s onwards. These included decoupled payments which resulted in some retired farmers preferring to delegate the management of the farm in its entirety rather than lease it out in order to keep the subsidies, as well as the tightening of agri-environmental policies which encourage farmers to call on ETAs to carry out spreading and spraying work. According to data from the MSA and FNEDT, there were 13,893 ETAs in 2019, with a total of 89,960 employees for approximately 34,000 full-time equivalents (FTEs).

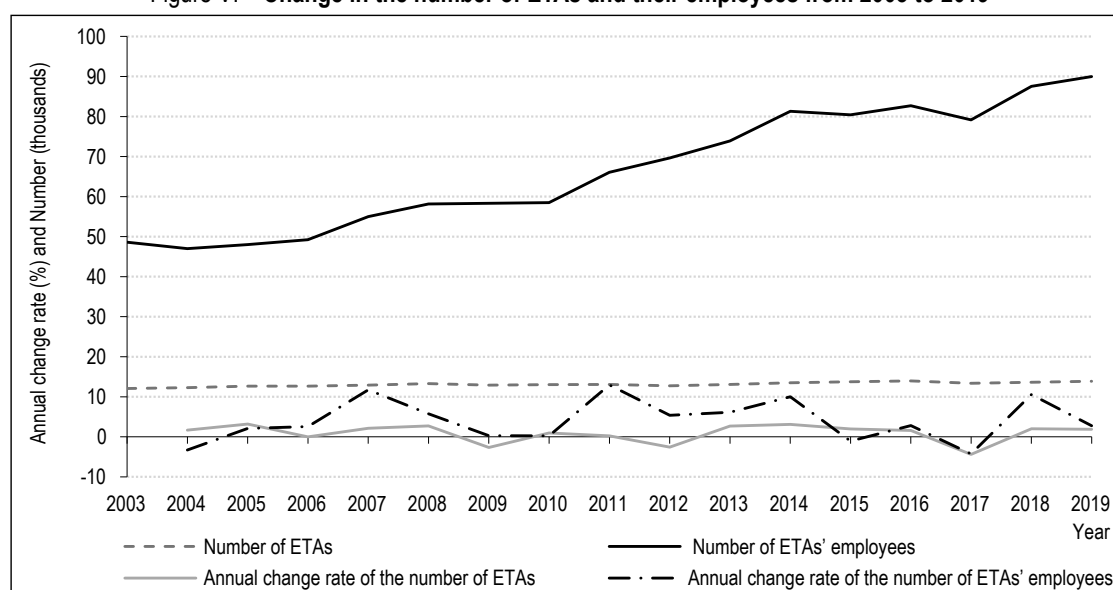
With regard to the growth of the ETA workforce, it seems more reasonable to assume that the ETAs that were created and remained in operation became more consolidated, rather than simply growing in number. The strong momentum of creation observed between 2006 and 2013 is not reflected in the number of ETAs in business, which remained relatively stable between 2010 and 2019 (+6%), but rather in the number of employees, which more than doubled over the same period (+53%). This was also a time where the number of businesses being created seems to have stalled (Figure VI). It would also be hasty

to conclude that ETAs have replaced CUMAs, or even farmers providing services under their own farm business, who represent the other major stakeholder in outsourcing. The same farmer may approach an ETA, a CUMA and then a neighbour in turn, or all three at the same time depending on the operation to be outsourced. Far from excluding each other, the ways in which outsourcing is arranged are shaped around these new combinations. With regard to CUMAs, the number of new establishments decreased significantly between 1980 and the early 2000s, but then more or less stabilised. This relative stability²⁴ is seen not only in the number of CUMAs in general, but also in the number of CUMAs acting as employers’ alliances – GEAs, whose activities with salaried workers (measured here in FTEs) have enabled some of them to develop a complete custom service since 2006 (Figure VII). In 2019, the MSA reported 1,615 CUMAs acting as GEAs, representing 14% of all active CUMAs, with 4,700 employees for approximately 2,200 FTEs, almost 20 times less than the ETAs.

Finally, according to data from the 2010 AC and the 2016 FSS (Table 4), there are 14,690 and 11,872 farms respectively that offer services as a way to diversify their agricultural activity (under their own farm business or through a legal entity that is separate to the farm). However, given the decline in the total number of farms, this drop is only relative. The provision of services as a

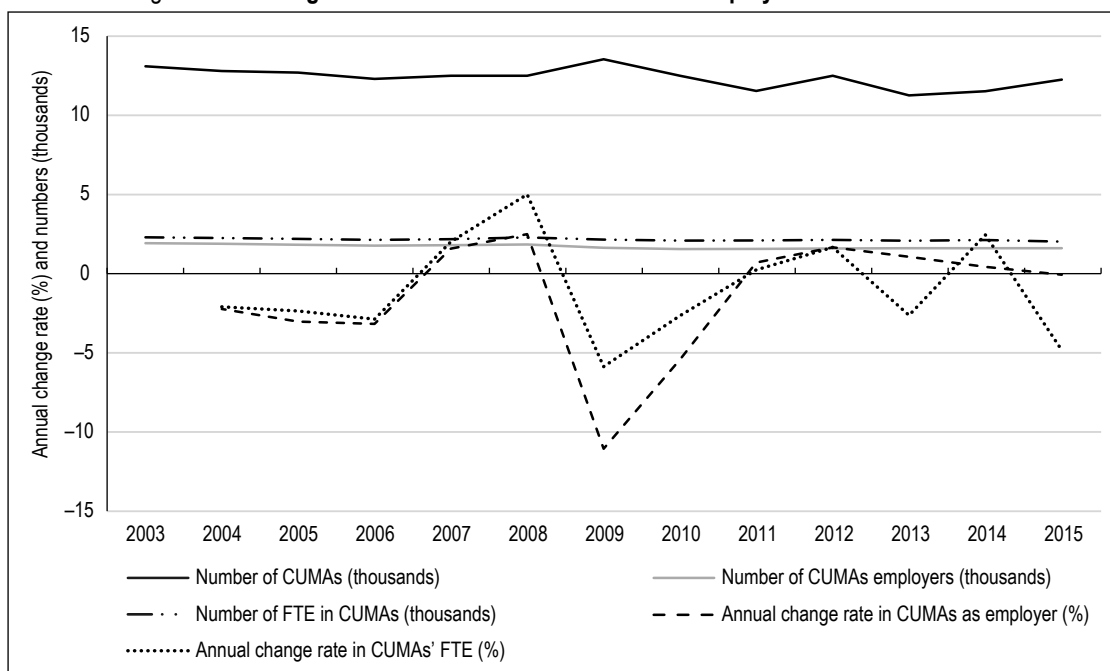
24. The drop seen in 2009 is linked to efforts undertaken by the HCCA to identify inactive CUMAs and remove them from the data files. Furthermore, apart from the 2019 data, detailed data on CUMAs from 2015 onwards are not available as a result of a change in status in 2016.

Figure VI – Change in the number of ETAs and their employees from 2003 to 2019



Sources: MSA and FNEDT, authors' calculations.

Figure VII – Change in the number of CUMAs and their employees from 2003 to 2015



Sources: MSA and FNEDT, authors' calculations.

Table 4 – Relative number of farms performing custom farming as a diversification activity in 2010 and 2016

	Number of farms (N1)		Total number of ETAs	N1/Total farms	Proportion under own farm business (%)	Proportion under an ETA business (%)	Proportion of ETAs run as a diversification activity (%)
	under own farm business (N11)	under an ETA business (N12)	(N2)		(N11/N1)	(N12/N1)	(N12/N2)
2010	11,913	2,777	13,055	3.0	81.1	18.9	21.3
2016	8,698	3,174	13,978	2.8	73.3	26.7	22.7

Sources: 2010 AC and 2016 FSS, authors' calculations.

means of diversification, also known as “custom farm work”, tends to remain stable over time. Within this population, farms that do this under their own farm business (within the limits of what is theoretically permitted) remain in the vast majority. In this sense, less than one third create a dedicated legal entity and the ETAs thus created represent approximately one fifth of all ETAs (Table 4). Alongside the ETAs that include a diversification activity, many others have evolved so that providing services has superseded production activities on the farm. The OTEXA 1 survey conducted in the South-West in 2018 (see part 4 of the study), an area where this form of outsourcing is particularly prevalent, can be used to better characterise this category of stakeholders: 31% of respondents developed their contract work, mainly motivated by the need to pay off increasingly expensive agricultural equipment that remains relatively unused throughout the year.²⁵ For some, this activity goes back several generations, from the first threshing work in the post-war period to the “buying fever” of the 1970s and 80s, fuelled by the modernisation policy for the sector. The

service-provider farmers surveyed work for a dozen local customers on average (minimum of 1, maximum of 40), who themselves are farmers and have multiple jobs, covering an average of 150 hectares (minimum of 2, maximum of 2,000). With regard to this last point, note that 40% of the service-provider farmers intend to develop their provision of service activities in the future, mainly seeking to increase the cultivated area. This activity generates a turnover of between €10k and €50k for 31% of these farmers and €50k or more for 30% of them. 54% have created a dedicated outsourcing enterprise – ETA. This is because the law requires the creation of an ETA when the turnover exceeds the threshold of 30% of the agricultural revenue or €50k. However, tax optimisation is occasionally the reason behind creating an ETA. In this case, the ETA is responsible for equipment and possibly the hired labour, and then invoices the farm for the associated service. It is interesting

25. A combine harvester costs between €200k and €400k and is only used for three weeks a year. According to the farmers surveyed, specific equipment would only be used at 50% of its capacity without outsourcing.

Table 5 – Distribution of farms performing custom farming according to their size (in hectares) in 2010

Farms doing custom farming as a diversification activity	Number	Percentage by class of size				
		[0, 20[]20, 50]]50, 100]]100, 200]	[200, +]
Under own farm business	11,913	12.3	10.9	23.3	35.5	18.0
Under an ETA business	2,777	13.1	11.8	21.7	32.1	21.3

Sources: 2010 AC and 2016 FSS, authors' calculations.

to note that in France, outsourcing as a diversification activity mainly involves medium to large farms with a holding above the French average of 65 hectares (Table 5). In some cases, ETA activity may overtake the farming activity itself and become the main activity. The farmer then becomes the manager of an outsourcing enterprise, rather than a simple farm manager operating custom services under his own farm business. However, the two legal entities (farm and ETA) remain inextricably linked at both the functional and the financial level, as it is the same person making the decisions.

In the last 20 years, ETAs, whether as a primary activity or secondary diversification activity, have thus made substantial gains. However, they have not completely eclipsed other service provision stakeholders, particularly farmers who offer custom services under their own farm business. This coexistence of stakeholders supplying custom services reflects the changing demand. According to the 2021 OTEXA 2 survey (part 4 of the study), over 60% of farmers are CUMA members. However, the vast majority of them either make use of ETAs or neighbouring farmers, depending on their needs. Having to manage shared equipment in the CUMA with limited windows of time to complete jobs is likely to increase transaction costs and effectively limit the use of shared work arrangements. As a result, farmers prefer having contracts with an ETA or a neighbouring farmer. This is particularly the case with harvesting, sowing and pesticide application, which nowadays require a great deal of reactivity (cf. Table 3). This shift from a collective logic organised by farmers' organisations to one of a commercial service run mainly by private stakeholders, in our view, marks a major tipping point in the organisation of agricultural labour and the beginning of the creation of a genuine agricultural outsourcing market. However, the data shows that, in this changing environment, "traditional" collective stakeholders, such as CUMAs, cooperatives traditionally specialised in storage and marketing, and CETA (*Centre d'études et de techniques agricoles* – Centers for studies and agricultural techniques) can also adapt by seizing the opportunities offered both by the

emerging market and by legislation. They can do so by building new alliances and coming up with new services, which are sometimes necessary for their survival (Nguyen *et al.*, 2020).

Alongside the supply and demand stakeholders, the creation of an outsourcing market is also playing out at a territorial level, where there is an uneven distribution in the main types of stakeholders (ETAs, CUMAs, farmers performing custom farming under their own farm business, agricultural cooperatives, project manager assistant) (see Nguyen *et al.*, 2020). The areas of influence of each of the stakeholders can be understood according to the geographical distribution of the main productions and the particular needs associated with them (cf. Table 3). ETAs have a greater presence in areas where grains and mixed crops are produced (north, central-west and south-east regions) for harvesting operations, organic manure spreading, sowing and phytosanitary treatments. Meanwhile, CUMA employers have a greater presence for jobs such as hay baling in livestock-farming areas (west, central and south-west regions). In comparison to the ETAs, according to the data of the 2010 AC and the 2016 FSS, farmers performing custom farming under their own farm business have a strong presence in central-northern and north-eastern farming areas, while they are relatively absent from others. Would the barriers to entering the market in the south-west and southern France be greater for farmers doing custom farming than for ETAs? According to the in-depth qualitative surveys conducted in part 3 of the study, several factors could explain the presence of a large number of different types of providers in the North, such as the presence of high value-added crops (e.g. beet) or the size and topography of plots of land that allow for better labour productivity. Conversely, the relative lower profitability of outsourcing activity in the South and South-West would lead to greater competition and the selection of stakeholders on the supply side who are able to optimise the cost of jobs and quickly pay off equipment costs. The difference in the rates charged for fully delegated jobs between the North (typically an average of €500/ha) and the South (average of €350/ha), while the profitability threshold

is estimated to be approximately €450, would indicate differences in the conditions in which the activity is carried out and encourage consideration not of a single outsourcing market, but of several. Moreover, the tension in certain markets would be equally significant, as this would have resulted in a real headlong rush among certain stakeholders, in terms of growing in order to occupy the market by investing an increasing amount in equipment, by recruiting and then by increasing the number of contracts at any cost. The testimonies collected in the in-depth surveys (part 3) are clearly not statistically representative, but they nevertheless echo the assumption made earlier on regarding the mechanism behind the growth of ETAs, which would be more a question of consolidating rather than multiplying companies.

3. Questions Surrounding a Singular Phenomenon

3.1. How to Understand and Explain a Little-Known Economic and Social Phenomenon?

While the vast majority of farmers are concerned, outsourcing remains a little-known and little-studied practice. Its covert nature as an emerging phenomenon is accentuated by the difficulty of defining, measuring and naming it. However, as our study suggests, the little data that is available does seemingly outline a large-scale phenomenon that is shaping a new outlook in agricultural production. The research objective of shedding light on an important emerging phenomenon first brought us to an identification and characterisation exercise, using multiple perspectives (individual and market practices; regional and national scale) and measurement methods (descriptive statistics, inferential statistics, discourse analysis and monographs) in order to minimise blind spots and other risks of bias. However, the methodological limitations with which we were quickly confronted (variable geometry in the legal definition, heterogeneity of data between sources, significance of informal and unspoken practices, evolving driving forces) suggest that the phenomenon is still underestimated and that its edges remain blurred. For example, it is now difficult, if not impossible, to discern the amount of labour supplied or the cultivated area worked by a large number of outsourcing stakeholders. Our analysis of stakeholders on the supply side was thus limited to farmers performing custom farming as a diversification activity and to ETAs and CUMAs developing complete jobs. However, temporary employment

agencies, foreign service providers or companies outside the agricultural social protection scheme (MSA) are playing an increasingly important role in certain sectors such as viticulture and arboriculture. Depeyrot *et al.* (2019) in particular make the connection between a slowdown in the momentum of ETAs in recent years (cf. Figure I) and the development of posted work. This limit does have implications with regard to debates surrounding the consequences of outsourcing on agricultural performance and employment in the sector.

Moreover, the considerable variety in the situations observed raises the question of the theoretical definition of outsourcing, an economic organisational category that is proving to be very broad, perhaps even too broad to describe a changeable situation with any level of precision. We distinguished between three contexts for outsourcing: “simple outsourcing”, “full delegation by refocusing” and “full delegation by abandonment”, with the assumption that they correspond to different degrees of dissociation between the ownership and management of assets. This classification can be questioned in the light of that developed by Ménard (2021) to explore the richness of hybrid forms. As it leads the farmer, as the contracting party, to transfer more decision-making rights to the contractor, does full delegation not rely on coordination described as “oblique quasi-integration”, a special form of industrial outsourcing in which the contractor acquires a hybrid status of “contractor-supplier” with greater autonomy in decision-making and responsibility in carrying out work (Baudry, 2013)? It should be noted that in some cases of full delegation by abandonment, some contractors go as far as to take capital shares in the delegated farm, partly absorbing the latter (Purseigle *et al.*, 2017). Moreover, even a simple outsourcing, limited to an elementary operation (sowing, pesticide application), may hide genuine alliances due to the specific nature of the assets involved (machinery, skill). Thus, classifying in order to better characterise and understand the existence of different forms of outsourcing remains a theoretical challenge and invites further study, not only of the contractual terms (formal and informal) of the contracting-out relationship, but also of the practical organisation of operations (agronomic and regulatory constraints, fragmentation and topography of land plots, types of equipment, etc.).

3.2. Outsourcing in Agriculture, a Specific Phenomenon?

Our approach to agricultural outsourcing has also led us to review the economic theories on contracting-out, developed with reference to the industrial sector alone. In doing so, two traits that are unique to agricultural outsourcing caught our attention in particular.

The first refers to the definition of the contractual arrangement behind the service transaction: in an agricultural contracting-out relationship, who is ultimately the principal and who is the agent? Both the customer and the provider are farmers/agricultural producers, each holding some of the assets necessary for the production process, with the former owning the land and the latter owning the equipment and the labour. Both stakeholders would therefore be the principal and the agent, leading to situations with high transaction costs and complicated governance. This question is all the more crucial given that the relationship involves specific assets, such as equipment which features expensive precision technology and requires special skills to operate, or the expertise inherent in quality-driven production (Gandonou *et al.*, 2006; De Oliveira & Zylbersztajn, 2018). It also arises in the case of full delegation because of the level of dissociation between the ownership and management of assets. In spite of this, farmers are increasingly outsourcing operations involving specific assets, and full delegation is advancing at an unprecedented rate in France. How can this be explained? From a theoretical point of view, one assumption in particular deserves to be explored. Contracting-out relationships, like any form of hybrid organisation, are likely to evolve and co-exist within the same sector or even the same company (Ménard, 2021). Simple outsourcing can thus shift to a more strategic type of contracting-out that builds alliances, the existence of which would be facilitated by relational contracts based on *ex ante* promises (better yields through the use of better equipment or better technical expertise and organisation of tasks) or informal incentive schemes, based on trust, mutual understanding and reputation (Baker *et al.*, 2002; Holcomb & Hitt, 2007; Ruzzier, 2012). Conversely, full delegation, which is complex to organise due to high transaction costs, could evolve towards a decentralised method of coordination thanks to the intervention of an independent third party, the project manager assistant, whose main role is to coordinate the outsourcing arrangement and manage any conflicts between the farm holder and the ETAs.

The second unique trait involves barriers that should theoretically prevent certain stakeholders from entering the market (Allen & Lueck, 2004). These barriers are significant in certain agricultural regions, for example those where the topography is unfavourable or land plots are small, etc., or where the profitability of the activity is not guaranteed due to the fixed costs of the equipment and particularly high variable production costs. However, many farmers are still keen to turn to contract work and increase the number of contracts that they do to pay off an ever larger and more costly fleet of equipment. Some speak of irrational economic behaviour, arguing that the problem lies with the relationship of farmers and their equipment, and citing cases where farmers even sell land to finance an unprofitable business. Should this behaviour be placed within a broader framework of redefining the scope of an agricultural productive organisation, considering the close links between farming and service provision, even if both are contained within legally autonomous entities? Does it come from the irrationality of an emerging market that is still selecting its stakeholders? These theoretical differences, which are only a few examples of the singularities noted in our study, encourage further research on the global performance of different outsourcing arrangements on different scales.

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Are we standing on the threshold of a “delegated” or “service-based” agriculture? While our study suggests major changes in outsourcing practices and, with them, a profound break in the way farm holders organise labour on their farms, their quantification remains limited due to the current lack of statistical data available to understand them in their complexity. Answering this question would require observing panels of farmers and building robust time series for all the central variables discussed in this article. The 2020 Agriculture Census (AC) has introduced new questions about outsourcing activity, and should help to better characterise the different types of farmers who outsource and those of the farmers who contract custom work. Even though we do not have all the results from the AC at the time of writing, some partial data show a relative stabilisation in the use of outsourcing at a high level and even its development in some regions (for example, Normandy or the Île-de-France region).

Even with these limits in mind, outsourcing seems to be common practice for a large majority of farmers, regardless of the size and specialisation of their farms. The number of those who outsource significant levels of operations has more than doubled in 20 years, and some no longer hesitate in delegating full management of their farm. From outsourcing due to a lack of capacity or resources, farmers seem to have shifted towards strategic outsourcing in order to optimise the allocation of resources, refocus operations or manage an estate. At the same time, an increasing number of farmers, caught up in a race for equipment and perhaps also to expand, are making custom farming into a diversification activity. Some of these have then shifted into a new business, that of contractors or service providers. The boundary between the agricultural sector and the service sector is thus becoming quite porous. Are we witnessing the tertiarisation of agricultural production? Faced with increasing demands and their members' inability to find buyers or to meet new production challenges, farmers' organisations such as agricultural cooperatives, CUMAs or CETAs are adapting and are quick to follow suit. In addition, new French or foreign "land management" agencies²⁶ are emerging and challenging the order of a professional sector that until now seemed to remain distinct, while some farmers themselves, especially those most attached to the family farm model, are making important contributions to the development of this phenomenon.

These developments, the stakes of which are high for professionals in the sector and for society as a whole, have been a major subject of debate, as evidenced in recent years by the growing number of articles in the professional press²⁷ and forums. At a time when a third of farmers are set to retire without a buyer and when the influx of young farmers into the sector is a rare occurrence, for some, outsourcing represents the only solution to help those who remain to better organise the work on the farm, to support those who are setting up or to allow others to gradually enter the profession through salaried

employment within service organisations (ETAs, CUMA employers, etc.). In so doing, it would help to maintain certain farms, as well as the productive capacity and employment in some rural areas. However, for others, outsourcing should be regulated (Grimonprez, 2018) as it would sound the death knell for family farms and would endorse the takeover of agricultural and food production by ETAs and companies in the industrial sector (agri-food, agri-supply and agricultural machinery), with possible consequences regarding access to farmland, food security and the agro-ecological transition of regions.

This phenomenon therefore puts professional organisations and the legislator in a difficult position, between the desire to recognise a situation that is out of their control and the desire to regulate it in order to preserve the status of farm managers. In France, the debates at the National Assembly surrounding the proposed law on emergency measures to ensure the regulation of access to agricultural land through corporate structures (French Law No. 2021-1756 of 23/12/2021)²⁸ and the opinion presented on behalf of the Committee on Economic Affairs regarding the draft finance law for 2022 (Sempastous, 2021) testify to this. This does not only represent a difficulty for France, as the next CAP reform will call on EU member states to define "the active farmer" who is likely benefit from subsidies from Europe (Chatellier & Guyomard, 2021). Faced with these concerns, knowledge about agricultural outsourcing remains fragmented and some aspects are still not widely understood. Being in a position to provide support with this emerging phenomenon requires taking an interest in it, especially as it also affects other regions in the world. □

26. For example: Agriland, Cabinet d'agronomie provençale, Linkinfarm, Terrea, etc.

27. Noël, 2016; Aumailley, 2019; Poudevigne, 2020; Heloury, 2021; Marcotte, 2021.

28. Journal officiel de la République française, 24 December 2021.

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APPENDIX 1

**MEASURE OF THE DEGREE OF “FULL DELEGATION” OF FARM WORK BEFORE 2016
WITH DATA FROM THE SSP (FRENCH STATISTICAL SERVICE) AND EXTRAPOLATION**

At the time of the Agricultural Census in 2010, the question regarding the use of full delegation of farm work was only addressed in the former Midi-Pyrénées region. An initial statistical exploration was conducted within the framework of the ANR Agrifirme project to evaluate the phenomenon of full delegation of field crop work in France in 2010, based on a characterisation of the farms concerned in the Midi-Pyrénées region. The statistical analysis made it possible to identify several variables, allowing farms in the Midi-Pyrénées region that fully delegate their farming work to be isolated.

In order to extrapolate to a national level, three of these variables, available at the national level, were used: the number of days worked by an ETA (JETA), the surface area in hectares used for grain, oilseed and protein crops (SCOPha), and the number of annual work units (AWU).

For each of these variables, thresholds above which full delegation was statistically very likely were calculated by distinguishing the farms according to their standard gross output (SGO). Medium and large farms ($SGO \geq \text{€}25k$) were separated from small farms ($\text{€}5k < SGO < \text{€}25k$), with these two groups having different reasons for delegating work. The variables and thresholds used were as follows:

Medium and Large farms		Small Farms	
	JETA/SCOPha ≥ 0.27		JETA/SCOPha ≥ 0.35
Or	JETA/SCOPha ≥ 0.18 & AWUeta% $\geq 5\%$		JETA/SCOPha ≥ 0.25 & AWUeta% $\geq 4\%$
Or	AWUeta% $\geq 15\%$		AWUeta% $\geq 10\%$

Assuming that, in other regions, units that are structurally similar to these variables would use these providers in the same way, we extrapolated the number of farms that specialise in field crops and use full delegation to the rest of France.

The analysis was then extended to all productions during a second statistical study conducted within the framework of the Actif Agri⁽ⁱ⁾ working group. This made it possible to validate, *a posteriori*, along with the 2016 FSS data, the numbers derived from the extrapolation conducted using the 2010 AC data on field crops. Furthermore, in 2016, the FSS questionnaire included, for the first time, a country-wide question on the use of full delegation.

In addition, to gain an idea of the development of full delegation between 2010 and 2016, we applied the extrapolation method previously described for the AC to the 2016 FSS data⁽ⁱⁱ⁾.

The statistical study carried out within the framework of Actif Agri also consisted of creating two indicators to isolate the population of farms characterised by the significant use of outsourcing. These indicators are: the volume of work taken on by ETAs in relation to the volume of permanent work, and the number of working days completed by ETAs in relation to the SGO, exceeding a threshold close to that calculated for farms using full delegation (by refocusing or by abandonment):

	Medium and Large	Small
ETA work volume/permanent work volume	> 0.09	> 0.065
Working days of ETAs/SGO (In Thousands of Euro)	> 0.23	> 0.32

For medium and large farms with permanent AWUs (i.e. 229 working days of 7 hours per day according to agricultural statistics), an ETA work rate threshold of 0.09 represents 21 days. In addition, for the second criterion, a threshold of 0.23, for a 100 ha grain farm, for example, translates into 23 working days for an ETA, where 1 ha of grain crops is equivalent to a SGO of €1,000.

⁽ⁱ⁾ Between 2017 and 2019, the Actif Agri working group united researchers under the leadership of the CEP (Centre d'études et de prospective – centre for studies and outlook) at the French Ministry of Agriculture to analyse changes in agricultural activities and jobs. Our participation in this group allowed us to access the individual data from the 2016 FSS and the support of CEP statisticians.

⁽ⁱⁱ⁾ It should be noted that the result of the full delegation estimate for 2016, using the extrapolation method, gives a figure of 8,986 field crop farms as being concerned. This constitutes a slight underestimation of the phenomenon compared to the figure derived directly from the question asked in the 2016 FSS, which is 11,036.

**RESPONSE OPTIONS TO QUESTIONS FROM THE OTEXA 1 AND 2 SURVEYS ON THE REASONS BEHIND
OUTSOURCING WORK AND THE CRITERIA FOR SELECTING A SERVICE PROVIDER**

A – Reasons behind the use of outsourcing

Question asked: For the tasks that you reported to have outsourced for your XXXX production, what were the main reasons behind you making that choice? (multiple answers possible)

Response options:

- Cost: cost of a hired employee, improved profitability of the contracted worker and better technical-economic performance of the job (reduction in the use of inputs, constraints on the work schedule)
- Equipment: lack of suitable equipment, does not have the acreage to make the equipment cost effective
- Strategic reasons: turning focus to another area of production or other activities (food processing, marketing)
- Human resources: no/shortage of labour for the proposed work, availability of workers, difficulties accessing OFII contracts, ease in terms of work organisation
- Technological reasons: access to new technologies such as remote sensors, GPS mapping, etc.
- Technical expertise: lack of technical skills, use of a new technique
- Time: lack of labour, lack of time due to other agricultural and non-agricultural activities, saving time compared to hiring
- Health/disputes
- Lack of interest in the task

B – Criteria for selecting a service provider

Question asked: For the tasks that you reported to have outsourced for your XXXX production, what were the most important criteria in selecting this service provider? (multiple answers possible)

Response options:

- Geographical proximity
 - The price
 - Their discretion
 - Their technical skills
 - Their equipment
 - The type of contract offered
 - Their reputation
 - Their efficiency
 - Their additional services (advice, marketing, purchase of inputs)
 - Trust
 - Other, please specify...
-