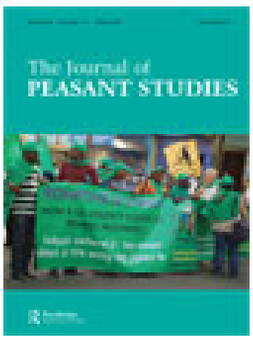

The Journal of Peasant Studies

ISSN: 0306-6150 (Print) 1743-9361 (Online) Journal homepage: http://www.tandfonline.com/loi/fjps20

Which territorial embeddedness? Territorial relationships of recently internationalized firms of the soybean chain

Clara Craviotti

To cite this article: Clara Craviotti (2016): Which territorial embeddedness? Territorial relationships of recently internationalized firms of the soybean chain, The Journal of Peasant Studies, DOI: 10.1080/03066150.2015.1119121

To link to this article: http://dx.doi.org/10.1080/03066150.2015.1119121

Published online: 26 Jan 2016.

The Journal of Peasant Studies, 2016
http://dx.doi.org/10.1080/03066150.2015.1119121

Routledge
Taylor & Francis Group

Which territorial embeddedness? Territorial relationships of recently internationalized firms of the soybean chain

Clara Craviotti

This contribution focuses on the territorial relationships established by companies of Argentinian origin that have extended their scope of action to other MERCOSUR countries (mainly Brazil) in the first stages of the soybean chain. Although some features of grain production and particularly of soybean enable a temporary commitment of these firms with local spaces, they develop some kind of foundations as a necessary condition to operate. A relevant side of their forms of territorial embeddedness is the strong selectiveness of local spaces and actors promoted by their behavior. Some local actors are in fact included; in the long term, however, their capacity to capture value is constrained since they are not able to control the terms and conditions of their incorporation.

Keywords: soybean production; flex-crops; sowing pools; seed firms; Argentina; Brazil

Introduction

In the last two decades, several agri-food activities have shown strong dynamism in MERCOSUR countries. Their growth is related to the switch from state-led efforts to build domestic industries and accumulation around national markets that predominated in the middle part of the twentieth century, to 'outward-oriented development' involving export-promotion strategies (Robinson 2012). It occurred in a period of falling trade barriers, the emergence of the World Trade Organization (WTO) WTO and the policy prescriptions associated with the 'Washington Consensus' (Gereffi 2014). In this context, a new division of labor emerged on a global scale, where the agricultural sector of these countries is increasingly engaged in the production of *flex crops* that can be used as food, feed and biofuels (Borras et al. 2011).

Soybean is a crop with such characteristics and will be a central point of consideration in this contribution. In MERCOSUR countries, the soybean chain is the most integrated to the world trade: in 2010 nearly 80 percent of Argentinian soy was destined to the international markets, whilst in Brazil the figure was 65 percent (CIARA n.d.; ABIOVE n.d.). With nearly 47 million hectares devoted to this crop that same year (Catacora Vargas et al. 2012), MERCOSUR is the larger production area in the world, with China and the European Union as main destinations.

Internally, the expansion of soybean has implied changes in the regional division of production; it has caused the displacement of other crops and the expansion of the agricultural frontier, as well as migration processes and urban changes. In Brazil, the cultivation of soybean started in the south (particularly in the states of Rio Grande do Sul and Paraná) and expanded since the 1990s to the centre-west and centre-north of the country, to the

Cerrados and part of the Amazon region. In Argentina, soybean was initially cultivated in the Pampean region, but in the last 20 years it has spread to the northwest and northeast. However, the first area still represents 85 percent of the cultivated area (SIIA n.d.).

This expansion was accompanied by land grabbing processes that have been considered elsewhere (Murmis and Murmis 2012; Wilkinson, Rydon, and Di Sabbato 2012) and will not be the focus of this contribution. Instead, I aim to explore the type of relationships established with local spaces and actors by firms that hold a central position as drivers of the soybean expansion in the production stage, and the production of the seeds required for cultivation. MERCOSUR represents an interesting scale for such analysis, since some leading Argentinian firms adopted a multinational structure in the last decade and started activities in neighboring countries, with a special focus on Brazil.

Drawing upon previous studies, a collection of articles published in Argentinian newspapers and magazines during 2005–2014, relevant documents, in-depth personal interviews with key informants and statistical data, the aforementioned issue will be explored at an aggregate level through a comparative lens, considering similarities and differences in the strategies deployed by prominent firms of both stages. The comparative dimension will allow us to show that their behavior does not entail full-fledged delocalized relations. These agents need some kind of territorial foundations, so a selective inclusion of local spaces and actors takes place. The latter, in turn, implies uneven access among different social groups and individuals who are placed in distinct ways in relation to these interconnections.

The paper is organized as follows. Some key theoretical concepts will be briefly presented next as a basis for analyzing the *modus operandi* of a handful of leading Argentinian firms in two stages of soybean production, a task that will be done in the third section. Finally, some concluding remarks will be presented.

Territorial embeddedness, organizational schemes and selective incorporation

Earlier perspectives on globalization usually placed emphasis on its relationships with deterritorialization processes – that is, with the emergence of global systems that are able to free themselves from the specific determinations of a particular territory (Gallicchio 2003). The ability of global supplier networks to partition tasks and distantiate from the natural and organic geographies for which they are responsible (Morgan, Marsden, and Murdoch 2006) and from the social processes that make possible the production and distribution of a given commodity led to the proposal of homogenization as the inevitable outcome, and in the end brought about a certain disregard of the specific conditions of production. The latter are particularly important in the agri-food sector considering the fact that, except for some cases, activities need to be carried out on land and have a substantial relationship with soil. A great number of tasks still require large numbers of workers, their involvement and their cooperation. Consequently, materiality and territoriality are important (Bridge 2008).

On the other hand, some geographers such as Haesbaert (2011) have put into question the existence of a deterritorialization process, stating that there is no destruction of territories without their configuration on new foundations, and proposing multiterritoriality as an alternative concept. The latter implies the ability of a given actor to access different territories simultaneously. Haesbaert alerts about the complexity of multiterritoriality, pointing out that territories in this century are always network-territories, because they are related in varying degrees to hierarchical or complementary flows. Network-territories are spatially discontinuous, dynamic (with different degrees of mobility) and more

susceptible to overlap. While zone-territories are dominated by continuity and co-presence, network-territories are characterized by complex relationships of absence–presence. This duality has both tangible and intangible effects that must be carefully acknowledged.

Alongside this strand of thought, a growing field of studies has developed that deals with the analysis of the relationships between the production, trade and consumption of goods on a global scale (Dannenberg and Kulke 2014). The global commodity chains (GCC) approach and its later development, global value chains (GVC; e.g. Gereffi, Humphrey, and Sturgeon 2005) are probably some of the most well known. Both are concerned with the governance of global value chains and the ways in which corporate power can shape the distribution of profits and risk. Yet the global production network (GPN) perspective has aimed to overcome some of the shortcomings attributed to this approach, namely its lack of consideration of the institutional and social contexts out of which firms arise and in which they are embedded (Henderson et al. 2002). It also points to the social processes involved in producing goods and services (and to reproduce capital, knowledge and work) as well as to the existence of horizontally (not only vertically) organized flows. Hence, it is less deterministic than the GVC approach in terms of the conceptualization of the relations between actors. It takes into accounts that inter-firm networks link societies with significant social and institutional variations, and different capabilities of the state to manage the economy. Territoriality – the geography of GCC – is explicitly considered. A comprehensive framework that analyzes territorial, social and network embeddedness is thus proposed (Hess 2004).

Taking this perspective as a point of departure, it is important to study how GPNs constitute and are reconstituted by the economic, social and political schemes of the places where they inhabit. GPNs are multiscalar and are constructed by agents with power asymmetries (Henderson et al. 2002). The differences between agents, their respective capacities (in terms of access to variable combinations of resources), their practices (how they exert power) and the nature of the relations between them are important issues of research. Territorial embeddedness – understood as the degree of commitment of an actor to a particular place – is an important question since the creation and capture of value depends on it. The answer will depend on the analysis of specific, although not necessarily place-bounded, conditions.

This perspective considers that GPN are not necessarily de-territorialized. However, corporate actors have the ability to transcend boundaries between territories, while others are more limited – and therefore constrained – by their spatial contexts (Henderson et al. 2002). In the same vein, other authors argue that large firms are *aterritorial* because they have the capacity to transcend regions (Rallet and Torre 2004). If the territorial adscription of the production processes can be managed by global strategies, this brings about the possibility of using different territories in the most efficient way, taking advantage of specific local conditions (Delgado Cabeza and Gavira Alvarez 2006).

Network production is particularly suitable for global value chains since it allows deverticalization through subcontracting as well as flexibility in operation. In this case the ownership of resources is not as important as their control. Networks can also be seen as relational processes and structures in which, and through which, power is exercised (Dicken et al. 2001, 90). Again, territorial embeddedness remains an open issue since some networks are relatively more localized and dependent on the advantages of territorial agglomeration, while others are controlled at a distance, when the key actors are spatially distanciated from the sites where events happen (Dicken et al. 2001, 96). The fact that production networks cross nation-state boundaries means that territories are inserted into networks, so there is a mutually constitutive process: while networks are embedded within

territories, territories are, at the same time, embedded into networks (Dicken et al. 2001, 97).

Although a network type of production is frequently seen in the industrial sector, it can also be found in agri-food. In MERCOSUR countries, this type of organizational scheme emerged for grain production in the 1990s–2000s, bringing about a separation between land ownership and management. This phenomenon implies that the opportunity cost of land is incorporated in the decision-making process, and thus the capitalist logic of production enters fully into the primary sector (Bisang and Anllo 2014).

An important issue is the consideration of who is excluded from such networks and why. Firms in the agri-food sector may unfold different logics of territorialization; they can construct a fluctuating territory whereby producers are to some extent replaceable, or they can develop closer and frequent ties with them (Margétic 2006). Although a large number of studies has focused on the potential role of contracting in linking small holders to agribusiness firms (Dannenberg and Kulke 2014), additional evidence is needed on their conditions of exclusion and inclusion, particularly on the positive and negative implications of the complex ways in which they are incorporated into these chains (Du Toit 2009).

Besides, although belonging to a network implies complementarity and some kind of stability in relationships so as to reduce uncertainty (Hemsing 2002), the latter does not imply equality among network constituents, as well as immovability in its conformation. Some of these aspects will be illustrated in the following sections.

Regional expansion and territorial embeddedness of soybean production in the MERCOSUR countries

Preliminary considerations

A general overview of the soybean global production chain involves the following stages: input providers for primary production; soybean producers; services providers; crushers, international traders; producers of related food products, bio-fuels and other industrial inputs; main international importers (Regunaga 2009). In the MERCOSUR countries, downstream stages are deeply concentrated and coordinated; large crushing firms are also traders (some even are input providers and carry out production). International firms such as Bunge, Cargill, ADM and Dreyfus are the lead firms in these stages.[1]

Upstream, two important stages are the production of seeds as inputs for cultivation and the production of soybean itself. Before considering the behavior of some of the leading actors in both stages, it is worthwhile noting some features of the crop that impact on its embeddedness: first, soybean can be sown and harvested in less than six months and activities are mechanized, so they are relatively ephemeral. Second, the location of the crop may vary to some extent from one year to another thanks to its adaptability to different agro-ecological conditions (from subtropical to colder areas, and from more humid to drier areas) through the so-called maturity groups of the seeds.[2] While certain environmental parameters still must be respected, technological development has extended the possibilities

[1]However, national companies have a greater weight in Argentina than in Brazil, since they control over 30 percent of exports of flour and soybean oil (Wesz Jr. 2014a).

[2]The latter defines the type and speed of growth that a soybean cultivar will have. Maturity groups are defined numerically from 00 to VIII.

of carrying out soybean production in more extended latitudes. So production is rather dispersed and encompasses an extended area.

Regarding the location of processing facilities, in Argentina they are more geographically concentrated than in Brazil.[3] However, their very existence depends on the policies adopted by the national governments. In Brazil, the 1996 Kandir Law eliminated a tax that affected exports of raw materials and kept the tax burden on industrialized products (Wesz 2014a). Consequently, in 2010, 65 percent of the soybeans exported were non-processed (ABIOVE 2010). On the contrary, in Argentina, taxes encourage local processing. That same year 69 percent of exported soybeans were processed (57 percent as flour and 12 percent as oil).

Focusing on production-related activities, it can be stated that the regulatory environment affected the expansion of the crop in both countries. This can be seen in the case of genetically modified (GM) seeds, the main component of the technological package employed today.[4] In Argentina their use was approved by a public body (the National Commission for Knowledge and Use of Biodiversity – CONABIA) formed by members of the state, the industry and the scientific community that failed to represent the incipient public debate on the issue, so the first GM soybeans were released in 1996. The area sown with herbicide-tolerant soybeans increased from less than one percent of the total soybean planted area in 1997 to more than 90 percent in 2002 (Trigo and Cap 2003). This widespread adoption was facilitated by the existence of an intellectual property system that enabled the non-patentability of the gene and by the autogamic nature of the seed, whose reproduction does not alter its initial characteristics (Bisang and Sztulwark 2007).

While this was happening in Argentina, Brazil did not allow GM seeds until 2003. Nevertheless, producers of the southern states of the country obtained seeds illegally from Argentina. Before the final approval in 2005 of the soybean resistant to glyphosate by Law 11,105 (the Biosafety Law), the Brazilian government had already authorized grain marketing of GM soybean in 2003/2004 and 2004/2005 through provisional measures (Fuck and Bonacelli 2009). Ten years later, it is estimated that GM soy occupies 92 percent of the area planted with this crop in Brazil.

Second, in both countries there have been scarce policies regarding the negative aspects (environmental and social) associated with the territorial expansion of the crop. For instance, in 2007 Argentina approved legislation that protects native forests, defines three categories of conservation areas, establishes the types of activities that can be carried out in each of them and decentralizes the responsibility to establish zoning to provinces. This legislation was enacted after much of the deforestation was already completed, and, in some instances, procedures were resisted and the zoning requirements were not followed (REDAF 2012). In Brazil, the Forest Code approved in 2012 granted an amnesty to landowners who deforested illegally before 2008, reduced the area to be reforested, and introduced conservation measures that could pave the way for commoditizing standing forests (Soares Filho et al. 2014).

[3]In Argentina, most of the soybean is produced near the ports (within a distance of around 200 to 300 kilometres). Although storage facilities are located in small- and medium-sized towns, crushing facilities are geographically concentrated (Regunaga 2009). The metropolitan area of the city of Rosario in Argentina holds 83 percent of the installed capacity of the oil industry. Over 75 percent of agribusiness exports are shipped through its port terminals, and 90 percent of soybean exports (Bisang and Anllo 2014). The area also handles soybean production coming from Paraguay through the Parana River.

[4]The other components are no-till farming (direct sowing) and glyphosate.

Changes in soybean production and the emergence of transnational production firms

Soybean expansion is also associated with changes in the agrarian structure of MERCOSUR countries, which in turn affect the embeddedness of agrarian production. Although soy is carried by about 73,000 farmers in Argentina (an estimate of 25 percent of total producers according to the latest data available) nearly half of the production is in the charge of a smaller number (6 percent) who in 2008 planted individually more than 500 hectares (ONCAA 2008 in Regunaga 2009).

Some soybean producers live in places distant from where they develop farming activities. Their *modus operandi* helps to explain their detachment from the sites of production. More precisely, in the Argentinian grain sector a network-based system of production has developed, which some analysts have likened to the one prevailing in the most dynamic manufacturing industries (Bisang, Anlló, and Campi 2008). This form of production is exemplified by sowing pools (*pools de siembra*) that were constituted by the mid-1990s and expanded in the 2000s. These involve a flexible use of factors of production (land, labor and machinery) in each production cycle. The firms that organize sowing pools do not necessarily own the land that they operate but, rather, lease it on a short-term basis and outsource farm tasks through machinery contractors. Hence, sowing pools are able to 'translate' the flexibility of a product capable of various uses (such as soybean) to their business model; they are asset-light companies with low investments in fixed capital. Their core assets consist of their ability to reap the benefits of a large scale, their access to funding sources to obtain working capital – some of them have even created trust funds to attract investors – and their ability to coordinate and supervise productive, commercial and financial tasks.[5]

Flexibility may be seen not only in pools' organizational structure and interaction with other actors, but also in their primary mechanism of access to land: leasing.[6] The flip side of this phenomenon is the emergence of a stratum of small-scale rentiers, particularly in the Pampas region. The neoliberal policies adopted in the 1990s in Argentina led several small farmers to quit the activity and rent out their land. Some of them turned to offering their work as machinery contractors (Craviotti and Gras 2006); their retreat from production amplified the land market for firms willing to rent land. The demand for machinery contractors and other services was viewed as positive by some local actors who minimized the concentration of production brought about by pools. According to a farm organization's representative, 'pools took and gave work, and that helped many people to move forward'.[7]

[5]These large production firms also develop upstream agreements with trading and crushing companies to better manage logistics and to implement forward sales for risk management (Regunaga 2009).

[6]It should be pointed out, however, that the increase in leasing is driven not only by sowing pools but also by other farmers of the country who expanded their operations through this mechanism, mainly in grain production.

[7]In other areas of Argentina, another type of phenomenon has arisen associated with the dynamism of export agriculture. The fact that some peasants do not hold legal titles on the land they inhabit opened the door to different ways of gaining control of land that range from voluntary purchase to violent evictions. A recent study by the Ministry of Agriculture documented existing conflicts regarding land tenure (Bidaseca et al. 2013) and indicated that almost 80 percent of them involved holders (*poseedores*), namely people who, while they have been occupying their plots of land for decades, do not have legal titles to them. The Argentinian Civil Code recognizes the possibility of acquiring property rights by those who have lived on the same land for more than 20 years, and made improvements on it. But the acquisition of these rights requires a Prescription Trial, a procedure not always available to small farm holders and peasants. There have been, however, some recent institutional

The firms that organize the most important sowing pools are not traditional landowners of the country, although their Chief Executive Officers (CEOs) often come from farm families (Murmis and Murmis 2012). They have constructed a strong narrative as innovative entrepreneurs, distancing themselves from the traditional landowner class of the country (Hernández 2007).[8] Qualitative changes are clearly associated with this way of farming. First, because of the large operating capital required and the mobilization of this capital through trust funds and other types of financial instruments, pools can be seen as part of the process of financialization of agriculture. Second, they are instances of the decoupling of farm ownership and farming. Third, they operate on a large scale and adopt an industrial type of production based on the use of modern technology (such as precision agriculture) and agrochemical input (Craviotti 2015).

Over time, some of the firms that organize large sowing pools have developed a complex structure which involves not only grain production but also other activities.[9] Another aspect of their development has been their ability to evaluate and take advantage of different local conditions to *manage* their territorial adscription. Some of them started operations in other MERCOSUR countries; in the 2010/2011 campaign, big firms of Argentinian origin operated together about 700,000 hectares only in Brazil (Wesz 2014b). Regional expansion allowed them to diversify climatic and political risks associated with institutional contexts (Gras and Sosa Varrotti 2013). It was also related to their need for scale to diminish operating costs and the difficulties in accessing land for rent in Argentina (Manciana, Trucco, and Piñeiro 2009; Bisang and Anllo 2014).

The fact that the agents who control these transnational firms usually live far away from production sites and develop their activities in multiple MERCOSUR locations makes the issue of their degree of embeddedness particularly relevant. Technological developments such as geo-referenced information and online communication imply the possibility of simultaneously controlling plots located in different places, and facilitate the complex mix of presence–absence sustained by Haesbaert (2011).

On the one hand, a large number of aspects support the *aterritoriality* of this corporate agriculture. According to Guibert et al. (2011), the actors of this production model are flexibly associated with particular places: they move more and stay for less time in the same place. They generate non-contiguous territories and interstices of excluded spaces, whose features leave them outside the dynamic of the system (Reboratti 2003).

Regarding local impacts, this strand of thought maintains that there is a weakening of the local dimension of agricultural activity due to the lesser involvement of these actors in economic, social and political life. Former 'social spaces' have been transformed into mere 'productive spaces' because there is no need for developing social activities in them (Albaladejo 2013). In the same vein, it is argued that these firms sustain relationships with local actors and spaces as long as they contribute to their business. Relationships would also vary according to the stage of the chain: for commercial and financing activities, they resort to non-local agents; for transport and production to local people (Gras and Hernández 2013).

innovations – such as the approval of the 27,118 Law on 'Historical Reparation of Family Farming' in 2014, which includes the suspension of eviction trials for three years.

[8]This is a deeply controversial issue in the Argentinian literature, with well-known perspectives stressing the long-lasting importance of the landowner class based on the property of land (see Basualdo 2010).

[9]These firms used most of their profits for horizontal growth through leasing greater amounts of land. However, some of them have also invested in vertical integration activities and, to some degree, in the acquisition of land (Murmis and Murmis 2010).

The expansion of soybean would also remove diversity from the territories involved: homogenization in both actors and spaces takes place because the first are fewer and apply a similar productive organization in different locations (Guibert et al. 2011; Bisang and Anllo 2014).

However, these firms not only constitute the conditions of the places where they operate, they are also reconstituted by them (Henderson et al. 2002). They were not able to transfer mechanically to other countries their business model based on outsourcing productive tasks to machinery contractors. When compared with Argentina, in Brazil there is no such offer of service providers, so they established contracts with local farmers whereby they offered them a fee for their land and a fee for their machinery, and even a fee for their work (Bell and Scott 2010; Wesz Jr 2014a). This kind of arrangement enabled firms of non-local origin to take advantage of farmers' practical knowledge about local productive conditions. As time has passed, some of these firms have also bought land in Brazil to carry out grain production directly (Wesz Jr 2014b).[10]

Large production firms also need some sort of material foundations at the local level. In Argentina, one of these firms organizes its operation through production modules or 'clusters'. Each of them has a technician in charge of coordinating the tasks in plots which may belong to different landowners. The firm also has commercial offices where input items and grains are sold, which in turn are supported by regional service centers with grain storage facilities and agrochemical warehouses (Ordoñez and Nichols 2003; Bell and Scott 2010; Ederer 2013).

A relevant side of their territoriality is the role played by land. Although some approaches stress that in these firms, soil is a mere 'item' of the production function, not even the most important one (Bisang and Anllo 2014), they have departments that assess the quality of soils before decisions to buy or rent are taken (Gras and Sosa Varrotti 2013). Usually, part of the land operated belongs to their shareholders (Azcuy Ameghino 2007; Murmis and Murmis 2014). A survey of the most outstanding firms in Argentina (Manciana, Trucco, and Piñeiro 2009) indicated that although they diversified risks by planting in different places, the Pampean region was prioritized. Besides the better quality of soils, the latter could be related to the location of processing and exporting facilities, which impacts on transport costs.

Regarding the immaterial foundations of this corporate agriculture, the success of large production firms would also be related to their capacity to establish long-term relations with service providers, whom they support acting as collateral regarding credit institutions (Guibert and Sili 2011). Long-term relations are also sought with landowners who lease their land to them (Bell and Scott 2010; Ederer 2013).

Another immaterial foundation of this type of agriculture is its frequent reliance on local people who act as social brokers. Concerning the *modus operandi* of one of these Argentinian firms in one district of the Pampas region, evidence gathered by Vertiz indicates that the company's policy was for its technicians to live in the places where they worked and to favor the employment of local workers so as to strengthen its relations with communities. Regarding the operation of the same firm in the Mato Grosso state of the Cerrados, Wesz

[10]One of these lead firms, which operated in 240,000 hectares in Brazil in 2010/2011, profited from the situation of indebtedness of some producers to buy large tracts of land (Wesz Jr. 2014). The latter implied a change in its business model. Gras and Sosa Varrotti (2013) argue that this strategy was facilitated by the introduction of foreign capital in its shareholding structure, and was associated with the interest of institutional investors in land due to the rise in the prices of commodities.

(2014a) indicates that, recognizing the fact that the company was new in Brazil, it chose to hire local technicians. To rent their land, producers valued not formal contracts but their acquaintance with people they perceived as honest; on the other hand, the firm also needed the technicians' knowledge of reliable local producers. No participation in local events or communication of the firm's activities in the local media was, however, found.

Taking all these elements together, it could be stated that these firms need some kind of material and immaterial foundations in the local spaces where they carry out their activities. It could also be hypothesized that their territorial embeddedness varies according to the type of strategy pursued, e.g. horizontal or vertical growth, the latter implying a greater investment in local facilities and employment.

In any case, a selective network is formed in which, and through which, power is exercised (Dicken et al. 2001). Regarding the conditions of inclusion of local actors, it is clear that a reduced number participate in these networks and hold a subordinate position in them. Large production firms have a very centralized structure in the planning process, the provision of inputs and the decisions regarding renting land (Manciana, Trucco, and Piñeiro 2009). Some of them set operation protocols for each zone and crop that imply a reduced *room for manoeuvre* for local technicians, an issue that may bring about inefficiencies. In some cases the contractual status of these technicians has changed in recent years, from being firms' employees to receiving fees according to the number of hectares supervised (Vértiz 2014). Machinery contractors are always paid by hectare or by the volume of grains collected, but large firms are more able than other farmers to negotiate prices because of the amount of land they operate, among other reasons.

Besides managing conditions of inclusion, another important issue is the power of these firms to eventually *disconnect* local actors. Changing prices for soybean in the global markets and rising costs in Argentina have led them to decrease drastically the amount of land leased in the last few years and to change the business model adopted, triggering a process whose consequences are barely known.[11] If the number of land contracts has diminished, the terms of those persisting have probably changed. The retreat of these firms from some spaces has undoubtedly impacted on their network – basically the technicians that supervise the tasks, machinery contractors and other workers.[12]

However, effects may be ambiguous and contingent on the features of local places. The presence of a large firm in the Pampean region has the power of regulating the prices of land, impacting negatively on local farmers who want to lease.[13] Reduced competition in the land market could be beneficial for them. In the north of Argentina, on the contrary, the retreat of large firms could help to stop deforestation and other negative impacts on local peasants.

Changes on the input stage: transnational seed firms

The seed industry has played a key role since many decades ago in Argentina because crop production is less intensive than in developed countries, and improved seeds have been

[11]For instance, *Los Grobo* operated 86,000 hectares in the 2011/2012 campaign in Argentina and reduced them to 45,000 in 2012/2013 (*Infocampo*, 20 to 27 March 2015). *El Tejar* reached nearly 300,000 but only operated 30,000 in 2013. It also moved its headquarters to Brazil (*La Nación*, 18 April 2013).

[12]One of these lead firms reported in previous years 400 leasing contracts, 3800 service providers, 49 storage plants and 1004 workers (Los Grobo 2011).

[13]As stated for other countries with a strong tradition in grain production (Sommerville 2013), farmers may benefit from the rapid appreciation of land parcels associated with a dynamic agricultural sector, but this simultaneously constrains their ability to expand their operations.

traditionally the most important tool to increase productivity (Regunaga 2009). The sector also plays an important role in technology transfer and in financing this key input to farmers. In the case of GM soybeans, there has been a division of tasks between local firms and the main international seed companies, most of which are also producers and distributors of chemical products. Transgenic traits have been for the most part developed by the latter, while some Argentinian firms hold a leading role in the development of the varieties in which those genes are inserted. These firms do crossings for developing new varieties and, having selected the most suitable ones, they produce the *basic seeds* that will be later multiplied and delivered to farmers, either directly or by other agents.[14] Today, two firms control 90 percent of the Argentinian soybean market and cover the entire range of the varieties grown in the country; one of them is a local company.

The organization of the lead Argentinian firm shows the importance of its agreements with international biotech companies for incorporating transgenic traits to its varieties, and also with a myriad of agents that are involved in producing seeds for the company. On the one hand, the firm produces basic seeds in own and rented farms. These units, which in 2014 covered about 18,000 hectares, were located in the Pampean region (for short-group varieties) and in the north of Argentina (in the provinces of Tucumán and Salta), for large-group varieties. However, about 70 percent of the land for producing these seeds was located in the north of Buenos Aires and nearly 60 percent in only one district, where it accounted for nearly 10 percent of the area devoted to grain production. The amount of land involved and the prices paid – which are higher for seed production because of its requirements – implies that the firm defines the values of rented land at the territorial level. In this sense, the consequences on local producers who want to expand their scale of operation are similar to the existence of a large sowing pool.

Productive tasks are delegated to machinery contractors under the firm's supervision. They are a relatively stable group working for several years for the company, and most of them belong to the same area where its headquarters are located.

Besides the production of basic seeds under its direct supervision, outsourcing allows the firm to expand with less investment, and to diminish risks. So it has established agreements with *co-operators* who buy basic seeds and multiply, classify and sell them to farmers paying royalties to the company, which in turn controls the quality of the seeds produced. Cooperators have land and processing plants of their own, although they also rent land and facilities to third parties, a situation which ends up setting a 'network of networks'. According to different sources, between 80 and 150 co-operators would be linked to the firm in Argentina, although a small group multiplies the majority of the seeds; most of them belong to the Pampean region.

Second, the firm has also developed agreements with about 50–60 *multipliers* (farmers). In these cases, the firm sells them the basic seeds and then buys the multiplied seeds at a 'full' price (without transport and marketing costs), eventually with a bonus depending on the distance of the farmer to the shipping facilities. In practice, only a portion of the seeds produced is acquired by the firm because it overstates the planted area to be able to choose afterwards depending on the quality of the seeds and market situation. Although

[14]From a purely technical standpoint, the production of seeds for cultivation involves various stages that require different skills and scales (Anlló, Bisang, and Stubrin 2011): the development of new genetic material, the multiplication and processing of the seeds (drying, cleaning, classification and bagging), storage and commercialization. These activities can be carried out by the same agent (through vertical integration) or outsourced.

it manages a different over-sizing ratio in each region, it usually takes about 30 percent of the seeds produced. The company signs annual contracts with these farmers whereby all costs and risks are borne by them.

There are commercial aspects involved (price and payment terms) in these agreements, but also other issues. The firm carefully chooses the machine contractors and the multipliers (whether co-operators or farmers). In the case of the latter, it started from an initial base of producers who purchased seeds from the company, and later selected a group based on a set of criteria: the characteristics of their holdings (plots bigger than 30 hectares and with the best type of soils), their machinery (availability of 'axial' harvesters that provide less mechanical damage to grains) and their personal features, which can be synthesized in showing the 'profile of a seed producer' (that is, the farmer is involved in operation and decision-making, his/her team is reliable in respecting the best-suited moments to carry out the different tasks, and he/she is careful in cleaning the soil and the machinery employed). With these requirements, the firm formed a nucleus where trust and close relationships are central, although based on contracts. According to a firm's technician,

> If you revise the suppliers base there are loyal producers, who highly appreciate our brand, it ends up creating a very stable bond […]. Thanks to the confidence that we have because there was always a transparency between the parties, when a situation arises in the field, these producers grab the phone and call you [… .] and the same from us.

In the network formed for seed production, agents have different access to resources and position, and, consequently, different possibilities of negotiating their conditions of inclusion and permanence. Co-operators are in a better situation than multipliers since they fulfill multiple roles (production, classifying and selling of seeds), have a greater economic size and are better organized.

The differences in agents' possibilities can be seen in the outcome of the restructuring process carried out by the firm in the last year. The firm's strategy has been to increase outsourcing through co-operators and to transfer to them the multiplication agreements previously established with farmers, such that in 2014 outsourcing represented 65 percent of its seed production. This decision was influenced by the increase in costs and lower soybean prices, compared to the boom of previous years. To facilitate the transition to a more outsourced scheme, the company supported its co-operators in the management of their relationships with the producers–multipliers. The narrative of the firm's technician illustrates the firm's capacity (and will) to control those who participate in the network, and at the same time, to keep in hand a strategic asset - the multipliers - to stop them being captured by other competing firms in the seed industry:

> I cannot put these multipliers, which are the pick of the selection, I cannot lose them and leave them in the street for anyone to catch them. What we did, these multipliers that were strategic for us and still are, that they change to make seeds to the co-operators we have chosen [instead of making seeds directly for the company].

The rest of the seed production activities that are related to the industrial phase itself are carried out in facilities located near the production plots. The company had three classifying plants in the Argentinian Pampean region and a stake in a fourth plant located in the northeast of the country, but also hired out processing services to third parties (these may be the same co-operators, as their plants have idle capacity).

Regarding its workforce, the firm mobilizes different categories of workers for different tasks. For sorting and spraying the seeds and for the crossings involved in the development of new varieties, it employs temporary, 'unqualified' staff. Crossings are carried out in the summer and are a very demanding job due to the environmental conditions. The firm resorts to crews coming from the northern province of Santiago del Estero who are hired every year for a period of less than two months. The need to bring people from the north of the country is justified by the fact that they are more 'accustomed' to high temperatures, and refers to the presence of a flexible workforce involving the mobilization of vulnerable social categories, and to the constitution of a segmented labor market (Pedreño et al. 2015). On the contrary, the administrative and commercial staff has a permanent employment relationship with the company and live in the city where its headquarters are located, where it is considered one of the main employers.

With the marked devaluation of the Argentine currency in 2002, local seed companies started to display an internationalization strategy with soybean varieties as flagship products. Other countries of MERCOSUR, particularly Brazil, were the main destinations of their operations. It could be hypothesized that the relocalization of some of their major customers – i.e. sowing pools – influenced their expansion, since the two stages – seed production and production of soybeans – are closely related.

Social embeddedness is important for these firms, so they set agreements or partnerships with local entrepreneurs. In the case of the leading seed firm, it created a society in Brazil with local partners the same year (2003) that the Brazilian government authorized the commercialization of GM soybeans in the state of Rio Grande do Sul. This partnership allowed the firm to register varieties in two or three years, to afterwards license them to a network of multipliers. So it has established its operations in Brazil with the same business model it pursues today in Argentina, based on the outsourcing of production.

The expansion of the firm in Brazil was followed by Bolivia, Paraguay and South Africa. The United States was one of the last destinations: the country was portrayed by the firm as the finishing touch to strengthen within the 'big players' of the activity. However, Brazil is viewed as the market with the highest potential, since it is the second largest country in production of soybean after the United States, and has vast areas in the Cerrados where production can be expanded significantly.[15] The latter also seems to be an important pulling factor in the case of transnational production firms.

Along with its internationalization, the company developed the concept of 'Yields with no Borders'. The vision is that political divisions are of secondary importance; only latitude and climate matter and, accordingly, the most suitable varieties for each territory. However, other features continue to stress the importance of territoriality. The headquarters of the company in Brazil are located in Londrina, a place that the firm considered appropriate to visit the multipliers situated in the north and south of the country. For the purposes of research, the area is a transition, which enables producing specific varieties for the two regions. It should be added that the Empresa Brasileira de Pesquisa Agropecuaria (EMBRAPA) unit that evaluates the adjustment of soybean cultivars to the different climates and soils of the country is also located there.

In Brazil the firm expansion followed the expansion of the agricultural frontier led by soybean, where there was a process of relocalization of production and processing facilities

[15]According to Trigo et al. (2009), the Cerrado region – an area covering approximately 204 million hectares of land (or 24 percent of Brazil's entire land area) – has an estimated 40 to 50 percent under productive use.

from the southern to the centre-west states of the country.[16] So its first warehouses were located in the south, and the most recent ones in the Cerrados.

Research is conducted in all of the countries where the company has commercial presence. Yet the firm decided to install its largest laboratory of molecular markers in Brazil, with the idea of providing services to all its research stations. The main advantage of this strategy is the large number of samples that can be analyzed daily at a cost significantly lower than through a large number of field plots. Thus, biotechnology enables companies to reduce the incidence of the territorial issue, to increase their scale of operation and to reduce costs by shortening the time required to develop varieties.

From a broader point of view, the differences in results and growth prospects of the Brazilian market could generate a process of relocalization of the firm in the future. The view of key informants is that Brazil is pushing the firm's growth, while Argentina is losing relative importance. The so-called business climate matters in this process of delocalization/relocalization, because local interest rates are lower in Brazil, and also the country risk, if the firm seeks access to foreign funding. Government agribusiness policies also seem to be an important element at play for Brazil. Another factor that attracts the interest of Argentinian seed companies is the higher recognition of plant breeding rights.[17] Nevertheless, and when compared with Argentina, there is a greater weight of other private actors with whom the seed company competes and negotiates. The importance of big transnational companies in developing soybean varieties is higher in Brazil, and due to the volume traded, co-operators have much more power.

Weighing all these factors, the firm does not rule out a possible move of its headquarters to Brazil. In fact, it is channeling most of its investments there (e.g. the laboratory of molecular markers) and just over half of its permanent staff. The number of its research plots has increased in Brazil when compared with the rest of the countries, and now represents 50 percent of the total.

Differences in institutional contexts seem particularly relevant for defining the territorial scope of these recently transnationalized seed firms, as was the case with large sowing pools. The inclusion of 'new' territories is connected to the disconnection of others, and may bring about important consequences for firms' productive networks.

Final remarks

The comparative analysis of key actors in the initial stages of soybean production – the production of seeds for cultivation and the production stage itself – showed the important role of national groups in strengthening an agricultural production model based on flex crops and in reinforcing the leading role of the regional bloc in the global division of labor.

Although some features of grain production, and particularly of soybean, impact on its territorial embeddedness, in practice these agents develop some kind of tangible and intangible foundations as a necessary condition to operate in local spaces. It was also suggested that different ways of territorialization may be deployed according to the different strategies pursued; e.g. horizontal or vertical expansion. Invisible, immaterial foundations at the local

[16]According to Wesz Jr. (2014), the states of Mato Grosso do Sul, Goias, Mato Grosso, Bahia, Amazonas and Piauí, which together held 25 percent of the processing capacity of the country at the beginning of the 2000s, grew to 45 percent in 2009.

[17]The company estimated that 38 percent of the seeds sown in Argentina involve Plant Breeding Rights. In Brazil, 60 percent; in Uruguay, 100 percent; in Bolivia, 65 percent; in Paraguay, 40 percent.

level are important for firms of non-local origin, so they frequently draw on local technicians and farmers, visualized as social brokers for accessing key resources and as a source of legitimation. Corporate social responsibility activities are also carried out in selected spaces. *Aterritoriality* is perhaps a misleading word for their behavior, since it drives us to the absence of territoriality rather than to the different modalities that are employed for inserting different territories into their productive networks, exerting presence and profiting from local realities.

A relevant side of territorial embeddedness, however, is the selectiveness of local spaces and actors that these firms promote, and the kind of relations they establish with them. A key feature for the success of some recent transnationalized firms in MERCOSUR has been their ability to establish networks to obtain complementary assets, achieve flexibility and diversify risks. Networks could also be seen as legitimation mechanisms (Martins and Bevilaqua 2013). However, and following Massey (1994), different social groups and different individuals are placed in very distinct ways in relation to these interconnections, and this has consequences at the territorial level. Agents have different access to resources, hold a different position and, consequently, have different possibilities of negotiating their conditions of inclusion and permanence. The dimension of control exercised by lead firms seems to prevail above other components, either in the production or in the seed production stage.

Firms' strategies lead to new forms of uneven development between those who are participating in their networks and those who are not, but there are also internal hierarchies inside them. Some local actors are in fact included and may obtain some benefits of their incorporation; in the long term, however, their capacity to capture value is constrained since they are not able to control the terms and conditions of their incorporation. Other impacts at the local level are the displacement of other actors who sustain other logics of reproduction.

Territorial embeddedness also has a dynamic component: local actors and spaces that are strategic for the firms will be safeguarded, while others that are at the margin of the system will be subjected to unstable relations and even may be left behind when contexts change. So far, little is known about the particular places that continue being fundamental in the re-deterritorialization process practiced in the last few years by lead firms at the MERCOSUR level, and of the variable consequences of their retreat from other spaces.

Certainly, further research is needed on the modalities of territorial embeddedness of recently transnationalized firms and their evolution over time in specific areas. Two different lines of inquiry seem promising in this respect: the capacity to profit from the particularities of localities, and the degree to which they (still) are constrained by them.

Acknowledgements

The author would like to thank key informants for their support during field work, and the BRICS Initiative for Critical Agrarian Studies which provided a small grant for carrying out research. She would also like to give thanks for the suggestions and comments of two anonymous reviewers of *JPS*. The usual disclaimers apply.

Disclosure statement

No potential conflict of interest was reported by the author.

References

ABIOVE (Brazilian Association of Vegetable Oil Industries). n.d. Statistics. www.abiove.org.br

Albaladejo, C. 2013. Dinámica de la inserción territorial de la agricultura pampeana y emergencia del agribusiness. In *El agro como negocio: producción, sociedad y territorios en la globalización*, ed. C. Gras and V. Hernández. Buenos Aires: Biblos. pp. 67–95.
Anlló, G., R. Bisang, and L. Stubrin. 2011. *Las empresas de biotecnología en Argentina*. Colección Documentos de proyecto. Santiago de Chile: Naciones Unidas- CEPAL.
Azcuy Ameghino, E. 2007. 'Pruebe a nombrar de memoria cinco empresas que estén explotando campos … ' Propiedad y renta de la tierra en Argentina a comienzos del siglo XXI. *Revista Interdisciplinaria de Estudios Agrarios* 26/27: 123–40.
Basualdo, E. 2010. Los propietarios de la tierra y las economías de escala, sustentos del paradigma sojero en la Argentina. *Desarrollo Económico* 50, no. 197: 3–32.
Bell, D., and C. Scott. 2010. *Los Grobo: farming's future?* Harvard Business School Prod. 511088.
Bidaseca, K., A. Gigena, F. Gómez, A. Weinstock, E. Oyharzábal, and D. Otal. 2013. *Relevamiento y sistematización de problemas de tierra de los agricultores familiares en la Argentina*. Buenos Aires: Ministerio de Agricultura, Ganadería y Pesca de la Nación, PROINDER.
Bisang, R., and G. Anllo. 2014. *Impactos territoriales del nuevo paradigma tecno-productivo en la producción agrícola argentina*. Documento de trabajo 5. Buenos Aires: Instituto de Economía Política de Buenos Aires.
Bisang, R., G. Anlló, and M. Campi. 2008. Una revolución (no tan) silenciosa. Claves para repensar el agro en Argentina. *Desarrollo Económico* 48, no. 190/191: 165–207.
Bisang, R., and S. Sztulwark. 2007. Tramas productivas de alta tecnología. El caso de la soja transgénica en Argentina. In *Estructura productiva y empleo. Un enfoque transversal*. Buenos Aires: Ministerio de Trabajo Empleo y Seguridad Social. pp. 181–224.
Borras, S., J. Franco, S. Kay, and M. Spoor. 2011. *El acaparamiento de tierras en América Latina visto desde una perspectiva internacional más amplia*. Santiago: FAO.
Bridge, G. 2008. Global production networks and the extractive sector: governing resource-based development. *Journal of Economic Geography* 8: 389–419.
Catacora Vargas, G., P. Galeano, S. Zanona Agapito, D. Aranda, T. Palau, and R. Onofre Nodari. 2012. *Soybean production in the Southern Cone of the Americas. Update on land and pesticide use*. Cochabamba: Vimegraf.
CIARA (Argentinian Oil Industry Chamber). Statistics. n.d. www.ciara.com.ar.
Craviotti, C. 2015. Argentina's agri-food transformations in the context of globalization: Changing ways of farming. In *Handbook of the international political economy of agriculture and food*, ed. A. Bonanno and L. Busch. Chetelham-Northampton: Edward Elgar. pp. 78–96.
Craviotti, C., and C. Gras. 2006. De desafiliaciones y desligamientos: Trayectorias de productores familiares expulsados de la producción en la región pampeana argentina. *Desarrollo Económico* 46, no. 46: 117–34.
Dannenberg, P., and E. Kulke. 2014. Editorial: Dynamics in agricultural value chains. *Die Erde* 145, no. 3: 121–6.
Delgado Cabeza, M., and L. Gavira Alvarez. 2006. Agricultura y trabajo rural en la globalización. *Revista Española de Estudios Agrosociales y Pesqueros* 211: 21–61.
Dicken, P., P. Kelly, K. Olds, and H. Yeung. 2001. Chains and networks, territories and scales: towards a relational framework for analyzing the global economy. *Global Networks* 1, no. 2: 89–112.
Du Toit, A. 2009. *Adverse incorporation and agrarian policy in South Africa*. http://repository.uwc.ac.za/xmlui/bitstream/handle/10566/65/duToit_Adverse2009.pdf?.
Ederer, M. 2013. *Los Grobo. Agribusiness Value Systems for the future*. European Food and Business Seminar.
Fuck, M. & M. Bonacelli. 2009. Sementes geneticamente modificadas: (in)segurança e racionalidade na adoçao de transgenicos no Brasil e na Argentina. *Revista CTS* 12, no. 4: 9–30.
Gallicchio, E. 2003. *El desarrollo económico local. Estrategia económica y de construcción de capital social*. Montevideo: CLAEH.
Gereffi, G. 2014. A global value chain perspective on industrial policy and development in emerging markets. *Duke Journal of Comparative and International Law* 24, no. 3: 433–58.
Gereffi, G., J. Humphrey, and T. Sturgeon. 2005. The governance of global value chains. *Review of International Political Economy* 12, no. 1: 78–104.
Gras, C., and V. Hernández. 2013. Los pilares del modelo agribusiness y sus estilos empresariales. In *El agro como negocio: producción, sociedad y territorios en la globalización*, ed. C. Gras and V. Hernández. Buenos Aires: Biblos.

Gras, C., and A. Sosa Varrotti. 2013. El modelo de negocios de las principales megaempresas agropecuarias. In *El agro como negocio: producción, sociedad y territorios en la globalización*, ed. C. Gras and V. Hernández. Buenos Aires: Biblos. pp. 215–236.
Guibert, M., S. Grosso, P. Arbeletche, and M. Bellini. 2011. De Argentina a Uruguay: Espacios y actores en una nueva lógica de producción agrícola. *Pampa* 7: 13–38.
Guibert, M., and M. Sili. 2011. Argentine: expansion agricole et dévitalisation rurale. In *Dynamiques des espaces rurales dans le monde*, ed. Y. Jean and M. Guibert. Paris: Ed. Armand Colin. pp. 338–351.
Haesbaert, R. 2011. *El mito de la desterritorialización. Del 'fin de los territorios' a la multiterritorialidad*. México: Siglo XXI.
Hemsing, B. 2002. Perspectivas sobre desarrollo economic localizado. *EURE, Revista de Estudios Urbanos y Regionales* 28, no. 82: 33–61.
Henderson, J., P. Dicken, M. Hess, N. Coe, and H. W. Yeung. 2002. Global production networks and the analysis of economic development. *Review of International Political Economy* 9, no. 3: 436–64.
Hernández, V. 2007. El fenómeno económico y cultural del boom de la soja y el empresariado innovador. *Desarrollo Económico* 47, no. 187: 331–65.
Hess, M. 2004. Spatial relationships? Towards a reconceptualization of embededdness. *Progress in Human Geography* 28, no. 2: 165–86.
Infocampo, 20–26 March 2015. Agrofina les salva los números a Los Grobo.
La Nación, 18 April 2013. Desinvierte uno de los grupos líderes en granos.
Los Grobo. 2011. *Reporte de Sustentabilidad 2009/2010* (mimeo).
Manciana, E., M. Trucco, and M. Piñeiro. 2009. *Large-scale acquisition of land rights for agricultural or natural resource-based use: Argentina*. Buenos Aires: CEO.
Margétic, C. 2006. Agro-industries et territories: Recherches en Nord-Pas-de-Calais. *ESO* 25: 67–72.
Martins de Moura, L., and J. Bevilaqua Marin. 2013. Rede empresarial: a estratégia da produção de sementes de soja transgênica em Goiás. *Interações* 1, no. 14: 21–36.
Massey, D. 1994. A global sense of place. In *Space, place and gender*, ed. D. Massey. Minneapolis: University of Minnesotta Press, pp. 146–156.
Morgan, K., T. Marsden, and J. Murdoch. 2006. *Worlds of food: Place, power, and provenance in the food chain*. Oxford: Oxford University Press.
Murmis, M., and M. R. Murmis. 2012. El caso de Argentina. In *Dinámicas del mercado de tierras en América Latina y el Caribe. Concentración y extranjerización*, ed. F. Soto Barquero and S. Gómez. Santiago de Chile: FAO.
Ordoñez, H., and J. Nichols. 2003. *Agronegocios. Escenarios turbulentos, economías emergentes. Argentina. Caso Los Grobo*. Universidad de Buenos Aires- Texas A&M University.
Pedreño, A., C. de Castro, E. Gadea, and N. Moraes. 2015. Sustainability, resilience and agency in intensive agricultural enclaves. *Revista de Despoblación y Desarrollo Agrario* 18: 139–60.
Rallet, A., and A. Torre. 2004. Proximité et localisation. *Economie rurale* 280: 25–41.
Reboratti, C. 2003. Desarrollo regional y territorios privatizados. In *Territorio, sociedad y región: perspectivas desde el desarrollo regional y local*, ed. C. Acuña, A. Riella. Montevideo: Departamento de Sociología, Facultad de Ciencias Sociales, Universidad de la República, pp. 81–93.
REDAF (Red Agroforestal Chaco Argentina). 2012. *Bosque Nativo en Salta: Ley de Bosques, análisis de deforestación y situación del Bosque chaqueño en la provincia*. Santa Fe, Argentina: REDAF.
Regunaga, M. 2009. The soybean chain. Implications of the organization of the commodity production and processing industry. Case Studies in Latin America and the Caribbean Region. Buenos Aires.
Robinson, W. 2012. Global capitalism theory and the emergence of transnational elites. *Critical Sociology* 38: 349–63.
SIIA (Integrated System of Agricultural Information, Argentina). n.d. www.siia.gov.ar
Soares-Filho, B., R. Rajao, M. Macedo, A. Carneiro, W. Costa, M. Coe, H. Rodrigues, A. Alencar. 2014. Cracking Brazil's Forest Code. *Science* 344, no. 6182: 363–4.
Sommerville, M. 2013. *Financializing Prairie Farmland. Farmland Investments Funds and the Restructuring of Family Farming Systems in Central Canada*. LDPI Working Paper 38. Land Deal Politics Initiative.
Trigo, E., and E. Cap. 2003. The Impact of the Introduction of Transgenic Crops in Argentinean agriculture. *Agbioforum* 6, no. 3: 87–94.
Trigo, E., E. Cap, V. Malach, and F. Villareal. 2009. *The case of zero–tillage technology in Argentina*. IFPRI Discussion Paper. Washington: IFPRI.

Vértiz, P. 2014. *Estrategias de persistencia de la producción familiar tambera ante al avance del modelo de los agronegocios: el caso de Chascomús y Lezama*. Master Thesis., Maestría de Procesos Locales de Innovación y Desarrollo Rural, Universidad Nacional de La Plata.
Wesz Jr., V. 2014a. O Mercado da soja no Brasil e na Argentina. Semelhanças, diferenças e interconexões. *Seculo XXI* 4, no. 1: 114–61.
Wesz Jr., V. 2014b. *O mercado da soja e as relaçoes de troca entre produtores rurais e empresas no sudeste de Mato Grosso (Brasil)*. Ph. D. Thesis., Universidade Federal de Rio de Janeiro.
Wilkinson, J., B. Rydon, and A. Di Sabbato. 2012. El caso de Brasil. In *Dinámicas del mercado de tierras en América Latina y el Caribe. Concentración y extranjerización*, ed. F. Soto Barquero and S. Gómez. Santiago de Chile: FAO.

Clara Craviotti is a research fellow of the National Council of Scientific and Technical Research (CONICET) and a professor at the Master in Agrarian Social Studies of FLACSO-Argentina. She is a sociologist with a PhD in geography (University of Buenos Aires). Her current research interests are the delocalization and relocalization dynamics of agri-food and the changes in the agrarian structure of the Southern Cone countries, with a focus on family farming. Email: c.craviotti@conicet.gov.ar