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A resilience-based rationale for farm growth: the case of Ukrainian agroholdings

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Abstract:

The agricultural sector in transition economies is marked by the prominence of agroholdings, i.e., conglomerates of agricultural enterprises controlling up to hundreds of thousands of hectares of farmland. Drawing on a mix of primary and secondary information from Ukraine, this paper explores the hypothesis that membership in an agroholding presents a strategy for agricultural enterprises to remain resilient in the midst of the severe institutional turbulence characteristic of a transition economy. Institutional shocks and uncertainties disrupt the access of Ukrainian agricultural enterprises to critical finance, land, and labor resources. Enterprises are shown to cope with these disruptions by joining agroholdings, which facilitates access to these resources and creates a kind of protected enclave in which the enterprises can concentrate efforts on the organization of production. Notably, the rationale for agroholding membership is centered on resilience rather than efficiency. The focus on resilience rather than efficiency thus provides a tentative explanation of why the remarkable growth of agroholdings fails to be accompanied by evidence of their superior efficiency.

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Keywords: agroholdings, environmental turbulence, firm growth, resilience, transition economies

1. Introduction

The development of so-called agroholdings in a number of transition and emerging market economies is a well-documented fact (Chaddad and Valentinov 2017; Epshtein et al. 2013; Visser et al. 2012). Agroholdings are large-scale farming entities typically consisting of a mother company that holds a controlling stake in dozens or hundreds of corporate farms and manages several dozens or hundreds of thousands of hectares of farmland (Hermans et al. 2017). Along with specialization in crop production, agroholdings include elements of vertical integration with multiple stages of the agri-food supply chain, such as animal production, distribution of inputs, logistics, exports, and food manufacturing (Matyukha et al. 2015). For the most part, the development of these large enterprises is possible due to the inflow of excess capital from other industries that allows for the growth in land and assets through the acquisition of other, non-holding enterprises (Petrick et al. 2013).

Despite sufficient access to finance, agroholdings are surprisingly inefficient. Several studies report agroholdings' disadvantageous cost structures, caused by their propensity to employ more labor and spend more on production inputs than non-holdings (Lapa et al. 2015; Petrick 2017). Crop productivity fluctuations in agroholdings keep similar pace with productivity changes in other farm types, thus showing the same rates of exposure toward weather- and market-based risks (Balmann et al. 2015; Graubner and Ostapchuk 2018). The agroholdings' ability to outperform other farms due to lower susceptibility to problems associated with transaction costs (Chaddad and Valentinov 2017) is questionable as well. Factors such as long-distance machinery transportation between farm units and insufficient storage capacities generate a substantial cost burden (Lapa et al. 2015). The bottom line is that, on average, farms in agroholdings do not seem to be more profitable or efficient than those not in agroholdings.

In this context, the growing membership base of agroholdings challenges several traditional views on the nature of firm growth. First is the view that the firm growth strategy is driven by efficiency considerations, i.e., firms are assumed to decide whether to grow organically, by the use of their own available capacities (Penrose 1959), or through mergers and acquisitions (Marris 1963) based on the efficiency gains or losses each of the modes of growth entails (Williamson 1985). However, the case of agroholdings' growth demonstrates that relatively efficient enterprises deliberately forego the possibility to grow on their own, rather choosing to join less efficient, slow-growing structures. This firm behavior casts doubt on the validity of the efficiency argument in this case.

The second view that appears to require adjustment is that the acquisitive type of firm growth is more likely to occur in the presence of well-functioning strategic factor markets (Peng and Heath 1996). However, in transition economies, the ongoing acquiring activity of agroholdings occurs amidst underdeveloped markets for capital and land (Zinych and Odening 2009; Gagalyuk 2017). In fact, it is exactly these market imperfections, coupled with inadequate first- and second-order institutions, which presumably shape the highly volatile business environment that is conducive to the development of agroholdings. Problems of weak contract enforcement (Swinnen 2005), insecure property rights (Sutela 2012), corruption and nepotism (Koester 2005), as well as societal distrust in market economies (Oleinik 2005) render market functioning unpredictable and undermine the ability of traditional types of farming to survive.

If this argument is correct, then it is resilience, rather than economic efficiency, that primarily determines the farms' choice to grow through membership in an agroholding. The resilient firm (Hamel and Välikangas 2003; Holling 1973) possesses a set of adaptive capacities conferring the capability not only to adapt to but also to modify the environment (Bhamra et al. 2011; Thomas et al. 2015). While traditional causes of environmental turbulence such as disruptive market and technological changes require adaptive approaches to firm growth (Calantone et al. 2003; Dröge et al. 2008), the institutional turbulence resulting from the institutional foundation of the markets itself demands a more radical response.

With particular reference to the transitional context characterized by underdeveloped markets and poor institutions, this paper extends the existing theory by showing that environmental turbulence arises not only from market and technological but also from institutional changes and that firm growth in turbulent environments is no less about resilience than it is about efficiency. This idea has not yet been given a systematic, conceptual footing, and this study provides the foundation by revealing resilience as a key component of agroholdings' growth.

In what follows, this paper first demonstrates how the resilience perspective incorporates into the theory of the firm, especially in the view of turbulent environmental conditions. Subsequently, the case of Ukrainian agroholdings shows how growth in a turbulent environment, marked primarily by institutional problems, drives firms' preference for resilience over efficiency. The results are then discussed to deliver implications for the theory of the firm.

2. Firm growth and resilience in turbulent environments: a conceptual framework

2.1. Incorporating resilience into the theory of firm growth

In the traditional, Western model, firm growth is assumed to be driven by the strategic choice for growth made by a firm's top management (Child 1972). A firm generally has three strategic choices for growth: undertake generic expansion, conduct mergers and acquisitions (M&A),

and/or develop interorganizational relationships (networks), which correspond to hierarchy, market, and hybrid modes of organizing, respectively (Peng and Heath 1996). In a nutshell, the strategic choice of the mode of growth is based on the firm's ability to articulate and codify organizational routines and capabilities (Penrose 1959) as well as the ability to overcome transaction costs incurred in the course of growth (Williamson 1985).

The strategic choice for growth is thus fundamentally concerned with the decision on how to efficiently internalize additional environmental elements. Specifically, generic growth is unequivocally conceptualized as a continuous internalization process (Williamson 1985); growth through M&A presents the process of internalization of the transactions, which are costly to conduct via market or confer particular market and technological opportunities (Marris 1963); finally, networks are based on the non-internalized relationships and prove to be efficient under the circumstances of high transaction and bureaucratic costs (Gulati et al. 2000). All three types point to the adaptive approaches to strategy whereby a firm is assumed to choose a mode of growth based on accepting the environment as given (Acemoglu and Johnson 2005; Dorobantu et al. 2017).

However, even if a firm is efficient in activating the important drivers of expansion conferred by either type of growth, it may still face existential threats arising from, e.g., technological discontinuities, regulatory upheavals, abrupt shifts in consumer tastes and other external factors (Hamel and Välikangas 2003). Associated with high environmental turbulence, these forces render the efficiency prerequisite alone insufficient for a firm's ability to grow and choice of how to grow. To sustain growth in a highly turbulent environment, a firm has to take account of its own capacity to withstand and overcome problems originating from obscure and unpredictable environmental effects. This capacity is generally regarded as resilience.

Developed within the realm of ecological systems research (Holling 1973), the concept of resilience has recently gained currency among organizational theorists as a tribute to the increasingly recognized influence of external environment on organizational systems. In contrast to the adaptive approaches to growth, a resilience approach suggests that an organization is able not only to rebound from disruptions but also to learn from them, develop new capabilities and exploit new opportunities, thus capitalizing on unexpected change (Lengnick-Hall et al. 2011). The resilience approach looks beyond responding to a one-time crisis or disruption and involves continuous anticipating and adjusting to deep, secular trends that can permanently impair the earning power of a core business (cf. Hamel and Välikangas 2003, 2). Without this, a firm will respond to environmental change in a primarily recovery-based manner, which may introduce maladaptive cycles of development. Resilience is therefore based on the capability to maintain critical variables and stability of an internal environment despite turbulent external environmental conditions (cf. Burnard and Bhamra 2014, 5583).

The development of the organizational capability for resilience involves cultivation of a set of adaptive capacities (Allen and Holling 2010) that enable an organization's tolerance to risk as well as an innate ability to proactively adjust to environmental uncertainty (Burnard and Bhamra 2011). Adaptive capacities of an organization include capabilities such as adaptability, agility, cohesion, diversity, efficiency, and other features (see Table 1). Noteworthy, organizational resilience has some elements in common with organizational attributes such as flexibility (Gunasekaran et al. 2015), agility (Thomas et al. 2015), and adaptability (Jain et al. 2017), but it rather represents a higher order capability with its own distinguishing elements. First, a need for resilience is triggered by an unexpected event. Flexibility and agility are often part of a firm's

ongoing repertoire of strategic capabilities leading to increased maneuverability. Second, resilience incorporates renewal, transformation, and dynamic creativity from the inside-out. Adaptability, in contrast, emphasizes the need for environmental fit from an outside-in perspective and often presumes a new, externally determined equilibrium is the desired state. Third, while characteristics such as flexibility, adaptation, and agility may contribute to an organization's capacity for resilience, none of these capabilities is sufficient on its own to achieve it (cf. Lengnick-Hall et al. 2011, 244).

Table 1. Selected features of resilient organisation

Feature	Definition	Mechanisms
Adaptability	Ability to change in response to new pressures or re-establish fit with the environment	"Useful habits", behavioural preparedness
Agility	Ability to develop and quickly apply nimble and dynamic competitive moves	Learned resourcefulness counterintuitive agility
Cohesion	Existence of unifying relationships and linkages between system variables and elements	Inter-functional coordination, social capital, core values
Diversity	Existence of multiple forms and behaviours of the organisational system	Diffused power, accountability, access to resource networks
Efficiency	Performance with modest resource consumption	Organisational routines
Flexibility	Ability to change at low cost on relatively short notice	Disciplined creativity
Positive adjustment capability	Ability to cope, adapt, recover and advance from disruptive events	Organisational learning, enhanced monitoring, environmental, screening, sense-making

Source: Own performance based on extant literature, i.a. Akgün and Keskin (2014); Bhamra et al. (2011); Burnard and Bhamra (2011); Gunasekaran et al. (2015); Lengnick-Hall et al. (2011).

Because external risks are either continuous or discrete by the probability of their impact on a firm (Trkman and McCormack 2009), resilience requires balancing of anticipation- and recovery-related activities. A firm has to assume the accommodation of necessary change on the one hand (Bhamra et al. 2011) while saving on costs of unused capabilities on the other (Winter 2003). In some cases though, the attributes that are critically important to resilience – such as spare capacity, reserve resource stocks and redundancy – are in opposition to efficiency (cf. Korhonen and Seager 2008, 411; see also Ivanov et al. 2013). Although associated with greater resource use, these capabilities can nonetheless improve a firm's resilience as they enhance diversity, adaptability and flexibility (Ivanov et al. 2013). Contrarily, priority given to optimization may lead to the loss of the capabilities necessary for effective response to external influences (Brede and de Vries 2009). If efficiency-driven optimization undermines a firm's ability to maintain its core, growth-generating function, then efficiency is at odds with sustainable growth of the firm. Therefore, a firm's ability to achieve a reasonable resilience-efficiency trade-off is important to sustain firm growth in a turbulent environment.

2.2. Making sense of environmental turbulence

In the strategic management literature, turbulence is understood as a measure of change in the components of a firm's environment (cf. Smart and Vertinsky 1984, 200) or volatility and difficult-to-predict discontinuities in an environment (cf. Haleblian and Finkelstein 1993, 845), which require a firm to respond reactively or proactively to maintain its competitive position. Within this realm, most prior research has differentiated between two types of environmental turbulence, i.e. technological and market. Technological turbulence relates to the rate of technological change in an industry and the effects of this change on the industry (Dröge et al.

2008). Market turbulence refers to the degree of a firm's market instability and uncertainty with regard to customers' preferences, price/cost structures, and the composition of competitors (Calantone et al. 2003). While most studies report of the moderating effects that both types of environmental turbulence exert on interrelationships between a firm's strategy, structure and performance, the significance of these influences may vary due to a number of contingencies.

First, the effect of environmental turbulence may depend on the origin of risks and uncertainties which can either be endogenous, arising from a firm's inside environment, or exogenous, originating from outside environment (Cucchiella and Gastaldi 2006; Kleindorfer and Saad 2005). Particularly notable kinds of endogenous uncertainty with regard to a firm's supply chain are market and technological turbulences whereas discrete events (e.g. terrorist attacks, contagious diseases, and workers' strikes) and continuous risks (e.g. inflation rate, and consumer price index changes) arise from exogenous uncertainty (cf. Trkman and McCromack 2009, 149).

Second, the influence of environmental turbulence on a firm may vary based on the economic context in which a firm operates. For instance, the performance benefits conferred by dynamic capabilities appear to be more pronounced in a more turbulent context of developing countries rather than in less turbulent settings of developed economies (Eisenhardt and Martin 2000; Fainschmidt et al. 2016). Two forces are assumed to drive such outcomes. First is the relatively lower development of market-based institutions in developing economies that renders dynamic capabilities rarer and more valuable compared to developed economies. Second is the changing economic landscape in developing economies that enhances the value of capacities to adapt to changing economic conditions, especially since many firms lack the willingness to enact such changes, making the contribution of dynamic capabilities to performance more pronounced (Fainschmidt et al. 2016, 8).

On reflection, these findings point to a broader range of uncertainties that confront firms in highly turbulent environments, while stressing that not all firms may possess the ability to address the concerned uncertainties. If marked by difficult processes of institution building, business environments exhibit not only market and technological turbulences but also turbulences arising from institutional shortcomings. Ensuring sustainable growth under such circumstances may require firms to prioritize resilience over efficiency.

The subsequent section provides the case of expansion of agroholdings in Ukraine marked by a number of institutional bottlenecks that undermine sustainable farm growth through efficiency gains. As a result, farms choose to grow via affiliation with more resilient but less efficient agroholding structures.

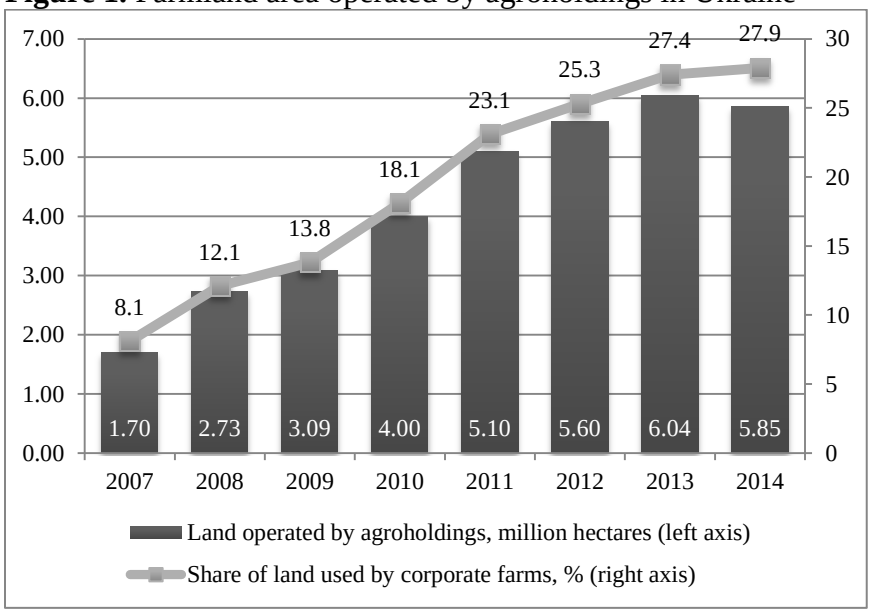
3. The case of Ukrainian agroholdings

3.1. Proliferation of agroholdings

The to-date result of structural change in Ukrainian agriculture is that some 80 agroholdings, whose sizes exceed 10,000 hectares each, operate about six million hectares or about 30% of total farmland in the use of corporate farms (Figure 1). The two largest agroholdings, Ukrlandfarming and Kernel, manage slightly more than 600,000 hectares each (Latifundist.com 2017). Moreover, Ukrlandfarming is the largest industrial egg producer in Eurasia (Ukrlandfarming 2017) while Kernel is the number one sunflower oil exporter in the world (Kernel 2016). Thus, apart from expansion in the sector of primary agriculture, agroholdings often integrate enterprises from different upstream and downstream stages of the agri-food

supply chain (see Table 2).

Figure 1. Farmland area operated by agroholdings in Ukraine



Source: UCAB (2015)

Table 2. Vertical integration of top 10 largest Ukrainian agroholdings, 2017

Company name	Land area, thousand hectares	Farming specialisation (crop / livestock), %	Agricultural products	Processing and other businesses	Storage capacity, thousand tons
Ukrlandfarming	605.0	55/45	Eggs, grains, oilseeds, sugar beet, milk, cattle	Egg products, sugar, feedstuffs, meat products, input dealership, leather, banking	1,086.0
Kernel	602.5	98/2	Grains, oilseeds, milk, cattle	Sunflower oil, grain and sunflower oil trading	2,700.4
Agroprosperis	430.0	100/0	Grains, oilseeds	Feedstuffs, cereals, flour, input dealership, banking	537.0
MHP	370.0	14/86	Poultry, grains, oilseeds, cattle, fruit	Meat products, feedstuffs, biogas, vegetable oil, retail	1,600.0
Astarta	250.0	93/7	Grains, oilseeds, sugar beet, milk, cattle	Sugar, molasses, soybean oil, feedstuffs, biogas	303.2
Mriya	185.0	99/1	Sugar beet, grains, oilseeds, potatoes	Input dealership, seed production	445.0
Agroton	151.0	93/7	Oilseeds, grains, milk, poultry, cattle, pigs	Bakery, pasta, flour, dairy products, meat products, confectionery, feedstuffs	235.0
IMC	136.6	96/4	Grains, oilseeds, potatoes, milk	Feedstuffs	554.0
Agrain	127.0	100/0	Grains, oilseeds	Grain trading and logistics	330.0
Ukrporminvest	122.0	97/3	Sugar beet, grains, oilseeds, pulses, milk, pigs	Sugar, flour, cereals, feedstuffs, confectionery, retail	120.0

Source: corporate websites of agroholdings, Latifundist.com (2017), Elevatorist.com (2017)

Agroholdings were able to proliferate owing to the inflow of excess capital from non-agricultural sectors (Petrick et al. 2013; Gagalyuk 2017). In addition, this expansion was driven by some

important market and political developments throughout the 2000s. First, large-scale technology- and knowledge-based farming was instigated by the growing global demand for food, fiber, and energy (Hermans et al. 2017). Second, orientation of public policies toward self-sufficiency in food supply, growth of agricultural exports, and deregulation of domestic markets favored large-scale industrialized agriculture over traditional family farming (Matyukha et al. 2015).

Earlier studies particularly emphasized the role of public sector in the development of agroholdings. Vast tax exemptions and heavy subsidization gave boost to a continuous scale-up of large forms of production organization (Visser et al. 2012). Added to this was and still is the moratorium on farmland sales in Ukraine that enabled consolidation of huge land areas through the mechanism of lease (Lapa et al. 2015). While the state was busy arranging these favorable conditions for large corporate farming, processes of institution building in the social sphere as well as in other branches of public policies protracted (Keyzer et al. 2013). Eventually, this led not only to a growing uncertainty on the strategic factor markets, i.e. capital and land markets, but also to a worsening socio-economic situation in rural areas, which increased societal pressure on agriculture and brought the problem of labor deficit to the forefront.

Given these circumstances, it seems safe to resume that the development of the agroholding type of farming in Ukraine was and still is the result of a high degree of environmental turbulence. Marked by institutional problems and underdeveloped strategic factor markets, uncertain business conditions pose a major constraint for sustainability of traditional types of farming. In this context, the following section demonstrates why membership in agroholdings presents a resilient strategy for farms in their attempts to respond to environmental turbulence. Particular attention is drawn to institutional problems on the markets for finance, land, and labor.

3.2. Addressing institutional turbulence on strategic factor markets

3.2.1. Financial markets

The underdeveloped financial markets have long been assumed as an obstacle for corporate growth (Peng and Heath 1996). If that would be a fully non-relaxable assumption, however, the story of growth of Ukrainian agroholdings would end here. Indeed, an effective stock market has not yet been developed in Ukraine (Trofimchuk and Trofimchuk 2015) while commercial banks are providing loans under very restrictive refinance rates (UCAB 2013; Zinych and Odening 2009). Nevertheless, business size and diversified structure of agroholdings have been conducive to attracting outside capital from a number of alternative sources.

From mid-2000s to mid-2010s, some twenty Ukrainian agroholdings were able to raise about $1.5 billion in total through the initial public offerings (IPO) of their shares on international stock exchanges (UCAB 2014). Among ten largest agroholdings in terms of farmland, seven are or were listed on international stock markets such as Frankfurt Stock Exchange, London Stock Exchange, and Warsaw Stock Exchange (see Table 3). In addition to international listings, several agroholdings received loans from international finance institutions such as the European Bank for Reconstruction and Development (EBRD) and the World Bank Group's International Finance Corporation (IFC). The concerned loans are or were targeted at financing of working capital, land lease rights, expansion of processing lines and storage capacities, and are often complemented by technical assistance and advisory services from the donors (EBRD 2015, 2016; IFC 2013, 2014a, 2014b).

Table 3. International capital-raising by top 10 largest Ukrainian agroholdings

Company name	Land use, thousand hectares (2017)	IPO on stock market (Date of IPO)	Shares placed during IPO, %	Capital raised through IPO, USD million
Ukrlandfarming	605.0	LSE[a] (May 2010)	22.5	186.0
Kernel	602.5	WSE (Nov 2007)	36.0	218.0
Agroprosperis	430.0	n.a.	n.a.	n.a.
MHP	370.0	LSE (May 2008)	22.3	322.5
Astarta	250.0	WSE (Aug 2006)	14.6	31.0
Mriya	185.0	FSE[b] (Jul 2008)	20.0	90.0
Agroton	151.0	WSE (Nov 2010)	26.2	54.0
IMC	136.6	WSE (May 2011)	24.0	30.0
Agrain	127.0	n.a.	n.a.	n.a.
Ukrprominvest	122.0	n.a.	n.a.	n.a.

Sources: multiple years' data of stock exchanges, corporate reports and websites of agroholdings
[a]Ukrlandfarming is listed on London Stock Exchange with its daughter holding Avangardco
[b]Mriya was delisted from FSE in 2014
FSE = Frankfurt Stock Exchange; LSE = London Stock Exchange; WSE = Warsaw Stock Exchange; n.a. = not applicable.

Apart from growth financing and technical assistance, access to the international capital sources entails changes in business models, as it requires new approaches to corporate governance and transparency in both reporting and operation. While relying on closely held ownership structures, non-holding farms are generally unable to achieve such strategic change, as they cannot utilize outside directorship on the board or diversify their top management teams. Constraining as they are for non-holding agricultural enterprises, these requirements can be generally regarded as contributing to the resilience of agroholdings. Presence of independent directors on the boards, independent auditing and disclosure of information about owners and financials serve as safeguards against opaque business practices. This seems to be particularly important in the face of frequent transition-specific problems such as raider attacks and hostile takeovers (Langbein 2015; Rojansky 2014).

Another remarkable outcome of these new requirements toward transparency is their spillover effect such that not only investors and shareholders but also other stakeholder groups become addressed. Handbooks on corporate culture for employees, sustainability requirements for suppliers, and corporate newspapers for rural communities are becoming common practice among agroholdings (Astarta 2017; MHP 2016). These initiatives usually require additional investments and thus stand in contrast to efficiency orientation. As a result, they can be implemented more effectively and at a wider scale through diversified and financially strong structures such as agroholdings rather than production-focused structures of non-holding farms.

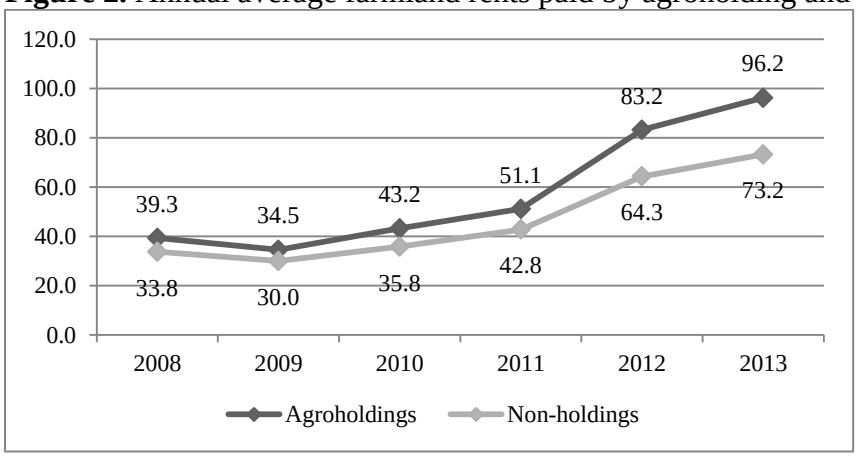
3.2.2. Land market

Ukraine's Land Code allows certain farmland transactions to owners – rural households and family farms. However, the moratorium on buying and selling of land is still in effect. In addition, the investment of agricultural land in the equity capital of businesses is banned. According to the government, this is a precautionary measure, which aims to counter pressure from farm managers on landowners to transfer their land to corporate farms. At the same time, the Land Code does not limit the lease term, and very long-term leases lead to a de facto

absorption of land in the corporate equity (OECD 2003). Expansion of large-scale farms is one of the outcomes of this legal framework. Another outcome is that land lease is an important source of income for rural residents. As landowners, they earn from renting out their land plots to corporate farms (Lerman et al. 2007).

In this context, evidence suggests that non-holding farms cannot afford to pay higher rents to landowners than farms in agroholdings, as they are financially constrained relative to agroholdings (see Figure 2). Consequently, non-holding farms are disadvantaged at the background of increasing competition for land plots under uncertain lease terms. Since lease is the only way to access land, the non-holdings' lease agreements are insecure due to a threat that a significant number of lessors may get better lease price offers from agroholdings.

Figure 2. Annual average farmland rents paid by agroholding and non-holding farms, $/ha



Source: own calculations based on UCAB database

It should be noted that the turbulence of the farmland market is intertwined with uncertainties of technological and social nature. Growing farmland rent prices compel farms to constantly search for and introduce new technologies. Adverse effects of this process become discernible in growing unemployment and other social problems in rural areas. This puts farms under growing societal pressure and gives weight to their corporate social responsibility (CSR) activities. Noteworthy, most Ukrainian farms inherited the service delivery feature of former Soviet kolkhozes to a certain degree (Gagalyuk and Schaft 2016), but stewardship and sustainability tend to be the functions of managerial ability, which in turn is likely to be positively related to farm size (cf. Rickard 2004, 752).

Considerably smaller in size than agroholdings, non-holding farms have a substantially less developed capability to address landowner communities' needs. While agroholdings establish special charity funds and departments in charge of community development issues with annual budgets of up to $2 million (MHP 2016; Kernel 2016; Svarog 2017), non-holdings' support to landowners is most often limited to ad hoc activities such as ploughing of a vegetable garden located next to a landowner's household or removal of snow from rural access roads in winter. In contrast, CSR of agroholdings includes both ad hoc aid and well-planned infrastructural projects. Agroholdings practice charitable donations to schools, hospitals, churches, sport clubs and kindergartens, provide own finance, machinery and equipment for infrastructure works, construction and repair of electricity lines, water and gas pipelines and involve in other related activities (Astarta 2017; IMC 2016; Kernel 2016; MHP 2016).

3.2.3. Labor market

As a transition country, Ukraine generally suffers from poor publicly provided safety nets. Contrary to expectations, the reforms implemented in the social sphere continuously failed to produce the improvements in welfare, particularly in rural areas. Most dramatic was the loss of employment accompanied by labor migration to the cities and abroad (see Table 4). Supply of social services also declined due to the lack of purchasing power (Keyzer et al. 2013).

Table 4. Employment and migration in rural areas of Ukraine

	2008	2009	2010	2011	2012	2013
Employment in rural areas, thousand people	6,556	6,507	6,474	6,450	6,371	6,406
Migration from rural areas, thousand people	-25.8	-16.5	-5.2	-4.2	-3.6	-8.1

Source: State Statistics Service of Ukraine (2015a, 2015b)

Against this background, non-holding farms appear again to be less suited to solve this type of problems. Their narrow specialization in crop production does not allow for an extensive offer of alternative jobs, for example, in milk production (see Table 5).

Table 5. Employment and wages in Ukrainian corporate farms

		2008	2009	2010	2011	2012	2013
Employees per 1000 hectares of total farmland	Agroholdings	35.1	30.7	29.6	28.8	28.2	27.1
	Non-holdings	31.8	28.9	27.5	26.9	25.4	24.1
Employees in crop production per 1000 hectares of arable land	Agroholdings	22.5	19.4	18.9	18.7	18.8	17.5
	Non-holdings	23.1	21.1	20.2	20.3	19.1	18.6
Employees per 100 cows in milk production	Agroholdings	48.4	44.5	44.3	44.0	39.1	39.5
	Non-holdings	30.3	29.8	28.5	26.9	24.6	23.6
Average salary, USD* per worker	Agroholdings	184.6	138.9	157.1	192.8	213.1	245.1
	Non-holdings	151.3	112.6	130.5	182.8	184.7	206.3

Source: own calculations based on UCAB database
*As per official annual average exchange rate of the National Bank of Ukraine

While substitution of technology for hired labor is to a greater or lesser extent common to all farm types in Ukraine, unattractive living conditions in rural areas exacerbate this situation by forcing young people to leave in search for better opportunities. The result is a growing deficit of qualified farm workers that the majority of corporate farms face (Koester et al. 2010). In agroholdings, this issue gives weight to professional human resource management (HRM) as it impels agroholding management to increasingly design and offer above-average compensation packages and qualification improvement programs for both managers and non-managerial workers. Staff retirement pay, profit-sharing and health protection schemes are becoming an indispensable part of employee compensation. In non-holdings, the development of HRM is still at the level of Soviet-type kolkhozes, thus making this type of farms less attractive for workers.

Above-average benefits are additionally able to promote employees' self-identification with and loyalty to an employing company. This seems to be particularly important in the view of persistent employee fraud in Ukrainian agriculture (Gagalyuk and Schaft 2016; Round et al. 2008). For the most part, this problem exists due to the embedded institutions, which accompany the transformation process in former planned economies. Rural societies in Ukraine and some other transition countries are characterized by high risk aversion, lack of trust, preference against being self-employed, lack of self-reliance as well as by corruption and nepotism (Koester 2005). Professional HRM and new technologies of labor monitoring provide successful solutions to the problems of opportunistic behavior by employees (Chaddad and Valentinov 2017). However,

again, investments into these solutions are counter-efficient at least at the initial stage of their realization. Due to the lack of requisite infrastructure and funds in non-holding farms, such investments are much more extensively realized in agroholdings.

4. Theoretical implications

The proposed account of the growth of the Ukrainian agroholdings arguably exposes a major blind spot in the voluminous literature on the theory of the firm. Quite sensibly for any sort of economic theorizing, this literature has been predicated on the idea of efficiency and explained the firm growth accordingly. The Coasean variety of the theory of the firm holds that the firm will grow until 'the supersession of the price mechanism by the authority of the entrepreneur-coordinator is more economical then a series of exchanges negotiated between the relevant parties' (cf. Kroszner and Putterman 2009, 14). From the standpoint of Williamson's transaction cost economics and the related incentive alignment approaches, the firm growth occurs through vertical integration intended at internalizing transactions involving specific assets which could be subject to the opportunistic exploitation. Whatever minimization of transaction costs is achieved through this internalization is fully captured by the efficiency rationale. The competence-based approaches to the nature of the firm likewise stress the efficiency-enhancing effects of the unique and inimitable organizational capabilities and routines. In short, as a part of the broader new institutional economics tradition, the theory of the firm applies the idea of efficiency to organization as distinct from technology stressed by neoclassical economics (cf. Kroszner and Putterman 2009, 9).

The challenge posed to the theory of the firm by the multidisciplinary scholarship on resilience is that the exclusive focus on the idea of efficiency is not only scientifically incomplete but even potentially dangerous from the sustainability point of view. Taking resilience seriously necessitates a rethinking of the theory of the firm. For all the merits of the efficiency idea, it alone cannot explain the survival and decline of firms which are embedded in the complex textures of the socio-ecological systems, except in the negative sense of sustainability risks associated with the exclusive focus on efficiency. The sustainability scholarship hammers home the point that the firm's survival may call for the firm's resilience no less than its efficiency. On reflection, elements of resilience thinking are discoverable in Williamson's view of vertical integration as a contractual safeguard. Even though Williamson himself explained such contractual safeguards in terms of their efficiency rationale, they do involve a sacrifice of efficiency in the sense that they bind the firm's resources and thus prevent their use for the strengthening of the firm's key capabilities. If the resilience-based interpretation of Williamson's argument is accepted, then it is notable that the resilience-enhancing vertical integration involves the expansion of the firm boundaries.

This expansion is evidently even more dramatic in the case of the Ukrainian agroholdings faced with the unique variety of the institutional turbulence. Hamel and Välikangas (2003) show that the increasing turbulence makes the traditional efficiency-based growth strategies insufficient for the firm's survival. In the Ukrainian context, the traditional agricultural enterprises cannot secure their survival by relying on these strategies alone. Instead, they secure their resilience through membership in agroholdings that possess the structural diversity and managerial proactivity required for withstanding the severe institutional perturbations. To be sure, agroholdings are not exempt from the efficiency pressures. It is these pressures, e.g. in the form of the Penrosian effects, which explain why agroholdings do not expand indefinitely. But efficiency alone does

not explain why agroholdings emerged in the first place. An adequate explanation of the emergence and growth of agroholdings must incorporate considerations of resilience as much as those of efficiency.

5. Conclusion

The extant literature on agroholdings in Ukraine as well as other transition countries exhibits several highlights whose mutual logical relation has not been fully clear. Agroholdings are huge and thus instantiate the radical expansion of the firm boundaries; their rise to prominence cannot be traced back to their superior efficiency compared to other forms of agricultural enterprises; and they operate in the transitional business environment marked by a high degree of institutional turbulence. The present paper ties three highlights into a coherent story drawing on the core idea of resilience. The high degree of institutional turbulence exposes the traditional forms of agricultural enterprises to severe existential risks disrupting their access to the critical finance, land, and labor resources. Agricultural enterprises seek to cope with these risks by joining agroholdings which facilitate the access to these resources and create a sort of protected enclave in which the enterprises can concentrate efforts on the organization of production. Crucially, this rationale for membership in an agroholding is centered on resilience rather than efficiency. The focus on resilience rather than efficiency thus provides a tentative explanation of why the remarkable growth of agroholdings fails to be accompanied by evidence of their superior efficiency.

In terms of implications for further research, this argument highlights the considerable cross-fertilization potential of the literatures on organizational resilience and the theory of the firm. The new radical insight for the theory of the firm is that the firm's evolution cannot be explained by efficiency alone. Even if the efficiency presents the main normative benchmark of the theory of the firm and indeed the economic science more generally, this benchmark does not do justice to the limits of the carrying capacity of both social systems and their environments. If the idea of resilience is taken seriously, then the usual business growth strategy may not be attractive. It is at this point, however, that the organizational resilience literature is informed by the proposed argument. Agroholdings exemplify a growth strategy and a resilience strategy at the same time. This is compatible with the organizational resilience literature because the main risks to the sustainability of agricultural enterprises come in the form of institutional turbulence. The resilience strategies may vary widely depending on the nature of the relevant sustainability risks.

References

Acemoglu, D., and S. Johnson. 2005. "Unbundling Institutions." *Journal of Political Economy* 113 (5): 949-995.

Akgün, A.E., and H. Keskin. 2014. "Organisational resilience capacity and firm product innovativeness and performance." *International Journal of Production Research* 52 (23): 6918-6937. doi: 10.1080/00207543.2014.910624.

Allen, C.R., and C.S. Holling. 2010. "Novelty, adaptive capacity, and resilience." *Ecology and Society* 15 (3): 24.

Astarta. 2017. *Consolidated annual report for 2016*. Kyiv, Amsterdam: Astarta Holding N.V.

Balmann, A., H. Hockmann, K. Kataria, and F. Schaft. 2015. "What drives the growth of agroholdings? An analysis of Russian and Ukrainian experiences." In *Agricultural*

Transition in Post-Soviet Europe and Central Asia after 25 Years, Studies on the Agricultural and Food Sector in Transition Economies, edited by A. Kimhi, and Z. Lerman, 251-280. Halle, Germany: IAMO.

Bhamra, R., S. Dani, and K. Burnard. 2011. "Resilience: the concept, a literature review and future directions." *International Journal of Production Research* 49 (18): 5375-5393. doi: 10.1080/00207543.2011.563826.

Brede, M., and B.J.M. de Vries. 2009. "Networks That Optimize a Trade-Off between Efficiency and Dynamical Resilience." In *Complex 2009, Part II, Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering (LNICST) 5,* edited by J. Zhou, 2109-2117. Berlin, Heidelberg: Springer.

Burnard, K., and R. Bhamra. 2011. "Organisational resilience: development of a conceptual framework for organisational responses." *International Journal of Production Research* 49 (18): 5581-5599. doi: 10.1080/00207543.2011.563827.

Calantone, R., R. Garcia, and C. Dröge. 2003. "The effects of environmental turbulence on new product development strategy planning." *Journal of Product Innovation Management* 20 (2): 90-103. doi: 10.1111/1540-5885.2002003.

Chaddad, F.R., and V. Valentinov. 2017. "Agency costs and organizational architecture of large corporate farms: evidence from Brazil." *International Food and Agribusiness Management Review* 20 (2): 201-219.

Child, J. 1972. "Organizational structure, environment and performance: The role of strategic choice." Sociology 6: 1-22.

Cucchiella, F., and M. Gastaldi. 2006. "Risk management in supply chain: a real option approach." *Journal of Manufacturing Technology Management* 17 (6): 700-720. doi: 10.1108/17410380610678756.

Dorobantu, S., A. Kaul, and B. Zelner. 2017. „Nonmarket Strategy Research through the Lens of New Institutional Economics: An Integrative Review and Future Directions." *Strategic Management Journal* 38: 114-140. doi: 10.1002/smj.2590.

Dröge, C., R. Calantone, and N. Harmancioglu. 2008. "New product success: Is it really controllable by managers in highly turbulent environments?" *Journal of Product Innovation Management* 25: 272-286.

EBRD. 2015. "EBRD extends new loan to Ukraine's MHP." http://www.ebrd.com/news/2015/ebrd-extends-new-loan-to-ukraines-mhp.html. Accessed April 13, 2017.

EBRD. 2016. "EBRD provides US$ 20 million to Ukraine's IMC Group." http://www.ebrd.com/news/2016/ebrd-provides-us-20-million-to-ukraines-imc-group.html. Accessed April 13, 2017.

Eisenhardt, K.M., and J.R. Martin. 2000. "Dynamic capabilities: what are they?" *Strategic Management Journal* 21 (10-11): 1105-1121.

Elevatorist.com. 2017. "The map of Ukrainian silos." http://elevatorist.com/karta-elevatorov-ukrainy. Accessed December 7, 2017.

Epshtein, D., K. Hahlbrock, and J. Wandel. 2013. "Why are agroholdings so pervasive in Russia's Belgorod oblast'? Evidence from case studies and farm-level data." *Post-Communist Economies* 25 (1): 59-81. doi: 10.1080/14631377.2013.756673.

Fainschmidt, S., A. Pezeshkan, M.L. Frazier, A. Nair, and E. Markowski. 2016. „Dynamic Capabilities and Organizational Performance: A Meta-Analytic Evaluation and Extension." *Journal of Management Studies* 53 (8): 1348-1380. doi: 10.1111/joms.12213

Gagalyuk, T. 2017. “Strategic role of corporate transparency: the case of Ukrainian agroholdings.” *International Food and Agribusiness Management Review* 20 (2): 257-277.

Gagalyuk, T., and F. Schaft. 2016. *Corporate Social Reponsibility in Agribusiness. Agricultural Policy Report series.* Kyiv: German-Ukrainian Agricultural Policy Dialogue.

Graubner, M., and I. Ostapchuk. 2018. *Efficiency and productivity of Ukrainian crop production. Agricultural Policy Report series.* Kyiv: German-Ukrainian Agricultural Policy Dialogue.

Gulati, R., N. Nohria, and A. Zaheer. 2000. “Strategic Networks.” *Strategic Management Journal* 21 (3): 203-215.

Gunasekaran, A., N. Subramanian, and S. Rahman. 2015. “Supply chain resilience: role of complexities and strategies.” *International Journal of Production Research* 53 (22): 6809-6819. doi: 10.1080/00207543.2015.1093667.

Haleblian, J., and S. Finkelstein. 1993. “Top Management Team Size, CEO Dominance, and Firm Performance: The Moderating Roles of Environmental Turbulence and Discretion.” *The Academy of Management Journal* 36 (4): 844-863.

Hamel, G., and L. Välikangas. 2003. “The quest for resilience.” *Harvard Business Review* 81 (9): 52-63.

Hermans, F.L.P., F.R. Chaddad, T. Gagalyuk, S.I. Senesi, and A. Balmann. 2017. “The emergence and proliferation of agroholdings and mega farms in a global context.” *International Food and Agribusiness Management Review* 20 (2): 175-185.

Holling, C.S. 1973. “Resilience and Stability of Ecological Systems.” *Annual Review of Ecology and Systematics* 4: 1-23.

IFC. 2013. “IFC Lends to Ukrainian Poultry Producer MHP to Help Firm Expand, Create Jobs.” http://ifcext.ifc.org/ifcext/pressroom/IFCPressRoom.nsf/0/955200B0FE1A0E9085257AF3003FE8D8. Accessed April 13, 2017.

IFC. 2014a. “IFC Invests in Ukraine’s IMC to Support Innovation, Sustainable Agriculture.” http://ifcext.ifc.org/ifcext/pressroom/IFCPressRoom.nsf/0/F49AB31716942E3A85257C63003E09BF. Accessed April 13, 2017.

IFC. 2014b. “IFC Invests Up to $250 Million in Poultry Producer MHP to Fuel Ukraine Agribusiness.” http://ifcext.ifc.org/ifcext/pressroom/IFCPressRoom.nsf/0/CA1B4445BB36F87085257D0100468E23. Accessed April 13, 2017.

IMC. 2016. “Social Program ‘IMC. Aid to People’”. http://www.imcagro.com.ua/en/business-overview/social-program-imc-aid-to-people. Accessed June 26, 2017.

Ivanov, D., B. Sokolov, and A. Dolgui. 2014. “The Ripple effect in supply chains: trade-off ‘efficiency-flexibility-resilience’ in disruption management.” *International Journal of Production Research* 52(7): 2154-2172. doi: 10.1080/00207543.2013.858836.

Jain, V., S. Kumar, U. Soni, and C. Chandra. 2017. “Supply chain resilience: model development and empirical analysis.” *International Journal of Production Research* 55 (22): 6779-6800. doi: 10.1080/00207543.2017.1349947.

Kernel. 2016. *Annual Report 30 June 2016.* Kyiv, Luxembourg City: Kernel Holding S.A.

Keyzer, M.A., M.D. Merbis, R. Witt, V. Heyets, O. Borodina, and I. Prokopa. 2013. *Farming and rural development in Ukraine: Making dualisation work.* Seville: European Commission Joint Research Centre, Institute for Prospective Technological Studies.

Kleindorfer, P.R., and G.H. Saad. 2005. „Managing Disruption Risks in Supply Chains.” *Production and Operations Management* 14 (1): 53-68.

Koester, U. 2005. “A revival of large farms in Eastern Europe – How important are institutions?” *Agricultural Economics* 32: 103-113.

Koester, U., C. Schumann, and A. Lissitsa. 2010. *The Agricultural Knowledge and Information System in Ukraine – Call for Reforms. Agricultural Policy Report series.* Kyiv: German-Ukrainian Agricultural Policy Dialogue.

Korhonen, J., and T.P. Seager. 2008. “Beyond Eco-Efficiency: a Resilience Perspective.” *Business Strategy and the Environment* 17: 411-419. doi: 10.1002/bse.635.

Kroszner, R.S., and L. Putterman. 2009. “Reintroducing the economic nature of the firm.” In *The Economic Nature of the Firm: A Reader,* edited by R.S. Kroszner, and L. Putterman, 1-32. Cambridge et al.: Cambridge University Press.

Langbein, J., ed. 2015. *Transnationalization and Regulatory Change in the EU’s Eastern Neighbourhood: Ukraine between Brussels and Moscow*. London, New York: Routledge.

Lapa, V., T. Gagalyuk, and I. Ostapchuk. 2015. “The emergence of agroholdings and patterns of land use in Ukraine.” In *Transition of agricultural market economies – The future of Kazakhstan, Russia and Ukraine,* edited by A. Schmitz, and W.H. Meyers, 102-110. Wallingford, UK et al.: CABI.

Latifundist.com. 2017. “Top 100 latifundists of Ukraine.” https://latifundist.com/rating/top100#155. Accessed November 1, 2017.

Lengnick-Hall, C.A., T.E. Beck, and M.L. Lengnick-Hall. 2011. “Developing a capacity for organizational resilience through strategic human resource management.” *Human Resource Management Review* 21: 243-255. doi:10.1016/j.hrmr.2010.07.001.

Lerman, Z., D. Sedik, N. Pugachov, and A. Goncharuk, eds. 2007. *Rethinking agricultural reform in Ukraine. Studies on the Agricultural and Food Sector in Central and Eastern Europe.* Halle, Germany: IAMO.

Marris, R. 1963. “A Model of the ‘Managerial’ Enterprise.” *The Quarterly Journal of Economics* 77 (2): 185-209.

Matyukha, A, P. Voigt, and A. Wolz. 2015. “Agro-holdings in Russia, Ukraine and Kazakhstan: temporary phenomenon or a permanent business form? Farm level evidence from Moscow and Belgorod regions.” *Post-Communist Economies* 27 (3): 370-394.

MHP. 2016. *Myronivsky Hliboproduct Sustainable Development Report 2015.* Kyiv, Luxembourg City: MHP S.A.

OECD. 2003. *Achieving Ukraine’s agricultural potential: Stimulating agricultural growth and improving rural life.* Paris: OECD.

Oleinik, A. 2005. “A Distrustful Economy: An Inquiry into Foundations of the Russian Market.” *Journal of Economic Issues* 39 (1): 1-22.

Peng, M.W., and P.S. Heath. 1996. “The growth of the firm in planned economies in transition: Institutions, organizations, and strategic choice.” *The Academy of Management Review* 21: 492-528.

Penrose, E.T. 1959. *A theory of the growth of the firm.* New York: Wiley.

Petrick, M., J. Wandel, and K. Karsten. 2013. “Rediscovering the Virgin Lands: Agricultural investment and rural livelihoods in a Eurasian frontier area.” *World Development* 41: 164-179.

Petrick, M. 2017. “Incentive provision to farm workers in post-socialist settings: evidence from East Germany and North Kazakhstan.” *International Food and Agribusiness Management Review* 20 (2): 239-255.

Round, J., C.C. Williams, and P. Rodgers. 2008. "Corruption in the post-Soviet workplace: the experiences of recent graduates in contemporary Ukraine." *Work Employment Society* 22: 149-166.

Rickard, S. 2004. "CAP reform, competitiveness and sustainability." *Journal of the Science of Food and Agriculture* 84: 745-756. doi: 10.1002/jsfa.1696.

Rojansky, M. 2014. "Corporate raiding in Ukraine: Causes, methods and consequences." *Demokratizatsyia* 22 (3): 411-443.

Smart, C. and I Vertinsky. 1984. "Strategy and the Environment: A Study of Corporate Responses to Crises." *Strategic Management Journal* 5 (3): 199-213.

State Statistics Service of Ukraine. 2015a. *Labor Market in Ukraine. Statistical Bulletin.* Kyiv: State Statistics Service of Ukraine.

State Statistics Service of Ukraine. 2015b. *Economic Activity of Population of Ukraine. Statistical Yearbook.* Kyiv: State Statistics Service of Ukraine.

Sutela, P. 2012. *The Underachiever: Ukraine's Economy Since 1991.* Washington, DC: Carnegie Endowment.

Svarog (2017). http://svarog-agro.com/en/home. Accessed June 29, 2017.

Swinnen, J .F.M. 2005. *When the Market Comes to You - or Not. The Dynamics of Vertical Co-ordination in Agro-food chains in Europe and Central Asia.* Washington DC: World Bank.

Thomas, A., D.T. Pham, M. Francis, and R. Fisher. 2015. "Creating resilient and sustainable manufacturing businesses – a conceptual fitness model." *International Journal of Production Research* 53 (13): 3934-3946. doi: 10.1080/00207543.2014.975850.

Trkman, P., and K. McCormack. 2009. "Supply chain risk in turbulent environments – A conceptual model for managing supply chain network risk." *International Journal of Production Economics* 119: 247-258.

Trofimchuk, O., and M. Trofimchuk. 2015. "Evaluation of the modern tendencies in the Ukrainian stock market development." *Baltic Journal of Economic Studies* 1 (2): 148-153.

UCAB. 2013. *Doing Agribusiness in Ukraine 2013.* Kyiv: Ukrainian Agribusiness Club.

UCAB. 2014. *Largest Agroholdings of Ukraine 2014.* Kyiv: Ukrainian Agribusiness Club.

UCAB. 2015. *Largest Agroholdings of Ukraine 2015.* Kyiv: Ukrainian Agribusiness Club.

Ukrlandfarming. 2017. http://www.ulf.com.ua/en/. Accessed December 7, 2017.

Visser, O., N. Mamonova, and M. Spoor. 2012. "Oligarchs, megafarms and land reserves: understanding land grabbing in Russia." *The Journal of Peasant Studies* 39 (3-4): 899-931.

Williamson, O.E. 1985. *The economic institutions of capitalism.* New York: Free Press.

Winter, S.G. 2003. "Understanding Dynamic Capabilities." *Strategic Management Journal* 24: 991-995. doi: 10.1002/smj.318.

Zinych, N., and M. Odening. 2009. "Capital market imperfections in economic transition: empirical evidence from Ukrainian agriculture." *Agricultural Economics* 40 (6): 677-689.