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Trends in family labour, hired labour and contract work on French field crop farms: The role of the Common Agricultural Policy

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ABSTRACT

This paper investigates French field crop farms' use of various types of labour during the period 1990–2007. We explore the determinants of the three types of labour used on farm (family labour, hired labour and contract labour), with a particular emphasis on the impact of Common Agricultural Policy (CAP) reforms and subsidies on the three labour types. We estimate a system of three equations, including a censored model, using the French Farm Accountancy Data Network (FADN) database.

We find that hired labour and contract labour are substitutes as expected, but that hired labour and family labour are complements. This may reveal complementarities between management tasks (which are specifically for the farm head and family labour) and technical operations (the only operations performed by hired labour). In addition, we find that, in general, crop area payments and Single Farm Payments (SFP) have reduced farm labour, while agri-environmental payments, Less Favoured Area (LFA) payments and investment subsidies have increased it. Our results agree with most of the literature that coupled and decoupled area payments reduce labour use on farms.

Introduction

This article analyzes the trends in on-farm labour use, including own family labour, hired labour and contract work, and assesses the factors driving their evolution in France during 1990–2007, in particular the role of the Common Agricultural Policy (CAP). Agriculture is a main contributor to employment in rural areas (Cooper et al., 2009). In France in 1998, 15% of the employment in the rural areas was provided by the agricultural and agro-food sectors, out of which 10% was provided by agriculture only. Although this percentage may have declined since then due to the emergence of new activities such as personal care services, agriculture is still considered to be a crucial contributor to jobs in rural areas. For example, experts interviewed in two French regions (Centre and Midi-Pyrénées) in 2008 considered that job provision was the second main contribution of farms to rural areas, after the preservation of the rural fabric (Latruffe et al., 2009). In France, preserving hired labour is an explicit aim of the general law governing agriculture ('Loi d'Orientation Agricole') which includes specific administrative measures to ease the hiring of employees by farms (Ministère de l'Agriculture, 2005).

Hill (2012) also notes that agriculture in the European Union (EU) is seen as an instrument to stimulate rural areas' economic growth by sustaining incomes and jobs in agriculture. The European Commission (2011c) has recognised the importance of rural areas (which contribute to 22% of the total employment in the EU) in achieving the 75% employment rate target which was set in the EU's 2020 Europe sustainable growth strategy. In its policy objectives and options for the new CAP post 2013, the European Commission (2010) clearly shows its awareness of this issue. The Commission's propositions are for a policy that not only supports the production of quality and diverse food, but that also remunerates multifunctional services such as environment protection, social and territorial balance, and local employment. However, as noted by Mattas et al. (2008), it is peculiar that agricultural policies do not include instruments aimed directly at preserving agricultural employment. The European Commission seems to rely on production-coupled subsidies and decoupled subsidies to address this matter. Therefore, studies evaluating the effect of the CAP on farm labour are crucial in order to understand whether or not this is an effective strategy.

While a farmer's or a household's time allocation decisions between on- and off-farm work have been widely studied (e.g. Benjamin and Kimhi, 2006; Ahearn et al., 2006; El-Osta et al., 2008), decisions regarding the type of labour used on farm have rarely been investigated, despite the fact that participation in off-

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farm employment might be constrained by the possibilities of substituting external labour for family labour. Some studies indicate that the share of hired labour in total farm labour in developed countries has increased over the last decades (e.g. Blanc et al., 2008). Existing studies on the factors behind the demand for hired labour point to the roles played by global trends in farm labour productivity and mechanization, and by farm and household characteristics and environment, such as farm size, wages, other input prices, tax policies, the farm household's education, the number of children in the household and changes in the sociological attitudes of farm heads (Bhati, 1980; Benjamin et al., 1996; Blanc and Perrier-Cornet, 1999; Kanwar, 1999; Baum et al., 2006; Benjamin and Kimhi, 2006; Blanc et al., 2008).

However, contract work has not yet received much consideration by researchers, although such labour is becoming increasingly common on farms worldwide owing to its greater flexibility (Lee and Sivananthiran, 1996; Smart, 1997; Errington, 1998; Harff and Lamarche, 1998; Picazo-Tadeo and Reig-Martinez, 2006; Devey et al., 2007). Contract work, also called outsourcing, refers to the use of contractual services for specific and one-off tasks. The services may be provided by a specific specialist company, or by other farmers. Errington (1998) suggests several explanations for the increasing use of contract work. Firstly, the farm population consists more and more of part time farmers who may not have all the necessary skills to farm, and who therefore resort to contract work. Secondly, the flexibility of contract work enables labour demands in peak periods (arising from seasonal fluctuations) or in emergency situations (such as the farmer's illness) to be covered. This is reinforced by the fact that family members, who could provide help in such situations, are now increasingly involved in off-farm work and therefore less available for casual work on the farm. Thirdly, contracting labour allows the labour force to be adjusted to the farm needs and thus reduces slack on the farm. Finally, contract work is not only flexible in terms of labour, but also in terms of machinery. As well as their own time, contractors may also supply their own machinery, in particular in arable farming. At a time where increasingly complex and expensive technology is developed for farming operations, farmers may prefer to resort to contract work instead of purchasing their own machinery.

Our paper explores the determinants of hired and contract labour demands and of on-farm family labour supply, using a simultaneous equation system applied to farm-level data for the period 1990–2007 in France. Such a period enables the effects of the three reforms of the CAP (1992, 2000 and 2003) to be captured. Several CAP payments are considered: direct payments, decoupled payments, agri-environmental payments, LFA payments and investment aids. Field crop farms are considered for two reasons. Firstly, French field crop production is an important sector in agriculture in France and in the EU. France ranks first in the EU in terms of quantity harvested: for instance in 2008–2010, 23% of the EU cereal production and 54% of the EU field peas production originated in France, followed by Germany which produced 16% and 9%, respectively (Eurostat, 2011). Secondly, field crop farms are the largest employers of farm labour in France, with (in 2007) 129,000 full time equivalent workers per year – a higher number even than wine production (104,600) and dairy production (100,500) – with 22.4% being hired labour (Agreste, 2010).

The paper is structured as follows. The next section presents the background to the analysis, including a literature review and a conceptual framework. Section 'Methodology and data' describes the methodology and the data used. Section 'Econometric results' and 'Sensitivity analysis: results with alternative estimator and functional form' present the results, while Section 'Discussion' discusses these. Section 'Conclusion' concludes.

Background

Literature review on the impact of agricultural policies on farm labour

The evolution towards decoupled agricultural policies in developed countries raises the question of whether these policy reforms will result in a modification of the farm labour structure in the future. In the EU, farmers are supported through the CAP. When the CAP was first implemented, output price support was provided to farmers, but this instrument has gradually been abandoned since the first CAP reform in 1992. This reform, the so-called MacSharry reform, reduced price support and introduced payments per specific crop area unit and per specific livestock head, designed to compensate for the decrease in the regulated output prices. The direct payments, provided annually, were mainly cereal, oilseed and protein crop area payments and beef and sheep head payments. Such payments were therefore considered as coupled payments, although they were partly decoupled as they were based on regional historical yields but still required production on the land for it to be eligible. The MacSharry reform also introduced some rural development subsidies, such as subsidies provided to farms located in disadvantaged areas and agri-environmental subsidies. In 2000, a new CAP period started with the Agenda 2000 reform, which decoupled even more the MacSharry payments per specific crop area unit and per specific livestock head, introducing them under the name 'pillar 1 subsidies', and strengthened rural development subsidies called 'pillar 2 subsidies' under the framework of the Rural Development Regulation. Agri-environmental subsidies, payments for farms located in Less Favoured Areas (LFA) and investment aids for specific projects are included in the rural development program. Finally, the reform agreed in 2003, the Luxembourg reform, introduced a more decoupled instrument, the Single Farm Payment (SFP), provided to farms irrespective of their production type or level. Farmers are entitled to the payments on eligible land, whether they produce or not, conditional on maintaining their land under good agricultural and environmental condition (the so-called 'cross compliance'). The decision on the exact timing of the introduction of the SFP (between 2005 and 2007), as well as the type of SFP model (flat-rate, historic or hybrid), was left to individual Member States. The SFP system was introduced in France in 2006 in the form of a historic scheme, where the amount of the SFP provided to a farm is determined on the basis of the subsidies received by the farm during the reference period, 2000–2002. In addition, France kept several coupled direct payments, such as cereal payments, although their value was lower than before the reform.

Key and Roberts (2006) suggest that government payments in general may make farming a more profitable activity than alternative jobs. This may at least preserve labour in agriculture, if not increase it. However, the effect may vary depending on whether the payments are coupled to or decoupled from production. As explained by Ahearn et al. (2006), the receipt of coupled payments is equivalent to an increase in the farm wage rate, while decoupled payments correspond to non-labour income. Coupled payments may thus increase the use of on-farm labour. However, the effect may be the reverse if payments are coupled to products that are less labour-intensive. Decoupled payments increase household income and may therefore decrease the household's own on-farm labour in favour of leisure (Economic Research Service, 2003; El-Osta et al., 2004). Nevertheless, despite this expectation, El-Osta et al. (2004) find the opposite. The authors estimate the effect of decoupled payments on farm operators' on-farm labour supply in the United States (U.S.) in 2001, and find that for every additional $1000 payment the farmer's time spent on the farm would increase by 4.38 h. The authors explain that this may be due to farmers