

Actif'Agri: the transformation of employment and activities in farming

France lost a quarter of its farmers between 2000 and 2016, which testifies to far-reaching changes in its agricultural sector. Over and above this quantitative trend, the sector is constantly reinventing itself through the efforts of the women and men who contribute to it, and whose careers and skills are being transformed. Aiming at a better understanding of these profound changes, the Centre for Studies and Strategic Foresight (CEP) gathered a working group of around thirty experts, most of them researchers, who combined their economic, sociological and statistical analyses. The *Actif'Agri*¹ study describes the resulting overview in detail in the course of a dozen chapters. The present note sets out its main lessons.

In 2016, Metropolitan France had a little under 570,000 farmers. There were 25% more at the turn of the 21st century. This reduction in the farming population, a process under way for over half a century, has gone hand in hand with fundamental change in the nature of its employment and activities. Women and men work in agriculture today with a range of different formal statuses: permanent or temporary employees, employed by the farm or by other legal entities, seasonal workers, posted workers, family helpers, interns, apprentices, and so on. In total, nearly 1.7 million individuals worked at one time or another on an agricultural holding during 2016.

Over the long term, this sharp reduction in the farming population has gone hand in hand with a transformation in the nature of its employment and activities. Farming today is less a matter of farmers carrying out the entire series of tasks on their farm than it is a complex system of activities and functions that may be performed equally by the farmer or by third parties, employees or service providers. This fundamental change reveals a profound transformation in the organisation of agricultural work and is evidence of the sector's capacity for innovation.

The publication *Actif'Agri. Transformations des emplois et des activités en agriculture*

documents these novel configurations with the aim of deepening our shared understanding of them. What are the current broad trends in terms of jobs and work in agriculture? Who today is actually in charge of agricultural production? Which activities are being developed preferentially, and to the detriment of which other activities? Who is working where and under what conditions?

To answer these questions, some of the major drivers for change that explain these changes are explored here, with a particular focus on public policies and their real-world impacts. The publication has twelve chapters grouped in four main sections, proposing a panoramic, contemporary overview of French farming at work.

This note sets out its main results. After summarising the overall approach adopted throughout the study, in its second part it recalls the key figures for the changes under way and documents the main ongoing trends, looking particularly at dairy production. The third part addresses quality of work, precarity of employment, the working and health conditions of farm workers and their occupational mobility. This is followed by an exploration of some major determinants for these transformational processes: a search for high environmental performance, dissemination of innovation, globalisation of global

value chains. Public policies on fiscality, social matters, agriculture and vocational training are central to the fifth section. Lastly, the final section sets out some broad, cross-cutting lessons to be drawn from the study.

1. The collective approach in *Actif'Agri*

Actif'Agri is the outcome of a collective effort led by the CEP project team and based around a group of external and internal experts at the Ministry of Agriculture and Food, most of them researchers. This group met on eight occasions between September 2017 and December 2018 to discuss the analyses underpinning the different chapters of the study. The final session, held in a smaller format, led to the identification of the key results, their limits, the study's cross-cutting messages and the strategic focuses that flow from them.

The study's layout matches the content of the various sessions fairly closely. Each chapter was coordinated by a member of the CEP,

1. Forget V., Depeyrot J.-N., Mahé M., Midler E., Hugonnet M., Beaujeu R., Grandjean A., Hérault B., 2019, *Actif'Agri. Transformations des emplois et du travail agricoles*, [Actif'Agri. The transformation of employment and activities in farming] Paris, La Documentation française:

<https://agriculture.gouv.fr/actifagri-de-lemploi-lactive-agricole-determinants-dynamiques-et-trajectoires>

supported by co-authors themselves members of the working group in most cases. The chosen approach involved studying the transformations in agricultural jobs and activities from various mutually complementary standpoints in order to grasp their full complexity. For example, the study not only seeks to quantify those in employment, but also the quality of their working conditions, these being topics habitually discussed separately, in the occupational as well as institutional and academic spheres. However, *Actif'Agri* makes no claim to exhaustiveness and each chapter is also shaped by the personal choices and centres of interest of its co-authors.

This desire for a cross-cutting vision goes hand in hand with a degree of multidisciplinary. While the analyses presented here are largely economic in nature, with a strong statistical and econometric bent aimed at quantifying the phenomena at work, they also call upon sociology in order to define the ways in which the women and men in present-day farming act, think and feel. To a lesser extent, use is also made of what agronomy, law and medicine can tell us.

The analyses in *Actif'Agri* are based on a variety of sources depending on the topics addressed: agricultural censuses of all farms across the country; the 2013 and 2016 Farm Structure Surveys (FSS), providing intermediate data points between two censuses (around 70,000 holdings were surveyed in 2016); the Farm Accountancy Data Network (*Réseau d'information comptable agricole* – RICA) for technico-economic performance (a sample of approximately 7,200 holdings, representative of medium-sized and large farms in Metropolitan France); data from the Agricultural Social Mutual Fund (*Mutualité sociale agricole* – MSA), these being annual with exhaustive coverage of all of its members, after reprocessing, to approximate the agricultural statistical field. The study also makes use of other sources of data from public statistics (e.g. INSEE, DARES, Eurostat), the OECD, tax databases and the results of more qualitative research.

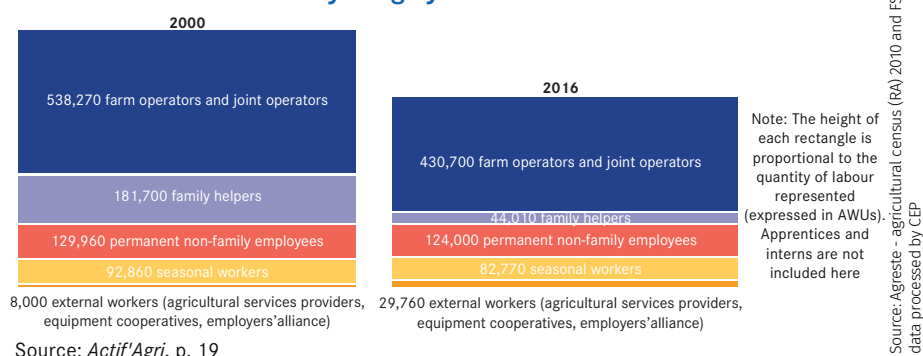
In addition to the variety of methods and data used, every chapter is underpinned by an in-depth review of the available – mainly scientific – literature. Each chapter seeks to go beyond the current “state of the art” to throw new light on the questions at issue.

2. An overview of the transformation of agricultural jobs and activities

Key statistics and main trends

Understanding the transformation of jobs and activities in farming begins by getting a grasp on the scales involved through a statistical description of the agricultural workforce. Decrease in the population of farmers and the number of farms is continuing: France

Figure 1 - Changes in the agricultural workforce (in agricultural work units – AWU) from 2000 to 2016 by category of worker



has lost a quarter of its farmers in fifteen years. Meanwhile, wage-based employment is expanding in both relative and absolute terms (+2.2% between 2010 and 2016) and is increasingly diverse (cf. Figure 1). Agricultural employees turn out to be younger, less qualified, with more precarious and less paid jobs than in other sectors of the economy.

Due to this expansion in wage-based employment, these jobs tending to be held by men, female representation in the sector has regressed: the proportion of women employed in farming is declining and the percentage of women running farms has failed to shift from 27% for over 10 years. Gender differences still continue to exist in agriculture in terms of both jobs and careers.

Moreover, farmers population is growing older: over the period 2010-2016, the percentage of those aged 60 and older has risen from 10% to 17%. Their average age was 52 in 2016, older than the average for France's working population (40.5) but younger than elsewhere in the EU, France being ranked 4th among the 27 countries. One French farmer in three is currently not being replaced. Dairy cattle sector is hardest hit by this problem of renewal.

Developing an original typology (agricultural census [RA] 2010, Farm Structure Survey [FSS] 2016), *Actif'Agri* also shows that the traditional model of “family farms”, is now breaking down from a former homogeneity into a variety of configurations in which the family collective is less and less central. The farms closest to the family model with “two agricultural work units (AWU)” are thus disappearing most rapidly (down 49% between 2010 and 2016). Farm operators are therefore adjusting their organisations accordingly, simplifying their systems of production or bringing in outside labour, forming agricultural holding companies or farms groupings or contracting work.

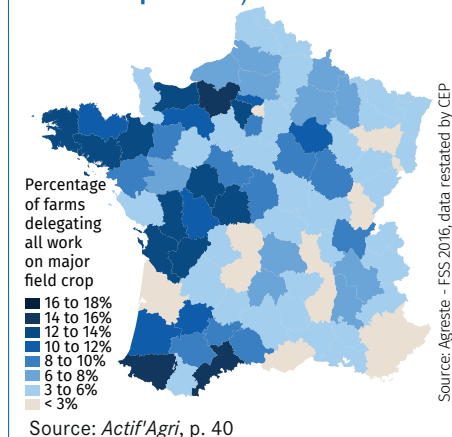
Three trends: concentration, delegation and diversification

Three particularly significant trends are looked at in greater depth in Chapter 2. The

first one is towards concentration of labour on farms that are larger in economic terms. Although the majority of the agricultural workforce remains on small and medium-sized holdings, employment on the biggest is expanding. This concentration comes with increased labour productivity and profitability, but also higher levels of debt.

The second major trend is towards subcontracting, of marginal importance in the past but now routine, especially for field work (cf. Figure 2). New types of agricultural contracting company are emerging, dedi-

Figure 2 - Percentage of farms delegating all field work, by territorial department, 2016



cated for example to complete delegation of all farm activities.

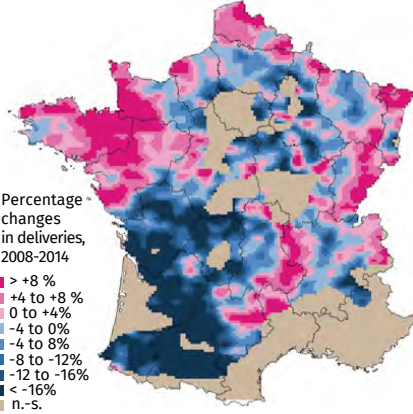
The last phenomenon analysed is the diversification of farm activities, which involves multiple jobs for farm households and retention of farm labour. It is also accompanied by a degree of income stability.

The dairy sector: condensing the ongoing transformations

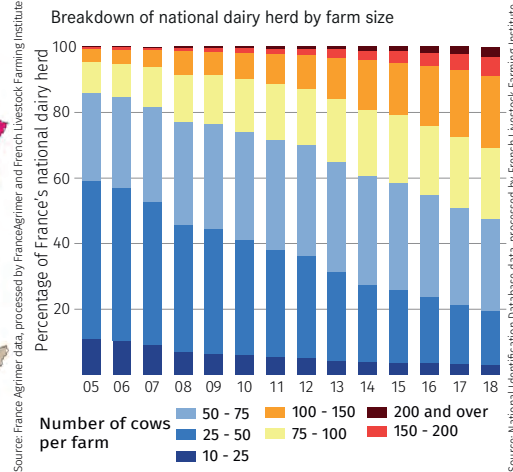
Underlying the general trends described above, different agricultural sectors are affected by various transformations. Chapter 3 illustrates this by setting out the following overview of dairy farms, where fundamental change

Figure 3 - Changes in milk delivery (left) and dairy herd (right)

Changes in milk deliveries, 2008-2014



Source: Actif'Agri, p. 52



Source: France AgriMer data, processed by FrancoAgriMer and French Livestock Farming Institute

Source: National Identification Database data, processed by French Livestock Farming Institute

has been accelerated by the abandonment of milk quotas: geographical concentration, increased farm size (cf. Figure 3), reductions in job numbers, development of wage-based labour, volume-based productivity gains, and so on. Between 1996 and 2015, the number of farms has been cut by half and almost one worker out of every three is now on a wage. However, the wide variety of types of operation and ways to produce milk, like the family model, continue to be present in dairy farming.

3. Quality of work

Beyond the numbers of women and men working on farms, part 2 of *Actif'Agri* sets out to pin down the reality of the conditions in which they are operating. Three aspects are specifically addressed: the precarity of some wage-based jobs, the working and health conditions of agricultural workers and their occupational mobility.

Precarity of employment in agriculture

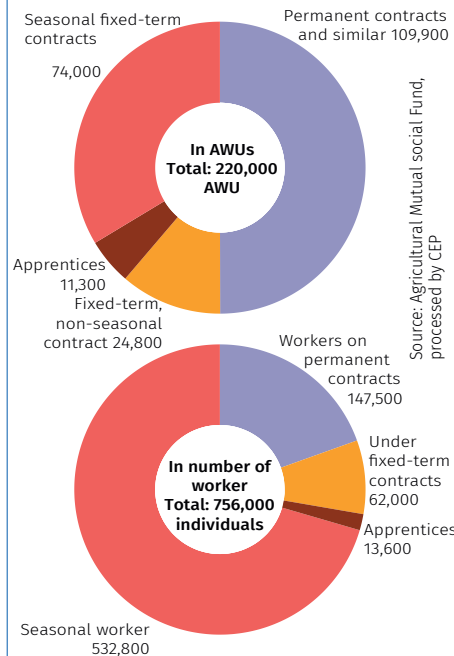
Chapter 4 addresses the precarity of some paid farm employment, a recurring topic for a sector historically dependent on a seasonal and temporary workforce. Farm employees with no secure status (working under fixed-term, seasonal or apprenticeship contracts) currently account for 50% of total volume of work and 80% of paid employees on farms during any one year (cf. Figure 4).

This chapter highlights the wide variety of the forms of non-family labour, with an expansion of wage-based labour in external entities (e.g. service providers and temporary work agencies), including posted workers. Additionally, the chapter documents different forms of illegal labour.

The working and health conditions of farm workers

Chapter 5 adds a close look at the working and health conditions of the agricultural work-

Figure 4 - Paid farm labour, 2016



Source: Actif'Agri, p. 70

Farmers' occupational mobility

These living and working conditions are enhancing occupational mobility in agriculture as is shown by Chapter 6. The entry in the sector of workers who increasingly frequently have experience of other occupation, or who have no family background in farming, plus the rise in the early exit from farming, generally involving definitive departure from the sector (cf. Figure 6), are part of the process of convergence with the rest of society.

Using examples of career paths, this chapter looks particularly closely at the present generation of farmers under 55, who started out in farming in the 1990s and form a more broadly socialised generation, having had contact with people from different backgrounds during their school years or in neighbourhoods that were less and less agricultural.

4. Three drivers of transformation in employment and activities in farming

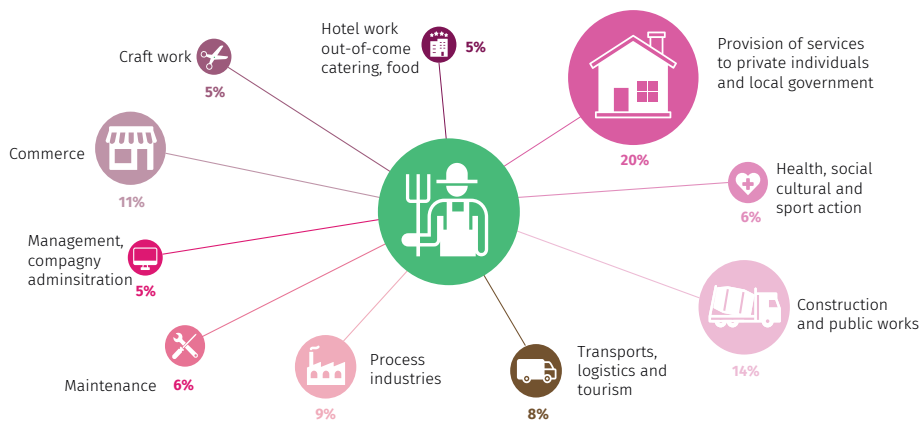
Many of the changes described in *Actif'Agri* can find their source in a combination of external factors: consumer expectations,

Figure 5 - Working conditions of farmers and farm workers compared with other self-employed workers and manual labourers, 2013



Source: Actif'Agri, p. 88

Figure 6 - Occupational mobility destinations for farmers abandoning agriculture



Source: Actif'Agri, p. 107

Source: Insee data, IEP investigation 2014-2015 (Dares treatment); illustration CEP

commodity prices, levels of employment in the rest of the economy, market competition, and so on. Looking at this set of factors, *Actif'Agri* focuses more particularly on three sources of change: a search for environmental high performance, the dissemination of innovations and the dynamics of commercial flows.

Environmental performance and employment

Chapter 7 examines the link between the environmental performance of farms and the employment and activities they generate. It demonstrates that organic farming employs generally more workers (wage-based or not) than conventional agriculture, but with different impacts depending on types of produc-

tion and geographical areas (cf. Table 1). This larger workforce stems from certain organic farming methods (e.g.: mechanical or manual weeding), as well as a higher frequency of short distribution channel marketing processes and increased diversification of farm activities.

Setting aside organic farming, the link between environmental performance and employment on conventional farms depends on the type of production: whereas the “greenest” dairy farms are more work-intensive, the opposite is true for major field crops.

Innovation, employment and activities

The consequences of innovations for employment are difficult to measure. Since the 1950s, they have led principally to increased pro-

duction volume and the replacement of labour by capital (cf. Figure 7), but they have also protected the competitiveness of those farmers capable of implementing them. Today, while technological changes are prolonging this trend, other forms of innovation foster systems that are more work-intensive or entail new constraints, such as high environmental performance.

Chapter 8 thus shows that agroecological farming methods and short distribution channels appear to be positive for employment, whereas technology-based innovation tends, due to the investment it demands, to complicate the farm's transmission. Moreover, farmers are accessing these new types of expertise, tools and techniques *via* numerous channels and in ways that are increasingly individualised, and this is bringing about far-reaching change in their profession.

The internationalisation of agricultural sectors and employment

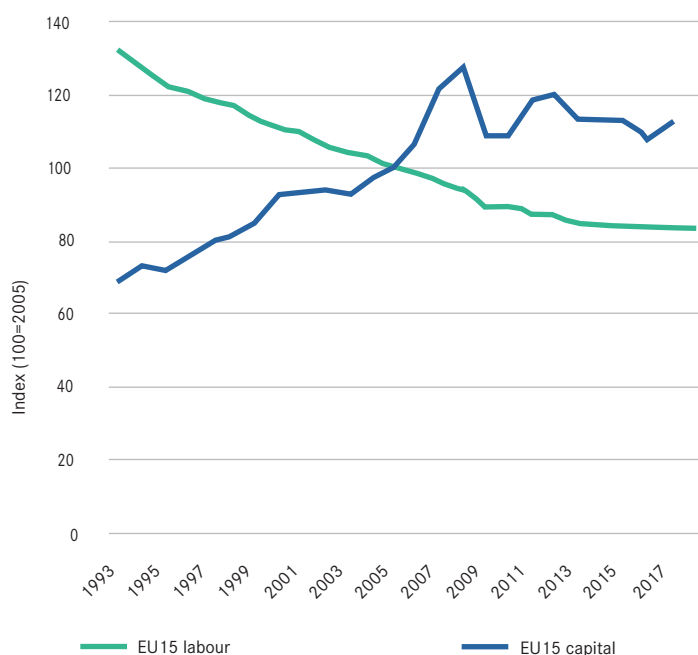
International trade creates winners and losers, and Chapter 9 sets out to identify them. From 1995 to 2005, imports from countries with high levels of unqualified workforce generally reduced the employment of unqualified workers and contributed to an increase in income inequality between the qualified and the unqualified. However, for the major exporting nations such as France, the positive impact of exports more than offset the negative impact of imports, resulting in a positive net outcome for unqualified jobs and inequality.

Table 1 - Statistical link between “organic farming” certification and farm employment (all other things being equal)

Production type	Link between organic farming/AWUs
Dairy cattle (all)	+
Dairy cattle - lowland	/
Dairy cattle - upland	++
Dairy cattle - Alps, Jura	++
Dairy cattle - Auvergne	/
Market gardening (all)	+
Market gardening - open air	++
Winegrowing (all)	++
Winegrowing - Bordeaux area	++
Winegrowing - Languedoc-Roussillon	++

Source: table summarising figures 7.10 to 7.12 in Actif'Agri (pp. 129-131) and the annexes to CEP working document no. 14: Midler E, Depeyrot J.-N, Detang-Dessendre C, 2018, *Performance environnementale des exploitations agricoles et emploi* [The environmental performance of agricultural holdings and employment], Centre for Research and Strategic Analysis (CEP): <https://agriculture.gouv.fr/performance-environnementale-des-exploitations-agricoles-et-emploi-document-de-travail-ndeg14>

Figure 7 - Changes in work factor and capital formation in farming, EU 15



Source: European Commission, 2016

Source: Actif'Agri, p. 141

In recent years trade has been changing as “global value chains” have developed. The internationalisation of French and European agrifood sectors has been expanding the interactions between exports and imports. Increased use of imported intermediate products, involved in the production of our exports, can improve corporations’ competitiveness, creating new commercial outlets and opportunities for employment. *Actif’Agri* also shows that exports of intermediate agricultural and agrifood products contribute to employment in France not only in the relevant production sectors (cf. Figure 8), but also in other areas of the economy, services in particular.

5. Public policies and their effects

As a subsidised sector under tight control, and one still fairly extensively administered, agriculture is a focus for numerous public interventions at EU, national, regional and local government levels. While the objectives of those interventions are not in most cases directly related to the issue of employment and changes in the numbers and types of jobs, they do nevertheless have a profound influence on employment. The final chapters of *Actif’Agri* seek to understand their tangible effects with a view to improving the action taken by the authorities.

Fiscal and social policies

The first area studied is that of fiscal and social policy, in which the various schemes targeting agriculture are of growing importance in budgetary terms (cf. Figure 9). Although their main objective is not generally to foster employment, most do contribute to changing it. In the 1960s, these policies supported

the transformation of “peasants” into “farmers” and encouraged a search for productivity gains for work based on a family-farm model and controlled-cost paid labour.

Today, they provide income support and have become a crisis management tool. As they converge towards the standard regime and gradually adapt to ongoing changes in work (e.g. rising female representation, outsourcing), they are helping to make farming more similar to managing a small company, as is also observed in the other sectors of the economy.

Policies on agriculture

As for Chapter 11, this examines the role played by policies on agriculture, including the Common Agricultural Policy (CAP) and the regulation of farm structures and land. The retention and creation of jobs in farming are recent objectives for the former and more intrinsic to the latter. In both cases, a variety of tools have been used, with mixed effects on the transformation of employment and farm activities.

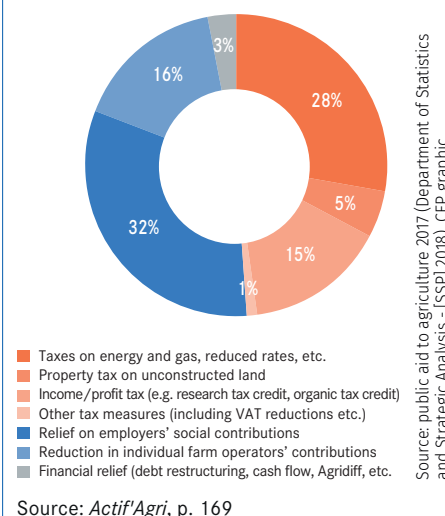
The chapter offers analyses of the redistributive effects of current CAP programming in terms of support per member of the workforce (cf. Figure 10), and alternative scenarios are explored. The results testify to the relatively modest potential of this area of policy where jobs are concerned, compared with other tools.

Human capital development policies

Policies targeting the development of human capital in farming form the subject of Chapter 12. We see here that the level of

Figure 9 - Amounts and allocation of tax and social contributions relief in farming, 2017

€3.7m tax and social contributions relief, 2017



initial education of those working in farming has been constantly rising over the last fifty years, but despite the fact that their jobs require increasingly specialised skills, it is still below that of the French working population in general (cf. Figure 11). The diversification of farming models, increasingly numerous pathways to expertise and the acceleration of technological innovation all demand lifelong adaptation of skills. Development and training policies designed in the 1960s and 1970s around three core focuses (agricultural training, entry into farming, development) are gradually changing to take account of these new issues.

The public policies examined by *Actif’Agri* appear to have fairly ambivalent and rela-

Figure 8 - Percentage of French agricultural employment associated with global value chains (percentage of sector employment tied to exports of intermediate products)

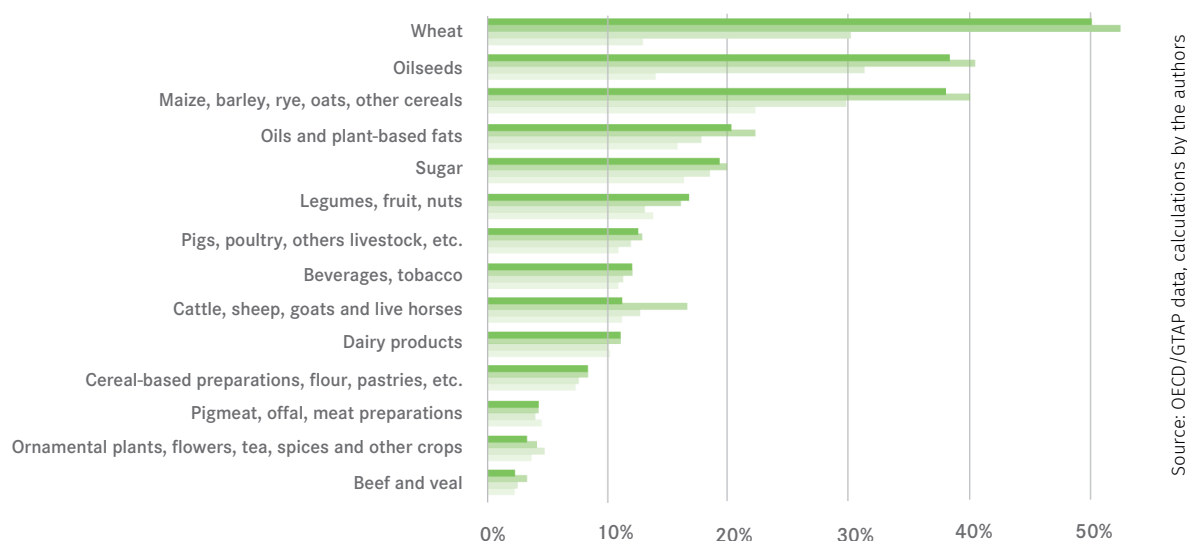


Figure 10 - Variation from the mean of CAP first pillar support, in euros, per AWU and by type of production, 2010-2016

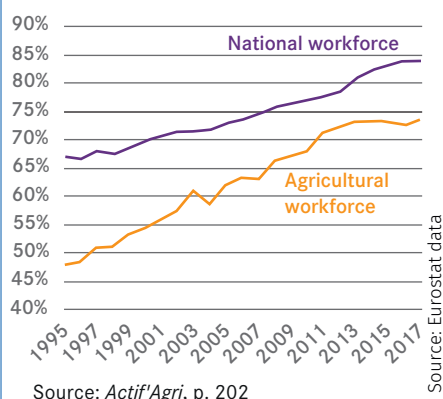


Source: data from Services and Payment Agency 2010 & 2016, Agricultural Census 2010 and Farm Structure Survey 2016, processed by SSP

Note: the scope of analysis covers holdings receiving first pillar support payments in 2010 and 2016. The bars extending above (or below) the zero line indicate that the beneficiaries received more (or less) support.

Source: *Actif'Agri*, p. 191

Figure 11 - Percentage of the working population having attended secondary education in France



Source: *Actif'Agri*, p. 202

Source: Eurostat data

tively limited effects on the changes in the farming world, which they assist, reduce or amplify rather than direct or control. Indeed, most such policies are not aimed at agricultural employment or changes in activities or jobs, and there is little research to support any real evaluation of their impacts in this area. They continue to be shaped by the legacy of policies in previous decades which encourage, with effective results, the development of the productivist agricultural model of the time, a model that does not favour the retention of jobs in farming.

6. Some general lessons to be drawn from *Actif'Agri*

The twelve chapters of *Actif'Agri* illustrate, each in accordance with its chosen focus, the changes in form and content of employment in the agricultural sector. Combining what they can all tell us, a number of general conclusions can be defined.

Towards the normalisation and “porosity” of the farming profession

Farm operators are the members of the agricultural workforce experiencing the most striking changes. The continuous erosion in their numbers is now obvious, just as the farms they operate are undergoing a process of concentration and enlargement. Leaving behind a peasant farmer population that was once very much in the majority in French society, farmers today are no more than a minority in a constantly expanding and diversifying working population. Marginalised as they are, even in the countryside, they are now just one group of actors in rural life, one socio-professional category among many.

The French farming model traditionally structured around the farmer/spouse tandem is also breaking down into various types of organisation, whose common feature is the disengagement of the family collective. Although there has always been a variety of different models, the link between the family and the production unit was a specific historical characteristic of French farming. Today, the tendency is for the farm operator's family to withdraw from involvement in his or her work. The income sources of farm households are diversifying and it is more often the case that spouses have no family background in farming, and many have jobs off the farm. As for the children, they do not necessarily intend to take over the family farm and are increasingly looking to take up other careers. Becoming a farmer is no longer an ineluctable destiny, or a vocation directly connected to a family origin and a way of life.

Within this broad structural trend, there is naturally a wide range of situations depending on sector, local region and individual history: for example, in dairy production, the dynamics of farm enlargement and entry into

the industry continue to be largely driven by family-type farms.

An input of external skills and labour can be a palliative for the withdrawal of the family, hence the increase, in both relative and absolute terms, of paid employment under permanent contract, but more especially of temporary paid labour. Such wage-based employment is also increasingly outsourced and provided by a variety of legal entities: agricultural service providers, employer groupings, farm machinery cooperatives (CUMA), foreign service providers using posted workers, and so on. Farming has in this way become a complex system of tasks that may be carried out equally by the farm operator or by third parties. Taken to its extremes, such task delegation may go so far as to include the entirety of productive activity.

Generally speaking, paid farm workers are relatively young and have a history of fairly precarious employment including work outside agriculture in various sectors of the economy. It is a workforce that is increasingly flexible, hired under ever-shorter contracts and recruited by temporary work agencies that help facilitate transfers of labour with construction and public works, among other sectors.

Where farmers are concerned, their occupational mobility is tending to increase, although it remains limited. It is more often the case that they have entered farming after experience of employment in other sectors. Their level of initial education is rising, as it is in the whole of French society, but the general educational system now plays a dominant role compared with that of agricultural training. They now start their projects more and more frequently without dedicated public financial support. Farmers may thus give up their farms more easily than in the past and the early winding up of farm businesses is more frequent. Such departures

(usually definitive) for other occupational horizons are largely motivated by the difficult living and working conditions (e.g. remuneration, harsh working conditions, lack of work/family life separation) rather than by business failure.

These different change processes (marginalisation within society, defamilialisation of the work collective, development of wage-based labour and task outsourcing, increased occupational and social mobility, etc.) lead to the conclusion that a process of “normalisation” is under way in the farming profession: it is converging more and more with management of small or very small enterprises in the other sectors of the economy.

And it is a fact that exchanges of people and information between agriculture and other domains are expanding, as the farming world becomes increasingly porous and open. Normalisation and porosity feed into the process of “de-agriculturalisation” of French society, as is also the case in all other European countries.

Public policies, while supporting and reflecting this “normalisation” of agriculture, also single out the agricultural workforce less and less. Although social and fiscal provisions still consider them to be citizens in a particular category, covered by more flexible, less protective work legislation for the employees, a tax regime that fosters labour productivity and less social protection for the self-employed, the current trend is towards convergence with the general regime. Given this, the need is to provide more support for occupational mobility (cf. the debate around “agricultural unemployment”), to move away from the inheritance model (cf. the discussions around “corporate” tax regimes) or to improve working and living conditions (social protection, quality of working life).

The increasing heterogeneity of agricultural models

Although the activity of a farm operator is increasingly similar to that of the manager of a small business, definition of the job of a “farmer” covers situations that are increasingly heterogeneous from the standpoint of work organisation, tasks to be performed and ways of ensuring their performance. This diversity probably already existed 30 or 50 years ago, but it was overshadowed by the dominance of the traditional family-farm model. As that model has retreated, a variety of forms of farm reconfiguration have come into view. More complex structures are appearing that resemble entrepreneurial activity: holding companies, farm operator groupings, for example.

The broadening of the range of very widely available innovations (technical, organisational, managerial, and so on) changes the

farming profession by diversifying its occupational references and communities of practice. The rapid expansion of organic farming is a good example. Organic farming often goes hand in hand with activities involving product processing and the marketing of products via short distribution channels or directly on the farm.

The entry conditions for the agricultural sector also feature this same heterogeneity of models, with a variety of career paths: farmers more often enter the industry without any family background in farming, after previous occupational experiences, and at different times in their lives. Access to farming is still more difficult than in other sectors given the high entry cost related to acquisition of the productive capital. This difficulty is accompanied by diversification in types of land ownership and underlying corporate forms, facilitated by changes in farm structures monitoring policies.

The diversification in models can be a response to the specific characteristics of agricultural activities. Specifically, farming remains seasonal and marked by the uncertainty arising from the use of natural capital and dependence on the weather. The gradual liberalisation of the sector and exposure to price fluctuation increase both risks and hazards. Whereas market regulation (i.e. guaranteed prices and commercial outlets) in the 1970s and 1980s was favourable to farmers deploying the “technical packages” underlying the standard model, maintenance of activity now requires an adaptation of risk management strategies to match the chosen system of production. The agronomic, organisational and financial solutions adopted (recourse to futures markets, for example) contribute to this diversity of models. For example, wage-based employment may be chosen by individuals wishing to work in farming without having to deal with the associated risks.

This trend towards diversification raises issues for public policies originally designed for the typical French family farm of the 1960s, a model that they have been slow to relinquish. This trend also raises the question of the status of “farmer” as opposed to “owner” or “manager” of an agricultural business, as well as the definition and limits of the “agricultural holding”.

Precarity and inequality

In the dominant representations, a farm operator is the symbolic embodiment of farm work. Moving away from this stereotype, *Actif'Agri* shows that agricultural workforce is composed of a variety of categories. Farming makes use of temporary employment, or even day labour, sourced inside or outside the family, to meet the imperatives of a form of production typified

by sharp peaks in activity, a high level of seasonality, a variety of hazards and major price volatility. And these categories of worker do not all have the same status or enjoy the same recognition.

Historically, family labour has accounted for a large proportion of this “status-less” workforce: spouses, retired parents, children, and so on. Some of this family help was made visible by statistical surveys and the obligation to adopt more protective forms of status offering enhanced recognition of the work performed. The introduction of the formal role of “collaborating spouse” (*conjoint collaborateur*) has for example thrown a spotlight on women working on farms.

In certain regions and for certain crops (e.g. orchards, winegrowing), some members of the workforce are precarious workers on whom there is relatively little information and who are frequently left out of account in discussions of sector issues. Their working conditions are more or less well documented, but the worst-off are probably those that escape oversight – illegal workers foremost among them.

The expansion in wage-based employment and task outsourcing promotes the development of jobs whose status is precarious. This vulnerability and the low levels of pay should be seen in conjunction with the modest and unstable nature of the revenue of the majority of farm operators.

Lastly, in farming as in other sectors, the place occupied by women still differs from that of men: the farming world continues to be gendered. Women do not do the same work, or in the same sectors, and they do not have the same income or the same career paths. Despite their higher level of general education and greater mobility, they are more exposed than men to occupational illness and less exposed to physical risk. Overall, their presence on farms is declining due to the expansion of paid workforce, which includes more men, and the stagnation over the last ten years in the percentage of women running agricultural holdings. But these changes mask more complex realities linked to variations in status and statistics. For many years, women farm operators were spouses who took over the farm when their husband retired. Today, women entering farming more often do so in roles equivalent to those of men and on a more independent basis as managers of their own projects and not as spouses, with or without a formal role.

Human capital, a key issue

Despite the fact that farmers’ level of initial education has been constantly rising over the last fifty years, as it has in the rest of society, the diversification of agricultural models and accelerating technological innovation require continuous adaptation of vocational

skills. The issue is no longer how to access technologies but how to develop a business plan. Today, the level of education of the agricultural workforce, whether on a wage or not, remains lower than in the global French working population, in spite of the fact that their jobs demand increasingly high levels of qualification and ability.

In particular, questions of work organisation are increasingly important. The range of strategic decisions to be taken is broader: on what market should the farm be positioned? Which activities should be undertaken directly and which should be delegated? What innovations should be adopted? How can high environmental performance be combined with productivity? Farm operators often do not possess all the skills required for the adaptation of their business, hence the need for outside input.

In farming as elsewhere, expertise breeds expertise: workers with the best levels of initial education are also those who continue to train throughout their careers. Such skills are also necessary to achieve mobility and successfully undertake changes of direction during their careers.

Human capital is of little value without healthy working conditions enabling abilities to be used effectively. Although the situation has significantly improved over the long term, the working conditions of the agricultural workforce remain problematic compared with those for the French population as a whole: working time constraints, physical risks, low income in some cases and debt. The context (isolation, social pressure, etc.) is also a source of specific health issues. This is evidenced by a higher incidence of workplace accidents and occupational illness compared with the general average. This situation is accepted and tolerated by some in farming to whom it seems normal for work to be hard and stressful or a source of illness. Others find this increasingly difficult to accept, and they leave the sector.

Given the levels of income in farming, the difficult conditions for work and life contribute for some to diminished attractiveness for a profession which nevertheless has numerous positive aspects. This handicap is a factor, among others, in the difficulty of recruitment. One farmer in every three is currently not replaced, but there are many young people in the paid workforce: the sector could capitalise on them by supporting their career development and building their skills.

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Far from the image of an unchanging, traditional farming world, *Actif'Agri* shows that agriculture is reinventing itself through the efforts of the women and men involved in it,

reorganising their day-to-day activities to build new skillsets and new ways of working.

This study did not set out to cover every aspect and every issue relating to the transformation of agricultural work and activities in France. Possible avenues for research were explored and others remain to be explored. Results have been produced but many others are lacking and there are still areas of ignorance that call for further research. Some of these require a change in the level of analysis to look at regional and local dynamics, at international similarities and dissimilarities, and at induced and indirect employment surrounding agricultural productive activity (upstream and downstream). More in-depth analysis of the effects of public policies remains to be done from a range of standpoints, particularly with regard to taxation and social security systems.

The facts observed and the trends identified by *Actif'Agri* reveal the challenges that policy makers will need to confront tomorrow to bring about a form of agriculture that best matches their expectations. They lead to the formulation of a small number of strategic focuses that concern all stakeholders in the farming world, public actors foremost among them. Of the many topics addressed in the conclusion to the study (generational renewal, evaluation of public policies, and so on) we focus here on the social performance of French agriculture. Where this is concerned, attention will need to be paid to three types of tensions in the future.

The first tension is between the objectives of farm job retention on the one hand and increased labour productivity on the other. Such increase depends largely on technical innovations and on consumption of inputs accompanied by suitable advisory services, underpinned by public incentives such as support for investment and modernisation. Historically, improved labour productivity has led to the eviction of the least productive farms, along with their workers. Today, the race for ever-higher productivity based on technological innovation is questioned due to its increasingly unfavourable cost-benefit ratio for farms (debt, solvency issues, upstream dependence, problematic transferability, resilience). One way to resolve this tension would be to replace productivity as defined by volume with productivity based on economic performance, lying on creating higher gross margins per worker. This could mean encouragement of alternative, more economic and self-sufficient systems limiting the use of inputs, generating smaller volumes in production, but with controlled costs and therefore better margins.

A second tension exists between the desire to improve the quality of work, and specifically its remuneration and execution, and

farm price competitiveness in the context of international competition. A number of signals tend to indicate that the present dynamic favours continued effort to reduce labour costs. This raises the question of the acceptable level of social performance for agriculture in France and abroad, and how that level might be raised. Among the ways discussed in this study, the “social quality” of agricultural goods could in the future be a new factor in product differentiation for consumers in developed countries, as it has been observed in other sectors of the economy.

The third tension concerns human capital: despite the observed rise in levels of training and qualification, agricultural workers are still less educated than the population as a whole, in spite of the fact that the level of ability required by their jobs is constantly increasing. The lack of certain skills (e.g. management, information and communication technology) can be a handicap for business innovation and the working conditions of the paid workforce. Additionally, agricultural workers make less use than others of continuous vocational training, while agricultural development schemes fail to engage a significant percentage of workers. To address these tensions, the *Actif'Agri* group suggests that both public and private-sector effort should be stepped up to assist agriculture's paid workforce. More generally, the challenge posed by human capital calls for consideration of the links between the organisation of work and effective use of individual and collective skills.

By the end of this study, there are numerous avenues for reflection, research and action, and we hope that it will contribute to discussions on the future of French agriculture.

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