
Transitions among family-based agricultural contractors in Argentina: labor, pluriactivity and rural development

Guillermo Neiman ^a, Mariela Blanco ^a, Melina Neiman ^a

^a Centro de Estudios e Investigaciones Laborales, Consejo Nacional de Investigaciones Científicas, Universidad de Buenos Aires

Abstract: Labor outsourcing for different agricultural areas across the world has become particularly evident since the 80s alongside productive changes including higher levels of economic concentration, increasing productivity, and continuous incorporation of technological innovations. This paper aims to analyze a group of family-based agricultural contractors in the pampas region of Argentina identifying their main transformations, current economic conditions, and challenges in midst of the present agrarian development trends in the region.

The possibilities for persistence by family-based contractors are linked to the persistence of small farmers; besides, contractors' chances to scale-up rely on the association with another contractor of similar condition, at least partial incorporation of technological innovations, and developing pluriactive alternatives.

The reciprocal ties established between family-based contractors and small size farms at the same time contribute to each one's persistence and also promote local development both for urban and rural settings.

Keywords: outsourcing, family-based contractors, agriculture, Argentina

Introduction

Labor outsourcing has become increasingly relevant in agriculture during the last decades in Argentina. The number of farms outsourcing tasks and labor, the diversity of crops reached, and the quantity of hectares cultivated through contractors have been steadily increasing since then.

Besides, contractors themselves are undergoing relevant transformations considering machinery working capacity and the type of technologies introduced, and therefore giving rise to internal differences among them, distinguishing traditional, small-scale and family-based agents from larger and more heavily capitalized contractors.

Specifically, this paper aims to analyze family-based agricultural contractors in the so-called *pampas* region of Argentina, identifying their main transformations and current conditions, and the challenges they must confront in midst of the present local agrarian development trends.

The above-mentioned region is one of the most fertile areas in the world, where cereals and cattle were the main products at the end of 19th century and being responsible for the initial integration of the country to the world markets. During the last decades of 20th century intensification of agriculture took place, with a remarkable growth of soybean production for export, and the use of new technological packages including transgenic seeds, no-tillage techniques and a chemical inputs (for soil fertilization and weed control among the most relevant). Alongside with these transformations, land distribution changed with diminishing numbers of farmers and a consequent increase in the average size of farms, and growing capital inflows of diverse origins (national and international, agrarian and non-agrarian).

In this context, the prospects for family-based contractors, comprising the more traditional ones and those who have managed to adapt to the present agrarian development pattern, are also assessed in this paper while the paper also examines the effects on local rural development.

Transformations of agriculture and new challenges for family contractors

Labor outsourcing in agriculture is not a new phenomenon in the history of agriculture, mainly for such tasks as seeding and harvesting; on the contrary, what has become remarkable during recent decades and for different regions and countries is the accelerated growth and changes that contractors are undergoing.

For the European Union it is estimated that currently more than half of the agricultural work is done through contractors and that it can exceed 80% in some tasks such as harvesting (Caldier and Drésin, 2018); for example, according to the same source, in Germany, contractors harvest and silage approximately 90% of corn, in France 75% of livestock producers use contractors and in Italy about 2.5 million hectares of different crops are done by contractors, with seeding, fertilization, spraying and harvesting being the most usual tasks performed

According to some analysis, subcontracting allows small farms to take advantage of the economies of scale associated with mechanization, which they could not achieve if the entire production process is carried out in the same unit; besides, access to technological innovations and skilled labor is guaranteed (Arnalte, 1991; Key, 2004). In the case of larger farms, subcontracting would fulfill an essential function reducing labor costs so that they would not only be hiring machinery but also making the hiring of workers more flexible (Nye, 2018). A different perspective emphasizes that outsourcing deepens the “decentralization process” by which a larger proportion of agricultural labor and other demands are diverted from the farm itself and even from the local space in which it is located (Ball, 1990).

In Argentina, agricultural contractors started growing by the 1960s due to advantageous public credit policies promoting machinery and equipment acquisition by farmers, aiming in turn to foster the industrial sector. Mainly family farmers responded actively incorporating tractors, ploughs, seed drills and harvesters although in the case of harvesters to a lesser extent due to its higher price (Baumeister, 1980).

A process of over-mechanization began to take place at the farm level, and with it the possibility of developing extra activities reaching a more efficient use of machinery and of family labor itself. Thus, farmers become pluriactive although in a way where “outside the farm gate” activities resembled very much the ones developed inside it; besides, rural local economies become more active and diversified for machinery repair and maintenance, and other associated activities (Tort, 1983; Barsky y Gelman, 2009; Lombardo y Tort, 2018).

The origin of these contractors dates to when it was a “refuge activity” for capitalized family farmers who found an alternative to improve their income with the provision of agricultural services (Gras, 2006). Combining the supply of services as contractors and farming through land leasing became a strategy in order to “attain a more efficient use of machinery”; besides, high land prices become a critical barrier for having access to land ownership (Hernández and Muzlera, 2016).

Contractors have been key actors in the more recent agricultural intensification and specialization at the *pampas* region in Argentina (Llovet, 1991), leading to a growing homogenization of the available technology and its use by production units of different types and scales, together with greater flexibility in the organization of production, work and of farmers’ economic strategies (Craviotti, 2001; Balsa, 2006; Muzlera, 2011).

For the year 2002 in the province of Buenos Aires, 11.6 million hectares were cultivated with contracted machinery spread over 37% of farms (INDEC, 2002). According to the latest national agricultural census, in 2018 there were 24.2 million hectares under machine contractors reaching 52% of the farms in the province; besides, the number of contractors was 10,394 agents (INDEC, 2018).

The existence of a segmented market for services by contractors has been identified considering, on the one hand, those performing tasks for small-size farmers located in their area of influence, and counting on a standard set of machines (tractors, seed drills and, less frequent, harvesters). On the other hand, there are contractors offering their services to remote areas, with high working capacity and diverse machinery (Muzlera, 2015; Villulla and Chen, 2015, Hernández and Muzlera, 2016), and more recently with precision farming technologies (Neiman, Blanco and Neiman, *en prensa*). Also, a differentiation process takes place given the tasks each group is engaged in (from the most traditional such as sowing or harvesting, to the most recent tasks such as crop monitoring, soil analysis or even economic management), and the type of farm requiring those services.

Increasing capital-intensive modernization of agriculture at the *pampas* region in Argentina - with prevalent crops such as wheat, maize and, more recently, soybean - put severely at risk family farms during last decades. Various factors are usually mentioned as main causes of such tendencies: the growing mechanization driving off permanent and seasonal workers from agriculture, land concentration expelling small and medium-size farms, the need of larger amounts of capital due to continuous innovations, intensification of knowledge intensive technologies and services, among those influencing more decisively.

For family-based contractors the renewal of machinery becomes a critical point. Moreover, since the 1980s and definitely during the 1990s this group confronted increasing constraints due to the above-mentioned transformations in the agrarian development pattern whereas the need of upgraded machines and equipment with higher labor displacement capacities (that is, reducing working times), the incorporation of new costly equipment (like those associate with zero-tillage technologies), the diffusion of precision farming and the demand for knowledge based services (like crop monitoring), become crucial. (Lodola, 2008; Lodola y Brigo, 2010; Bisang y Anlló, 2014).

The relatively recent emergence of the so-called “precision farming” (Trendov et al, 2019; Lownberg-De Boer, 2003) places production and labor in a new scenario, challenges small scale contractors’ persistence, and the consequent need for updating machines and knowledge. In fact, a significant part of the activity that was traditionally considered agrarian is now carried out by companies that can be classified as service providers for the different activities required by the new agronomic package (Bisang et al, 2008. Bisang, 2008).

Under these conditions family-based contractors need to develop new strategies to stay in business, and possibly to grow. However, under the current production model already described family contractors face a major challenge in order to stay competitive and avoid diminishing their incomes. Therefore, our interest in analyzing this sector of contractors paying special attention to their profile, the role they played in broader rural development and the strategies they develop concerning their future prospects.

Method

The research for this paper was developed in a specific area of the province of Buenos Aires at the *pampas* region – the Department of 9 de Julio – which is considered highly representative of the main transformations undergone by the region. During the last decades, an intensive process of agricultural specialization took place led by soybean crops based on the use of genetically modified seeds, chemical inputs for weed control, and direct seeding.

First, a list of 15 contractors was elaborated based on key informants’ interviews (mainly from the Instituto Nacional de Tecnología Agropecuaria - INTA); this list covered nearly all active contractors with permanent address in the main city of the Department. Afterwards, in-depth interviews were undertaken

for all contractors, considering the following main dimensions: a detailed description of the tasks they perform, their trajectory in the activity, the process of incorporation of precision agriculture, and a characterization of the farmers demanding contractors' service provision.

In a first stage of the analysis of the information collected through the interviews, contractors were classified according to certain descriptive variables - tasks performed, economic scale, characteristics of machinery, type of workers involved – into two main groups: capitalized large contractors and family-based small contractors. Then, for the second group, an interpretative analysis of the core issues emerging from the interviews was carried as it is exposed in the following sections.

Tradition and change among family contractors

An examination of the current conditions of the family-based agricultural contractors result in the identification of at least two different situations: on the one hand, those persisting with similar characteristics as the traditional ones, mainly laboring for small farms using quite outdated machinery; and on the other hand, family contractors that could at least introduce some partial technological innovations (mainly related with the above mentioned precision mentioned) although its main clients continue to be small family farms.

Overall, these contractors have a double "family" foundation: on the one hand considering their current or previous status as family farms, and on the other hand the relatively small set of machines they have which are exclusively operated by family workers.

Family inheritance plays a key role at the beginning of their trajectories as contractors, including both how they get basic skills and knowledge and the "initial investment" in machinery, first borrowing it and afterwards its definitive transfer takes place. Sometimes, the final acquisition of the machinery may include installment payments that depend on the level of activity reached by the now "autonomous" contractor, without necessarily putting in formal terms these payments.

Nevertheless, becoming a contractor is not straightforward. Usually it starts with a father/son¹ association, and then the latter gradually begins to take over different functions and responsibilities. A contractor tells us: *"I started with the tractor, which was supposedly my father's, and I kept it, paying him back while I worked with him"*. Thus, this contractor first contributed to the household business with the expectations - or in exchange - for having a basic set of machines in order to become a contractor himself in the future.

However, this transition is not usually free of tensions and conflicts including personal and economic ones. As a way to anticipate them and/or solve them in advance, different strategies are developed to at least guarantee staying in the activity, ranging from task division among different household members for specific activities for each, to partnerships aimed at scaling up the supply of services or tasks offered as contractors.

Machinery: from restrictions to adaptation

A critical condition portraying this type of contractor has to do with the characteristics of the machinery itself that they own. First, many contractors consider themselves as "small contractors" precisely because throughout a campaign they can work a relatively low number of hectares. This is due to the type of machinery they dispose – mainly, outdated and with a low labor capacity -, but also because

¹ We did not find women/daughters being part of these associations, probably because machines are still run almost exclusively by men; however, women may engage in administrative tasks mainly for larger contractors and among family-based contractors being farmers at the same time.

they can perform a relatively small number of tasks. *"I dedicate myself to sowing, clearing land and then harvesting. They are small things that we do, it is not big. We have small machines, I am not a full-fledged contractor"*, said a family-based contractor while distinguishing himself from a "legitimate contractor" identified because of their larger working scale as a consequence of a wider range of machinery – which may include more than one unit for each type, from tractors to harvesters - a more diverse equipment range enabling them to perform a higher number of tasks, and upgraded machines reinforced by its continuous renewal.

Moreover, among family contractors it is frequent that machinery renewal is regularly carried through the local used equipment market, coming mostly from farmers or other contractors discarding their own machines.

Given the already described current stage of the development of agriculture in the region, working capacity, efficiency, and a periodic renewal are altogether critical conditions; in addition, to have diverse machines can maximize the chances of a full year of occupation. Sometimes these characteristics of the machinery are related to each other, for example the fact that the newer models tend to be larger in scale and more efficient.

The relative oldness of the machinery is a key condition influencing the working possibilities for family contractors. For example, a contractor that has a combine from 1993 and another from 1976, a 20 years old medium-size tractor and another from the 90s, two conventional seeders and standard equipment for tilling soils, says: *"I'm falling behind because I have old machinery, and getting a new machine is impossible for me ... I have hard times growing."* Another contractor of a similar condition considers (that) *"big farmers hate you a little, they are afraid to see you"*, due to the outdated and lower working capacity of the machinery these contractors have.

Also, small farmers may themselves have some machinery, thus reducing the number of tasks to be outsourced. For example, those having a standard grain seeder and tractor will only hire for the harvest, moving away from the current model of subcontracting by mid and large size farms where every task that crops require are performed by contractors.

In addition, those with older machines require more time for performing tasks compared with those contractors with newer machinery, and therefore restricting the number of hectares covered during the working season; as a contractor admits: *"I'm a small contractor, for that reason for me time goes by very quickly during the work season and I can cover a low number of hectares"*.

Besides, within this group there are family-based contractors with more updated machinery - for example machines that are approximately 10 years old - and with a somewhat higher working capacity compared with older machinery while some of them also incorporate certain precision farming devices. Even though these conditions allow them to reach a different status within the contractors' market, it does not necessarily guarantee their access to larger farmers (and, therefore, to cover a higher number of hectares); in fact, this only tends to take place in highly demanded seasons when mainly for climatic reasons tasks become strongly time concentrated.

Beyond their differences, a main change that affected both types of contractors is the cutback in the crop cycles, restricting their working possibilities throughout the same season. The reduction in tasks' working time such as sowing, harvesting or even fumigation, leads to the fact that increasing the number of hectares of contracted work is justification for the available machinery.

This is how one family contractor views it: *"Today harvest and planting times have been shortened a lot. Beforehand, harvest took three months, and today in twenty days there is nothing left. The same happens with sowing (...) Today the contractor who is solely committed to providing services must work*

many hectares to make it profitable. But to make many hectares it means that one does not always arrive everywhere on time when he is required”.

In recent years, another critical element has emerged in the form of precision agriculture devices which are highly demanded particularly because they allow tasks to be carried out with a higher level of efficiency and at the same time to improve control over contractors’ labor. Through these devices, for example, it is possible to have for example: a better adjustment in the use of chemical inputs and seeds, measure the degree of incidence of pests and weeds and reduce crop losses.

Last, in order to increase their work scale and thus have access to bigger farms and / or to work a larger number of hectares this is achieved through association with another contractor usually of the same condition. Kinship, neighbors, a long previous interpersonal linkage and, obviously, sharing a diagnosis about their restrictions and possibilities, promote such strategies. So, they may engage jointly to carry out some tasks, although once hired they will continue to work independently, establishing some previous arrangement for the allocation of hectares contracted between them.

Labor organization and strategies

Concerning organization of work, in addition to the contractor himself usually one or a maximum of two workers are hired during the months of highest labor demand, although that will also depend on the characteristics and requirements of the machinery they own. Sometimes they can be permanent employees working as machinery operators during the season and for equipment repair and maintenance for the off-season time. Likewise, they may hire temporary workers for specific tasks besides machine operators.

A survey carried out in the province of Buenos Aires in 2018, revealed 6248 contractors employing 9298 permanent wage workers (1.5 permanent worker per contractor) and 5226 temporary wage laborers (Dirección Provincial de Estadísticas, 2019).

Excessive working hours is typical both for wage and family workers, where a working day may comprise *“14 daily hours for example for planting, and during harvest time we start at 10 in the morning and go on until 10 at night”*.

Another issue influencing the organization of work among family contractors will be the existence of pluriactive strategies, that is the possibility of engaging at least on a temporary basis in an additional occupation in order to complement incomes. Indeed, multiple activities are very frequent among these types of contractors, although with differences: some of them may rent land, while others will instead engage in much more casual occupations always related to agriculture.

The last use to say *“we do a bit of everything”* to denote their pluriactive condition, generally of an occasional and quite informal type (for example, construction of wire fences, cattle raising assistant) that they will carry out once machinery maintenance and repair tasks is completed, which is not necessarily repeated every year but is always identified as *“regular countryside tasks”*.

A different situation relates to contractors considering themselves as *“farmers”*, when in addition to that occupation they are leasing land to work on their own account. Although they usually tend to emphasize their identity as farmers, they will accept that when it is necessary to carry out tasks as contractors this activity is prioritized. This is because they will never be able to capitalize enough in order to purchase land and therefore need to focus on their role as contractors.

Leasing land emerges as a strategy when contractors have sufficient machinery to perform all of the different tasks required in their own farm; furthermore, it allows for costs reduction in moving the machinery because they may attend fewer clients, to schedule tasks in a more flexible manner, and also

for diminishing risks in each campaign mainly when trying to ensure an appropriate number of clients and hectares to cover.

This is how one contractor put it: *"In my farm, I can either anticipate or delay a task, I can manage my times, but this is not the case with a client, where in fifteen days the work has to be done... When having land you decide, based either on what you are used to or what you assess is best. When providing a service as a contractor this does not happen"*. To lease land also allows to avoid competition with other technologically better-positioned contractors, mainly because larger farms tend to lower prices of contractor services in exchange for offering a greater amount of land. *"Today a big farm is paying much less per hectare than a small size farm, for example of 100 hectares"*. Like the arrangements settled between contractors and farmers, land leasing is also of an informal type, where payment is agreed in advance considering a percentage of the total production finally obtained.

Local embeddedness of family contractors

As already mentioned, family contractors continue to perform standard tasks for farmers who are increasingly affected by the transformations towards greater economic concentration and technological innovation in the region. Their persistence as farmers is highly reliant on that type of contractors (mainly because larger ones are not interested in working small plots of land), but the reciprocal situation is also true given that family-based contractors need these types of farmers.

For family contractors to work on "small scale" basis means in fact to move between several small size plots of land, requiring a continuous costs adjustment besides being quite important time consuming. *"You have to change parcels, and that takes time. A large contractor who enters a plot of 100 hectares can do it in four days, and for me it takes 10 days. You are left behind for a lot of reasons"*.

On the other hand, "absent farmers" are those with a permanent residence in a nearby city and who do not regularly move to the farm because they carry out urban-based commercial or professional activities. Usually they have invested in relatively small plots of land and tend to regularly hire the same contractor with whom they establish personal ties maintained over the years. As one contractor puts it: *"We have had this client for 15 years, and he doesn't even come to the farm. He is confident with us, he phones us 300 times a day, but he does trust us"*.

Contractors displacements through their area of influence take place mostly within a radius of no more than 50 km (while a big contractor may move up to 1,000 km), to keep low costs besides minimizing machine wear and eventual breakage.

Small contractors' condition leads them to place with little room of manoeuvre when negotiating tasks' price, unlike larger contractors with greater influence in this decision. The characteristics of the machinery, including scale, oldness, and innovation, leaves them in a vulnerable condition within the current hegemonic production model.

The price for the contracted tasks carried out implies opening negotiations between contractors and farmers; usually a payment per hectare is arranged, although some conflicts may arise concerning starting date of tasks, the deadline to fulfill work, the number of hectares to work, , as one contractor put it: *"Everyone gets angry with everyone at that time because, as with the harvest, everyone wants it to be 'now'. And maybe you started sowing and starts raining or you have drought conditions, and you must wait I don't say 'I'm going to work with you, you and you'; instead, I tell them: 'well, you can call me and we'll see."*

In sum, the current agrarian highly capital-intensive pattern of production puts family-based contractors in a quite unstable condition where the characteristics of their machinery becomes a key restriction for

persisting in the activity. Also, outsourcing among family farmers can only take place with these contractors. Consequently, the social and economic dynamics of rural areas and of small and mid-size urban localities are strongly influenced by these conditions, in terms of production, labor, and well-being of the population involved.

Conclusions

At the present stage of agrarian development of the *pampas* region in Argentina, contractors' are highly critical for the provision of labor and for farmers' outsourcing of different tasks. Historically, family farmers became contractors as an alternative to scale up their activities; however, at present the prevailing productive pattern and its technological basis are affecting persistence of both small-scale and mostly family-based farmers and contractors.

The hegemonic model of production and of technological innovation sets the rules together with the prospects and restrictions for family contractors' activities. The need for a continuous renewal of machinery is crucial for contractors to keep up with transformations in capital-intensive and technology-advancing agriculture.

The possibilities for persistence by family-based contractors are linked to the persistence of small farmers; besides, contractors' chances to scale-up rely on the association with other contractors of similar condition, at least partial incorporation of technological innovations, and developing pluriactive alternatives.

The reciprocal needs established between family-based contractors and small size farms help to explain their respective persistence and contributes for understanding rural (and urban) development current and future tendencies. Therefore, public policies must take into account these conditions in order to promote rural local development, for example through such measures as tax reduction and subsidized credits for family farmers and contractors, respectively.

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