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Unravelling Land Grabbing

Dynamics, Implications, and the Logic of Capital in East Germany

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Abstract

The global land grab is fuelling a concentration of land in the hands of a few and (further) embeds land into the logic of capital. In the context of industrialised agriculture, it remains understudied who the different actors vying for control of land are and how farmers respond to these pressures. Hence, this thesis aims to study how land grabbing manifests in East Germany where large farms dominate, and where recent years have seen a wide range of actors encroaching on land.

I use an instrumental case study design and focus on the county Elbe-Elster to allow for a deeper understanding of the dynamics at play in East Germany. As a method, I conducted semi-structured interviews with farm managers and other relevant stakeholders.

My results show that while land use change remains limited, there is a land grab underway in Elbe-Elster which squeezes out farmers, increases land concentration, and further embeds land into the logic of capital. This is amplified by a broader agrarian crisis where farmers often have no other choice than to accommodate investors if they want to keep their farm afloat. The actors involved are diverse in sector, scale, and motivations, including both productivity-oriented and rent-seeking pursuits.

Key Words: *land grabbing, land concentration, logic of capital, industrialised agriculture, East Germany, Elbe-Elster, agrarian crisis*

Word count: 14,990

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1. Introduction

In the 2000s, a massive surge of investments in farmland, typically referred to as the 'global land grab', began to unfold across the world, drawing significant attention from researchers. This rush for land was sparked by high food and commodity prices and was further amplified by the financial crisis of 2008 as global capital sought secure investments. All of this drove increased interest in the control and use of land by a myriad of different actors (Oliveira et al., 2021; Wolford et al., 2024). Here, land grabbing is defined as "the capturing of control of relatively vast tracts of land and other natural resources through a variety of mechanisms and forms that involve large-scale capital that often shifts resource use orientation into extractive character" (Borras et al., 2012, p. 851). This definition highlights two aspects: first, the concentration of control over land, and second, a shift in resource use, with potential negative effects for the environment and those that live off the land.

While land grabbing can take many different forms, the underlying logic remains the same: the imperative for accumulation which (further) embeds land into the logic of capitalism (Wolford et al., 2024). In other words, the global land grab is symptomatic of capitalist development and needs to be studied in this vein to be properly understood.

While research on land grabbing often focuses on lower-income countries and the contrast between subsistence-oriented family farmers and investors, scant attention has been paid to how land grabbing manifests in higher-income countries. Here the integration of farming into capitalism is more advanced and hence, it is not possible to distinguish along the lines of labour versus capital. Instead, it becomes necessary to distinguish between different classes of capital (Bernstein, 2010). Furthermore, investors are often not interested in the returns from agricultural production but rather interested in the appreciation of land, with some simply amassing land to then rent it out (Fairbairn, 2014). While scholars acknowledge this, to date, the connection to Marx's (1991) third class of modern landed property (MLP), which profits from rent through ownership, has remained unexplored.

I aim to shed light on both of these understudied aspects of the global land grab by unravelling the complexities of land grabbing in the county Elbe-Elster in East Germany. During the decades that East Germany was under the influence of the Soviet Union, all family farms were collectivised (Brunner, 2019). Consequently, large farms, often in the form of cooperatives or limited companies, dominate the landscape to this day (Bundesministerium für Landwirtschaft und Ernährung [BMEL], 2023). Additionally, agriculture in East Germany is embedded in the

logic of capital: industrialised, market-dependent, and characterised by intense competition for land with an increasingly diverse set of actors (van der Ploeg, 2020). The pressures on farmers because of that constitute what van der Ploeg (2010) calls an agrarian crisis.

Two types of land grabbing in East Germany have received scholarly attention: competition for land with solar parks, and share deals where investors take over whole farms. Firstly, an increased interest in the lucrative returns solar parks offer has sparked a run on agricultural land all over Germany (Müller & Pampus, 2023). Secondly, the ownership structure, the large size of the farms, and the perpetual state of crisis that farmers are in makes farms in East Germany a prime target for investors (Brunner, 2019; Herre, 2013; Laschewski & Tietz, 2021; Tietz, 2017). What makes this so interesting is that it does not fit the usual story of land grabbing where family farms are taken over by corporate farms. Instead, already large structures, embedded in the logic of capitalism, change owners. As land is already subsumed by capitalist relations, it raises the question whether different classes of capital or MLP make different sense of the land.

All in all, I aim to study the complexities of how land grabbing manifests in Elbe-Elster to further the understanding of the intricate dynamics of the global land grab in a world where it is increasingly difficult to find farming that is not yet touched by the logic of capital.

1.1. Aim and Research Questions

The above translates into the following overarching Research Question:

> *How does the global phenomenon of land grabbing manifest itself in Elbe-Elster in East Germany and with what effects for existing commercial agricultural enterprises?*

To further operationalise this question, I utilise the following four sub-questions:

1. *What are the various forms of land grabbing occurring in East Germany's agricultural sector and how do they differ in terms of investors, motives, and strategies?*
2. *How do production dynamics differ between investor-owned farms and farmer-owned farms within the context of the agrarian crisis in East Germany?*
3. *How does the agrarian crisis influence existing commercial agricultural enterprises' interactions with investors?*
4. *How do these dynamics in East Germany fit into the concept of land grabbing?*

1.2. Outline

This thesis proceeds as follows. Firstly, I explain the particularities of agriculture in East Germany and how this context shapes land grabbing in the region today, before providing information on the case: Elbe-Elster. Secondly, I present a literature review of land grabbing in general, and land grabbing in East Germany. Thirdly, I elaborate on my Marxist theoretical framework which focuses on the particulars of classes of capital and MLP. Fourthly, I outline my methodology which revolves around semi-structured interviews and is supported by quantitative data analysis. Fifthly, I present and discuss my findings, structured around my four research questions. Lastly, I conclude my thesis by summarising my findings and returning to my overarching Research Question.

2. Background

2.1. Agriculture in East Germany

When Germany was divided after the Second World War, this put into motion the development of a distinct agrarian structure in East Germany (BMEL, 2023). This structure encompasses various ownership forms, which I broadly distinguish into legal persons (e.g. cooperative, limited companies), partnerships (GbR)[1], and natural persons. During the time of the Soviet Union's influence, land was expropriated on a large scale and a lot of farms were consolidated into so-called agricultural production cooperatives (LPG) (Brunner, 2019). Following the reunification and the consequent integration into a capitalist system, agriculture was industrialised and privatised. Every member of an LPG had the option to reclaim their assets and establish their own farming enterprise, effectively becoming family farms again (Brunner, 2019). However, only few took this opportunity and consequently, large-scale farm structures persisted. The LPGs were transformed into new ownership forms, typically cooperatives or limited companies (Laschewski & Tietz, 2021). A cooperative is owned collectively, usually by the workers and managers of the farm. Members have equal voting rights and share in decision-making. When a member leaves, they are reimbursed for their initial investment. However, when the farm is sold, they stand to receive much more for their shares. In contrast, limited companies typically have fewer members than cooperatives and importantly, when leaving, a shareholder is compensated for their shares, potentially putting a farm into financial jeopardy.

Because of the historical developments, family farms owned by natural persons still dominate in West Germany while farms in East Germany are more often in the form of a legal person. In East Germany legal persons make up 15.6% of farms, but as they are much larger than family farms – averaging 708.4 hectares – they farm almost half of the agricultural land (49.8%) (BMEL, 2023). This land concentration is further exacerbated by the prevalence of so-called holdings in East Germany, where several farms in the form of legal persons are separate entities on paper but are owned and managed together to best make use of and adapt to regulations (Laschewski & Tietz, 2021). In 2020, 52% of farmland in Brandenburg was farmed by holdings (BMEL, 2023). Hence, the holding structure in East Germany hides the actual concentration of land.

[1] GbR do not play an important role in agriculture in Germany. However, as it is a separate legal category, I mention it here.

While farm ownership in East Germany is relatively concentrated, land ownership is much more fractured. In Germany, farmers typically own a portion of their land and lease the remainder, with leasing being more common in East Germany due to historical circumstances. Following reunification, land was either returned to former owners or remained under state control until privatised (Bunkus, 2021; Herre, 2013). Consequently, farms primarily relied on leased land, gradually acquiring land from the state or reinstated landowners (Tietz, 2017). Notably, as of 2020, farms in East Germany still leased approximately 68% of their land (BMEL, 2023). Meanwhile, less than 1% of agricultural land is sold annually, highlighting the significance of rent for the German land market (ibid.).

While selling prices and lease prices for land are significantly lower in East Germany compared to the West, recent years have witnessed a dramatic surge in land prices across Germany, particularly in the East (Emmann, Surmann & Theuvsen, 2015). From 2010 to 2020, land rent increased by 64.2% in East Germany (BMEL, 2023). The spike in land purchase prices has been even more pronounced, with an increase of around 150% from 2011 to 2021 in the whole of Germany (ibid.). This trend is largely attributed to "the new 'interest in land' by those with large amounts of capital" (Herre, 2013, p. 48).

2.2. Land Grabbing in East Germany

The Real Property Transactions Act is a law regulating the transfer of agricultural land in Germany (Bunkus, 2021). It postulates that whenever a non-farmer wants to purchase land above a certain size (2 hectares in Brandenburg), farmers are granted a pre-emptive right to buy the land, given they can match the offer and prove that they require the land (ibid.).

To circumvent this law, investors take over farms and through that become able to buy land (Brunner, 2019; Emmann, Surmann & Theuvsen, 2015; Herre, 2013; Laschewski & Tietz, 2021; Tietz, 2017). What makes these so-called share deals so attractive is that they are possible without any restrictions and that they do not need to be reported (Tietz, 2017). There are three reasons why share deals in East Germany are more lucrative for investors than in the West, heavily shaped by the historical background elaborated on above. Firstly, land prices are much lower (Emmann, Surmann & Theuvsen, 2015). Secondly, the large-scale farm structure makes it more attractive for investors as they can acquire more land (Brunner, 2019). Thirdly, the ownership structure of farms makes it easier to take them over rather than for example buying out a family who has owned and worked the land for generations (Laschewski & Tietz, 2021).

The reasons why farms are sold are also specific to the context of East Germany. Owners and managers of farms in East Germany are undergoing a generational change which opens a window for investors (Laschewski & Tietz, 2021). On the one hand, it is difficult to find successors willing and able to take over. On the other hand, owners receive much larger compensation if the farm is sold, especially if the farm is in the form of a cooperative. Furthermore, if a farm is in the form of a limited company, compensating someone for leaving requires a lot of money which sometimes the farms do not have. This links to another reason for selling a farm: financial troubles (ibid.). Often other regional farmers do not have the necessary capital to take over the farm in trouble, so investors are called in.

Increasingly, investors are also grabbing land in East Germany to build solar parks: the bigger the park, the more lucrative (Müller & Pampus, 2023). Solar companies lease land rather than buying it, offering much higher rent than what is common for agricultural land. If farmers own the land that solar parks are built on, they might lose farmland but still profit from the rent solar park companies offer. However, as elaborated on above, farmers rent large parts of the land they farm. If these lessors are approached by solar companies, farmers do not benefit at all, losing land without any compensation.

2.3. The Case: Elbe-Elster

Elbe-Elster is a county in the federal state of Brandenburg which surrounds Berlin. Elbe-Elster is in the south of Brandenburg, bordering three other counties in Brandenburg, as well as the federal states of Saxony and Saxony-Anhalt (see Figure 1).

Figure 1. *Map of Germany and the federal state Brandenburg, highlighting the location of the county Elbe-Elster (Landkreis Elbe-Elster, n.d.a.).*

Elbe-Elster has low precipitation and very poor soil which makes it a difficult location for agriculture (Landkreis Elbe-Elster, n.d.b.). Therefore, buying prices and rent are low, not just in comparison to West Germany but also to East Germany and Brandenburg (see Figure 2 and 3).

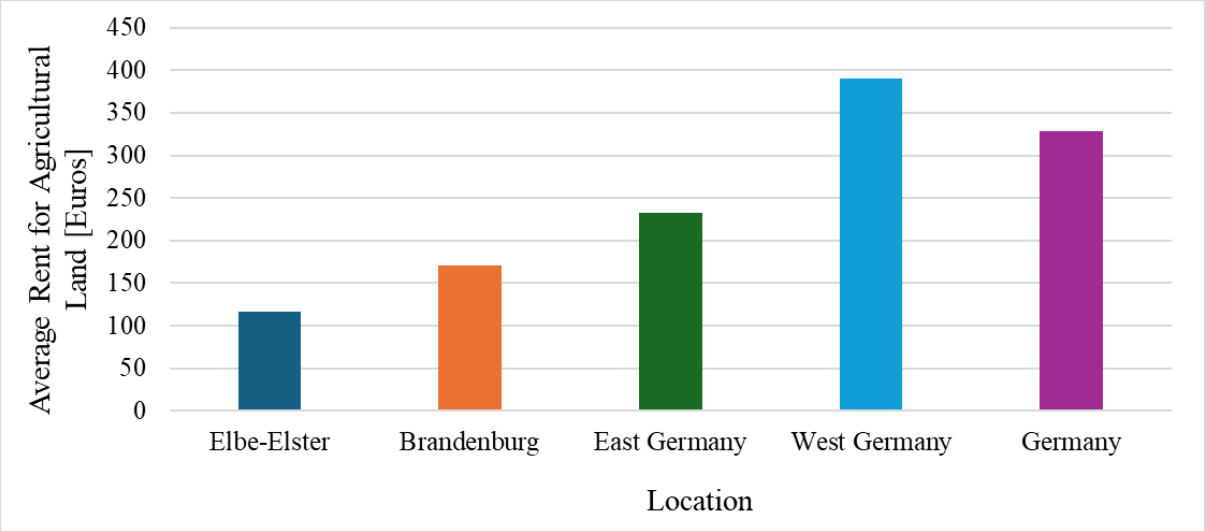

Figure 2. *Average rent for agricultural land [Euros] by location. Elbe-Elster 116€, Brandenburg 171€, East Germany 232€, West Germany 390€, Germany 329€. All values are for 2020. The value for Elbe-Elster and Brandenburg are taken from a public online data base (Landwirtschaftszählung, 2020c). The other values are from the BMEL (2023).*

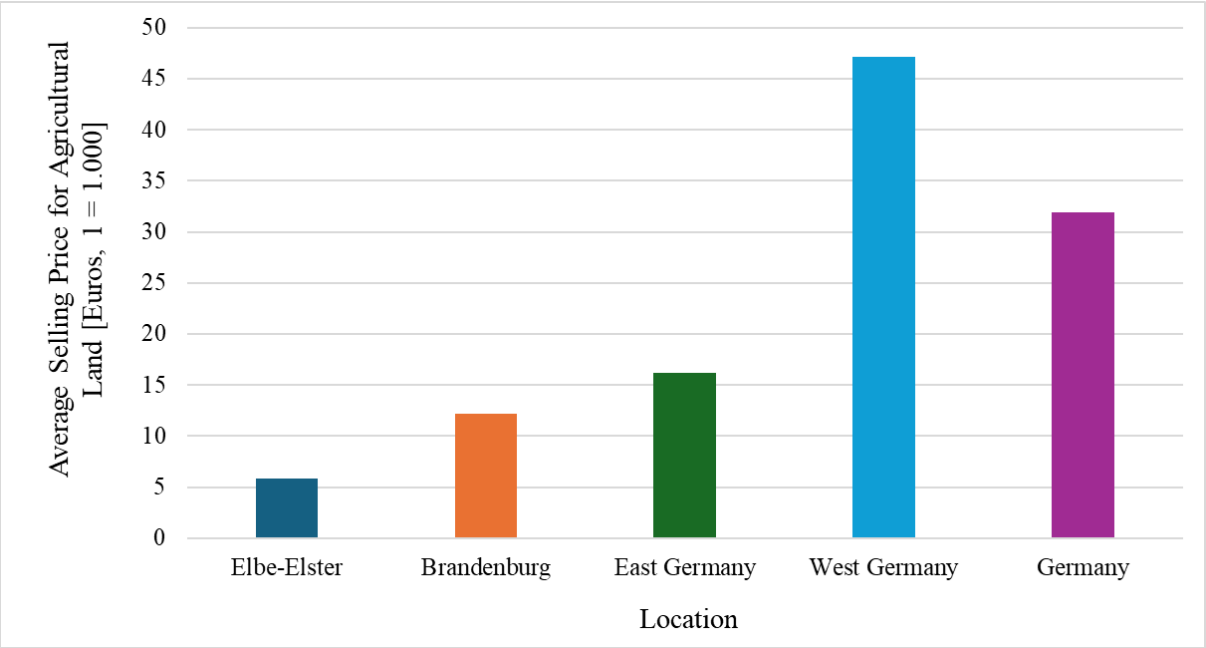

Figure 3. *Average selling price for agricultural land [Euros, 1 = 1.000] by location. Elbe-Elster 5,865€, Brandenburg 12,161€, East Germany 16,204€, West Germany 47,092€,*

Germany 31,911€. The value for Elbe-Elster is for the year 2023 and I calculated it myself based on data from a public online database (Landesvermessung und Geobasisinformation Brandenburg, 2024). The other values are for 2022 (Deutscher Bauernverband, 2023).

Roughly half of Elbe-Elster – 88,636 hectares – is used agriculturally by 353 farms (Landwirtschaftszählung, 2020c). 75% of farms in the county keep animals such as cattle, dairy cows, pigs, and poultry, as this allows farmers to still make economic use of their sandy soils: animal waste improves soil fertility, and the lower quality harvest can be used as animal feed (Landwirtschaftszählung, 2020b). 73% of agricultural land in Elbe-Elster is used to grow crops while the other 27% are used for animal grazing (Landwirtschaftszählung, 2020a). The crops grown are either cereals for human consumption, feed for livestock, or crops for renewable energy production such as rapeseed for biodiesel and corn for biogas (ibid.).

3. Literature Review

3.1. Land Grabbing

In this thesis, I understand land grabbing to be control grabbing in line with Borras et al. (2012). More concretely, land grabbing is "the capturing of control of relatively vast tracts of land and other natural resources through a variety of mechanisms and forms that involve large-scale capital that often shifts resource use orientation into extractive character" (Borras et al., 2012, p. 851). While land grabbing is not a new phenomenon and was central to, for example, colonialism, the acquisitions of land took on a new scale in the early 2000s, sparked by high food and commodity prices and further amplified by the financial crisis of 2008 (Oliveira et al., 2021; Wolford et al., 2024). When land grabbing reaches this widespread, speculative momentum, we speak of a land rush. In other words, a land rush is the "chaotic, relatively short-lived historical juncture marked by a sudden surge in demand for land" (p. 3) where everybody, including small-scale capital, wants a piece of the pie (Borras & Franco, 2024). In the following, I elaborate on the many different forms land grabbing can take and point out gaps in the literature.

The drivers of the contemporary 'global land grab' are manifold. Increasingly land is grabbed in the name of the environment, so-called green grabbing (Fairhead, Leach & Scoones, 2012). This can include grabbing land for conservation measures and grabbing land for renewable energy production, such as growing crops for biofuel and biogas production, or building solar and wind parks on agricultural land (Wolford et al., 2024). Another driver of land grabbing is mining, increasingly for rare metals such as lithium which brings us back to the green energy transition (ibid.). Lastly, the global land grab that began in the 2000s is also driven by financialisation, here defined as "the tendency for profit making in the economy to occur increasingly through financial channels rather than through productive activities" (Fairbairn, 2014, p. 778). As a result, the financial sector's significance within the overall economy is growing compared to other sectors, and the non-financial sector becomes increasingly financialised in that shareholder value and short-term capital gains are prioritised (Subasat & Mavroudeas, 2023).

Land has several qualities that make it interesting for financial investment. Firstly, taking a neo-Malthusian view of population growth and increased demand for food, combined with the climate crisis, means that land is going to significantly appreciate in the long-term (Fairbairn, 2014). Secondly, land is a great storage of value and inflation hedge, like gold but with the

added bonus of yield (ibid.). Thirdly, investors are also expecting short-term appreciation in particular regions or simply because of growing investor interest (ibid.). Sometimes large capital gains are also achieved by increasing productivity or adding, for example, renewable energy plants (ibid.).

The literature on the financialisation of land often invokes rent as a major source of profit for investors (Fairbairn, 2014; Gunnoe, 2014). However, it largely overlooks Marx's third class of modern landed property, even though this class profits from rent without involvement in production (Serna, 2021). By incorporating MLP in my research, I aim to provide a more comprehensive understanding of the dynamics at play in the financialisation of land and land grabbing more generally.

Next to a wide array of drivers, there are also many different actors involved in the 'global land rush'. Governments from all over the world are participating in and enabling land grabbing, and companies from many different sectors (e.g. finance, mining, food) are heavily involved for the various reasons outlined above (Borras et al., 2012). Research has also increasingly paid attention to the role of domestic elites (landlords and capitalists) (ibid.), and non-governmental organisations 'grabbing' land in the name of conservation (Wolford et al., 2024). Often, alliances are forged across various actors leading to state-capital and domestic-transnational links (Borras et al., 2012).

Land grabbing has been criticised widely because of its negative effects both on humans and the environment. Often, land is grabbed that is the basis of subsistence for a variety of people (Borras et al., 2012). Therefore, land grabbing often entails dispossession and enclosure of the commons (Andreucci et al., 2017; Wolford et al., 2024). Furthermore, land grabbing often transitions "land from smallholder agriculture to large-scale, intensive commodity production", or a more industrial system of agriculture, with negative environmental effects (Wolford et al., 2024, p. 13).

Increasingly, attention is being paid to different types of land grabbing (Wolford et al., 2024). Importantly, land does not have to be bought and land grabbing does not necessarily involve dispossession. Instead, land can be rented, or residents can be incorporated into the land grab through for example contract farming (Oliveira et al., 2021). Furthermore, while corporate land grabs have been at the centre of research, recently Borras and Franco (2024) pointed out the importance of pin-prick land grabs. Borras et al. (2024) define pin-prick land grabs as "those usually small-scale, scattered, often by stealth and almost invisible instances of land

accumulation, but that when aggregated could become large-scale in terms of capital involved, widespread and ubiquitous and thus large-scale in geographic terms" (p. 3). Because these land acquisitions are so small, they do not show up in any database and get ignored by the media. Nevertheless, they are just as important as the large grabs.

Lastly, while research is still focused on land grabbing in lower-income countries, it is increasingly acknowledged that land grabbing is a global phenomenon, also unfolding in highly industrialised agrarian settings (Wolford et al., 2024). Hence, land grabbing has been studied in Canada (Desmarais et al., 2015, 2017), in Australia (Sippel, Larder & Lawrence, 2017), the United States (Fairbairn, 2014; Gunnoe, 2014), and in Europe (Herre, 2013; Kay, 2016; van der Ploeg, Franco & Borras, 2015). This research has revealed that "in the global North, large-scale land deals do not involve the same sort of overt dispossession and human rights abuses, and do not necessarily lead to significant changes in land use or production systems, as has been the case in land grabs occurring in the global South" (Desmarais et al., 2015, p. 19). However, even if land use change remains limited, there nevertheless is a power imbalance between farmers and investors. Therefore, research into how land grabbing unfolds in higher-income countries remains crucial for understanding global agrarian development. Importantly, despite studying land grabbing in this setting, research has neglected how land grabs affect already large, industrialised farms, focusing either on the investors behind land grabbing or assuming a predominance of family farms.

In summary, the concept of land grabbing has been greatly expanded over the years. However, there are still essential gaps in the literature. The role of MLP in the financialisation of land and land grabbing in general has been neglected. Furthermore, in the context of already industrialised agriculture, the effect on industrialised farms remains to be studied.

3.2. Land Grabbing in the Context of Industrialised Agriculture and Agrarian Crisis

An important contextual factor for understanding land grabbing in East Germany is that agriculture is industrialised, even more so due to the large-scale farm structure of the region. Accordingly, farming is highly mechanised and relies on external inputs. Fundamental to industrialised agriculture is the ever-present need to increase the scale of production: if farmers do not invest huge sums, they perish (van der Ploeg, 2010). As farmers are further integrated into 'the logic of the market', they become increasingly susceptible to ups and downs in market prices (ibid.). Simultaneously, they are faced with mounting constraints imposed in response

to the environmental impacts of industrialised farming (van der Ploeg, 2020) and an increasing competition for land, accompanied by rising land prices (Herre, 2013). All these challenges squeeze farmers and constitute what van der Ploeg (2010) calls an agrarian crisis. This sense of crisis regularly becomes visible in farmers protests. Just a few months ago, huge outrage was sparked when the German government cut tax relief for agricultural diesel, prompting thousands of farmers to take to the street (Reimer & Teigeler, 2024). For many, the protests are a representation of a general feeling of distress, and the cuts were just the final straw. How this agrarian crisis shapes farmers' interaction with investors is an interesting, and so far neglected, area of research.

In the context of a large-scale farm structure and industrialised agriculture, there is a lot of debate around what constitutes an investor as the line between farmer-owned farms and investor-owned farms is often blurry. When asked about who qualifies as an investor, farmers' responses showed that the closer an investor's connection to agriculture, the less likely it was that they considered them as investors (Emmann, Surmann & Theuvsen, 2015). Following both this and the definition by Tietz (2017), I use two criteria to define investors in this thesis: regionality and relation to agriculture. This means that farm owners with connections to non-agricultural capital and farm owners that are solely agricultural but active supra-regionally qualify as investors. Tietz (2017) found that based on this definition, investors owned 14% of agricultural land in the ten counties he studied. Importantly, this definition does not include large farms that grew by buying up other farms in the region. These farms can still be enormous and contribute to an increase in land concentration. Nevertheless, for purposes of analytical clarity and consistency with the existing research, I have chosen to use this definition.

Due to the industrialised nature of agriculture in East Germany, the effects of investors grabbing farmland are more difficult to spot. A case in point is that investor-owned farms do not differ greatly from farmer-owned farms in the crops they produce (Laschewski & Tietz, 2021). However, when it comes to renewable energy production which offers high returns, investors are more capable of realising projects such as solar parks than farmers because of their organisational and technical expertise, and their ability to generate the necessary capital (ibid.). This ability to generate capital also means that investors can offer higher prices for land, outcompeting farmers and fuelling the massive increase in prices for agricultural land (Herre, 2013). Another difference between investors and farmers is that some investors are interested in the land as an asset, not in agricultural production, therefore prioritising short-term profits and following the logic of financialisation (Brunner, 2019). Lastly, investors are more likely to

outsource labour (Brunner, 2019), and streamline production, for example by closing branches (Laschewski & Tietz, 2021).

While there has been a lot of research conducted on land grabbing in East Germany and its effects, this research is largely focused on investor-owned farms (Bunkus & Theesfeld, 2018; Laschewski & Tietz, 2021; Tietz, 2017), with only some recent attention to the run on agricultural land sparked by the increased profitability of solar energy, which Müller and Pampus (2023) call the 'solar rush'. The role of landowners in land grabbing as well as investors buying land instead of farms has been neglected. Furthermore, as elaborated on above, the context of farmers in crisis has not been considered. Therefore, I aim to study how the totality of land grabs affects large, industrialised farms within the context of an agrarian crisis.

4. Theoretical Framework

4.1. Core Concepts of Marxist Theory

To understand agrarian change in our world today requires an understanding of capitalism (Bernstein, 2010). Capitalism – which not only shapes our economies but also everything else – will here be defined as "a system of production and reproduction based in a fundamental social relation between capital and labour: capital exploits labour in its pursuit of profit and accumulation, while labour has to work for capital to obtain its means of subsistence." (Bernstein, 2010, p. 1). At the basis of capitalist production lies a simple formula: M – C – M': money (M) is invested in means of production and labour power (C) to create commodities which can then be sold for more money (M') (Bernstein, 2010; Gunnoe, 2014). The difference between M and M' is the surplus value generated by labour which is then appropriated by capital (ibid.).

Capital is driven by "the insatiable drive to accumulate and expand in competition among capitals" (Campling et al., 2016, p. 1749), or in other words the need to "accumulate or die" (Fine, 1984, p. 36). Consequently, competitive accumulation engenders an increasing concentration of ownership in the hands of a select few (Campling, 2021). In a capitalist system, concentration is not merely a consequence but a defining feature.

Next to the classes of capital and labour, Marx also theorised the existence of a third class, that of modern landed property (Capps, 2016). This class essentially holds "the monopoly of disposing of particular portions of the globe" (Marx, 1991, p. 752), is separated from the production process, and profits through ground rent (Huber, 2022). Ground rent is paid by those who want to make use of an asset to the owners of that asset (Andreucci et al., 2017).

MLP is both necessary for capitalist production and an obstacle to it (Capps, 2016). Firstly, it is an essential prerequisite of capitalist relations of production. Ownership is not only the basis of rent relations but also the basis of value production as exclusive property rights expropriate labour from their means of livelihood, allowing for the exploitation of labour by capital (Andreucci et al., 2017; Capps, 2016). Secondly, while MLP is a prerequisite of capitalist relations of production, it is also contradictory to the logic of further capitalist development. This is because ground rent does not produce value but appropriates it, a process referred to by Andreucci et al. (2017) as value grabbing: "the appropriation of (surplus) value produced elsewhere through rent" (p. 31). Therefore, the relationship between rentier and lessor is "a

social relation of distribution, not production" and goes "against the (immediate) interests of capital" (Andreucci et al., 2017, p. 36).

Importantly, the lines between MLP and capital can become blurry. According to Campling et al. (2016), "the 'functions' of a particular class can be assumed by a diversity of actors" (p. 1752). Using this approach allows for greater conceptual specifications. On the one hand, a landlord becoming involved in production means that MLP is assuming the class function of capital. On the other hand, capital interested in the appreciation of assets and rent assumes the class function of MLP. Hence, how MLP and capital manifest varies across contexts. This brings us to the next section on the Marxist method.

4.2. Class Analysis – The Marxist Method

The Marxist method entails "rising from the abstract to the concrete" (Campling et al., 2016, p. 1746). More specifically, this entails moving back and forth between the 'essential relations' of capitalism (the abstract) and the 'phenomenal forms' they take (the concrete) (Capps, 2016). For example, an essential relation of capitalism is that capital strives to accumulate. Examining this concretely in the case of land grabbing in East Germany we can see that different classes of capital have different motives, strategies, and means at their disposal for accumulation. In short, capital manifests in different phenomenal forms. Importantly, concrete does not mean the empirical but rather "a greater level of conceptual specification" (p. 1746), so it already requires situating the empirical in the theory (Campling et al., 2016). This method recognises that while there are underlying 'gravitational tendencies' in capitalism – such as the accumulation imperative for capital – these concepts do not materialise the same way in different contexts (ibid.). Using this Marxist method, Campling et al. (2016) postulate that class analysis should consist of "the mediated application of class-relational concepts and categories to explain real-world development processes" (p. 1745).

4.3. Land Grabbing

As I have shown above, land grabbing presents itself very differently across the world and the definition of what land grabbing is has broadened over the years. Hence, Borras et al. (2012) have long called for a focus on what is at the root of the global land grab: the logic of capital (ibid.). Afterall, the common denominator in all land grabs is the imperative for accumulation. Importantly, the motives behind land grabbing are not always simply to benefit from the production of agricultural commodities but increasingly also to profit from rent extraction, a trend driven by the financialisation of land (Fairbairn, 2014). Hence, the global land grab

involves both capital and modern landed property. The imperative to accumulate which drives these classes results in a massive concentration of land ownership in the hands of a few which comes at the expense of the many who farm the land (Wolford et al., 2024). In short, while land grabbing manifests itself differently depending on the context, this underlying logic remains the same. Therefore, Borras et al. (2012) emphasise that a class analysis is the most useful method for studying land grabbing.

Embedding land grabbing in the logic of capital highlights the usefulness of Borras et al.'s (2012) concept of control grabbing. Control grabbing takes place when "land is incorporated into a wider control regime framed by capitalist relations" (Wolford et al., 2024, p. 5). This often results in a shift in the way land is used "as the new uses are largely determined by the accumulation imperatives of capital" (Borras et al., 2012, p. 850). While in my case land is already subsumed by capitalist relations, it will be interesting to see whether different classes of capital or MLP make different sense of the land.

4.4. Classes of Capital and Modern Landed Property

To properly understand agrarian change in East Germany, analysing the different classes of capital and their relation to MLP is crucial (Bernstein, 2010). Class is a relational concept in that "classes are formed, interact and are reproduced through relations with each other" (Campling et al., 2016, p. 1748). Fundamentally, classes of capital and MLP compete "over the appropriation of portions of value" (ibid., p. 1752). However, classes of capital can collaborate in their shared position against labour or MLP, and different classes of capital can merge. And, as elaborated on above, the relation between capital and MLP is mutually constitutive.

Often, the literature on land grabbing assumes a dualistic agricultural structure which differentiates between two abstract categories: family farms versus capitalist farms. However, much literature has shown that family farms have become entrepreneurs, and it is difficult to still draw a clear line between corporate and family farming (Hubert, 2018; Pritchard, Burch & Lawrence, 2007).

Importantly, also what is commonly referred to as capitalist farms can be further distinguished. For example, Gunnoe (2014) distinguishes between agrarian capitalists who are actively involved in the production of commodities and institutional landowners who view land primarily as a portfolio asset. This relates back to the distinction made above between capital and MLP. On the one hand, agrarian capitalists involved in the production of commodities fall

in the class of capital. Institutional landowners, on the other hand, assume the class function of MLP as they simply profit from rent and asset appreciation.

Still, even this distinction can become blurry. According to Fairbairn (2014), there are investors following an 'own-lease out' approach where they own farmland or a farm and rent it to a tenant-farmer, which makes it easy to classify them as MLP. Afterall, they grab surplus-value but are separated from production. However, there are also investors who 'own-operate' their farmland and farms. These investors are both interested in agricultural production and appreciation of land value (ibid.). Furthermore, increasingly productive capital recognises the value of its land and becomes drawn into the financial logics of capital (ibid.). This showcases how landowners can assume the class function of capital by becoming involved in production and how capitalist farms can take the class function of MLP by betting on the appreciation of land value (Campling et al., 2016).

Next to the increasingly blurry distinction between capital and MLP, I also want to highlight that it is possible to distinguish between different classes of capital. According to Bernstein (2010), different classes of capital can be distinguished by scale and sector. Following this differentiation, a corporate agricultural enterprise that owns 2,000 hectares of land and draws its capital from agriculture alone falls into a different class than a corporate agricultural enterprise with 10,000 hectares of land, drawing its capital from outside of agriculture.

Importantly, these distinctions between different classes of capital and MLP are not black and white. As these examples show, the boundaries between these abstract categories are blurry. MLP can engage in production, productive capital can be interested in value appreciation, scale per definition is a spectrum, and an agricultural trade corporation or a butcher draw their capital from sectors closely linked to farming. Nevertheless, these distinctions serve as useful analytical categories.

4.5. Summary

The essence of the above is that understanding land grabbing requires a focus on the underlying logic of capital. Afterall, the common denominator across the various forms of land grabbing is the imperative to accumulate. To study the logic of capital through a Marxist lens requires understanding how capital's logic (the abstract) translates into phenomenal forms (the concrete). Therefore, to understand how land grabbing manifests in Elbe-Elster, it is important to study how capital and MLP manifest on the ground. Above, I explained how actors can take

different class functions and how capital can be further differentiated according to sector and scale. I elaborate on how I operationalise this in the following.

5. Methodology

5.1. Research Design

In my thesis, I adopt an instrumental case study design, wherein I focus on the county Elbe-Elster as a bounded case to illuminate the issue of land grabbing in East Germany (Creswell, 2013). I chose Elbe-Elster because it has not been studied before and because of the significant media attention garnered by an investor's acquisition of a farm in the region last year (Mitteldeutscher Rundfunk, 2023). This guaranteed that the topic of investors in agriculture was present for my interviewees. Furthermore, my father manages farms in the county, thereby granting me access to interviewees. Case studies allow for an in-depth understanding of how a phenomenon plays out, hence allowing me to rise "from the abstract to the concrete" (Campling et al., 2016, p. 1746). Furthermore, I approach my research puzzle abductively by continuously moving "to and fro between theory and empirics" (Gustafsson & Hagström, 2018, p. 642). In other words, while theory guided me in my research and informed my interview guide, the empirical data I gathered in the field served to refine both my research questions and theoretical framework. This enabled my participants to shape my research in a way that is representative of their struggles.

5.2. Research Method and Data

My main method is qualitative as I conducted interviews to understand the 'lived experiences' of farmers in the region. I also use quantitative methods and created an overview of the ownership structure of farms and solar parks in Elbe-Elster. By adopting a mixed methods approach and triangulating my findings, I ensure the robustness and validity of my data (Hammett, Twyman & Graham, 2014).

5.2.1. Semi-Structured Interviews

I conducted 19 interviews in a semi-structured manner with a diverse group of participants. Four interviews were arranged through snowball sampling, i.e. interview partners recommended people for me to talk to (Creswell, 2013). My father facilitated the other 15 interviews through purposive and convenience sampling (Creswell, 2013). While the interviewees were partly approached based on who was convenient (i.e. those my father had good contact with), we also purposively selected a diverse set of participants who could provide information on my research questions. Because of my research focus, I interviewed mainly managers of large farms, but I also talked to family farmers, agricultural sales representatives, and one investor. Furthermore, I conducted key informant interviews with politically active

people and people working in the renewable energy sector. This diversity of interviewees allowed for a more nuanced understanding of the context and how land grabbing unfolds in Elbe-Elster. See Appendix A for an overview of interviewees' occupations.

Most interviewees worked in Elbe-Elster. However, I talked to one farmer who owns several farms in the county bordering Elbe-Elster. He is an investor himself and worked for years on helping investors buy farms in East Germany so I thought that while not being able to speak about Elbe-Elster, he could still provide valuable insights. Furthermore, the agricultural sales representatives covered a larger area in their work which enabled them to also share stories of investor-owned farms outside of Elbe-Elster. Lastly, the two key informants on renewable energy did not know any specifics about Elbe-Elster but as I was more interested in them helping me understand the context, this was not an issue.

The interviews took between 20 to 50 minutes, averaging 40 minutes. When possible, I conducted the interviews in person. However, several of the interviews took place online if this was more convenient for the interviewees. For most of the interviews I conducted in person I was alone in the room with the interviewee. However, in a few cases my father was present.

I recorded all interviews except for one. The interview I did not record was with three workers at the county's office for agriculture. However, as they served as key informants, writing down the main points from the interview after was sufficient.

I conducted my interviews in a semi-structured manner, meaning I used an interview guide to ensure coherence between the different interviews (see Appendix B) but allowed for flexibility and responsiveness to the issues my interviewees deemed important (Hammett, Twyman & Graham, 2014). The interview guide is oriented on Bernstein's (2010) four questions for a political economy analysis (Who owns what? Who does what? Who gets what? What do they do with it?), as well as informed by the literature review outlined above. Furthermore, a researcher on land grabbing in East Germany validated my guide and provided valuable additions. When speaking with the key informants, I only loosely oriented myself on the interview guide and adapted my questions to the specific expertise the interviewees held.

5.2.2. Descriptive Data on Farms in Elbe-Elster

In Germany, the only way to get an overview of the farms in a region is through the European Union's (EU) agricultural payments (Laschewski & Tietz, 2021). Through a website (agrar-fischerei-zahlungen.de) I accessed how much recipients of EU agricultural payments received

which provides information on for example how much land recipients farm. The latest data is from 2022. EU agricultural payments provide no information on whether a farm has animals. Keeping animals does not necessarily require land which means that some farms do not even show up on this website. Luckily, every farm using animal feed is registered in a publicly accessible list (Bundesamt für Verbraucherschutz und Lebensmittelsicherheit, 2023). As people with a few chickens in their backyard are also on this registry, I only considered the legal persons and GbRs, and added those that did not receive EU agricultural subsidies. Based on this, there are 346 farms in Elbe-Elster that farm 87,322 hectares. Compared to the 353 farms and the 88,636 hectares noted by the agricultural census in 2020, this is not far off (Landwirtschaftszählung, 2020c). The differences likely arise because of changes since 2020, because of different classifications (i.e. recipients of animal feed), and because of human error. Based on the names of the recipients and with the help of yet another website (handelsregister.de) I researched the owners of farms in the ownership form of a legal person. Ownership can be quite complicated as often multiple farms are connected. To understand this complexity, I used another public website (northdata.de). I supplemented the data I gathered with internet searches of, for example, the companies behind some of the farms. For a more detailed overview of both methodology and results, see Appendix C.

5.2.3. Descriptive Data on Solar Parks in Elbe-Elster

Here I focus on the number of solar parks in Elbe-Elster and most importantly, who owns them and where the registered company address is. There is a data set on all solar parks in Germany that is publicly available (Manske & Schmiedt, 2023). Using the software QGIS I was able to discern the solar parks in Elbe-Elster (Moosmeier, 2011). The total installed capacity of all solar parks in Elbe-Elster is around 290 megawatt which roughly translates into an area of around 290 hectares, making up less than 1% of agricultural land in the county (Umweltbundesamt, 2023). I continued by researching the owners of the solar parks in Elbe-Elster on a public registry (marktstammdatenregister.de) and then followed the same steps as with the farms in Elbe-Elster (handelsregister.de, northdata.de). Again, I supplemented the data I gathered with internet searches of the owners of solar parks. In total, there are 51 owners, 39 of which there is enough information on for me to categorise according to the typology outlined below. Importantly, not all solar parks are built on agricultural land, so my sample is likely to also include solar parks which are not in direct competition with farmers. For a detailed overview of the results, see Appendix D.

5.3. Data Analysis

To make sense of my data, I conducted an interpretative thematic analysis (Braun & Clarke, 2013). Accordingly, I inductively coded the interviews, looking for patterns of meaning within my data that could provide answers to my research questions (Braun & Clarke, 2013). Firstly, I transcribed the interviews and through that immersed myself in my data. Secondly, I coded the transcripts with the software ATLAS.ti by labelling relevant features. Thirdly, I searched for commonalities between the codes and formulated several themes. Fourthly, I went through my data again to check whether my themes 'fit'. Lastly, I refined my themes. As my research questions guided my analysis, some themes are more descriptive (i.e. types of land grabbing) and others are much more analytic (i.e. farmers' perception of and reaction to land grabbing) (Gibbs, 2007). A detailed overview of the results of the thematic analysis can be found in Appendix E.

As elaborated on in my theoretical framework, investors can be differentiated according to which class function they take (MLP or capital), and which class of capital they fall into, following Bernstein's (2010) dimensions of sector and scale. I will apply this typology to both investor-owned farms and solar park owners. Here, I quickly expand on how I plan to operationalise these categories. Firstly, MLP and capital can be classified based on whether actors are involved in production (class function of capital) and whether they are interested in rent and asset appreciation (class function of MLP). Of course, actors can assume both class functions at the same time. Secondly, I distinguish classes of capital based on four sectors: agricultural (farming and food production), industrial (manufacturing goods, producing services), commercial (distribution and exchange of goods and services), and financial (management of money) (Marx, 1990). Thirdly, I distinguish owners based on the scale of capital (regional capital, national capital, international capital with a regional focus, and transnational capital).

5.4. Limitations

There are a few limitations to my research that I will expand on here. Firstly, as explained above, I had access to interviewees mostly through my father, except for four of the 19 participants who I interviewed through snowball sampling. This means that there is a risk of a biased sample. To counterbalance this limitation, I purposively selected a diverse set of interviewees. Secondly, while my research focus lies on the perspectives of established agricultural enterprises, it would have been interesting to hear the perspectives of investors

who own farms, especially since there is such a fine line between being an investor and a farmer. I reached out to several asking for an interview. However, I never received an answer. This informed my decision to conduct an interview with the investor from a neighbouring county. Thirdly, as mentioned above some interviews were done online, some in person, and my father was in the room for several interviews. Online calls or my father being in the room could have caused interviewees to not be as open with me. However, participants, especially farmers, were not reluctant to speak their mind, no matter whether they were alone with me or whether the interview was conducted online. Lastly, while a case study allows for a nuanced understanding of how complex phenomena present in the real-world, this research design also has its limitations, most importantly, limited generalizability (Creswell, 2013). Focusing on Elbe-Elster means that my results cannot be generalised to the whole of East Germany. For example, Elbe-Elster has very poor soil and while this is the case in a lot of regions in Brandenburg, there are also regions with good soil, which probably has an influence on how well-off farmers are and how much interest there is in their land.

5.5. Ethics

There are a few ethical considerations in my thesis that I want to briefly mention. Firstly, as interviewees were asked to share sensitive information about their own and other farms, anonymity is essential. I explained to interviewees before our conversations that they would remain anonymous, asked for their consent, and offered to send them the transcript in case they wanted to correct or redact statements. Several participants took me up on that offer but if at all, only changed the transcripts slightly. Furthermore, I kept out any quotes from my analysis that could give an indication of the identity of the interviewee. Secondly, in line with ethical considerations around reciprocity in research, I gave participants some chocolates to thank them for their time (Hammett, Twyman & Graham, 2014).

5.6. Positionality

Being aware of one's positionality is crucial when conducting field work, especially when working within a context of uneven power relations (Sultana, 2007). I am from West Germany and therefore lack an understanding of the context of my research. To acknowledge this is important, as there are still large inequalities between East and West in Germany. At the same time, I grew up on a farm and therefore have both a good knowledge of agriculture and a passion for the field. And importantly, while there are differences between East and West, especially when it comes to agriculture, the agrarian crisis is universal.

While my positionality limits my objectivity, it also allows me to take a unique position: on the one hand, I have an intimate knowledge of agriculture and farmers' struggles but on the other hand, I am also an outsider to the profession, and importantly, the context of East Germany, allowing for a more nuanced perspective.

6. Results and Discussion

In this section, I begin by briefly presenting the ownership structure of farms in Elbe-Elster based on my quantitative analysis. Afterwards, this section follows my four research questions: Firstly, I present the types of land grabbing in Elbe-Elster as well as the actors, motives and strategies that go along with them. Secondly, I focus on how the production dynamics differ between investor-owned farms and farmer-owned farms within the context of the agrarian crisis. Thirdly, I explain how this crisis in agriculture experienced by farmers influences how they interact with investors. Finally, I discuss how the phenomena in Elbe-Elster fit into the larger discussion around the concept of land grabbing.

6.1. Ownership of Farms

Of the 346 farms in Elbe-Elster I analysed, 26.29% were legal persons, 5.2% partnerships, and 68.5% natural persons. This distribution changes drastically when looking at the land farmed. Legal persons, with an average size of 755 hectares, farm 78.7% of agricultural land in Elbe-Elster, partnerships farm 4.49% (218 hectares), and natural persons farm 16.81% (62 hectares) (see Figure 4). Furthermore, there are 22 holdings in Elbe-Elster consisting of 63 farms. Together, the 22 holdings, with an average size of 2,269 hectares, farm 57.18% of the agricultural land. Compared to the average values in East Germany in 2020 presented in the background section, legal persons and holdings are even larger in Elbe-Elster (BMEL, 2023). This indicates that land concentration is further increasing with farms growing and holdings becoming more important. It also highlights that it is not solely land grabbing that leads to a concentration of land but that increasing farm sizes are also a more general development in agriculture. One of the consequences of this large farm structure is that investors can amass land more easily.

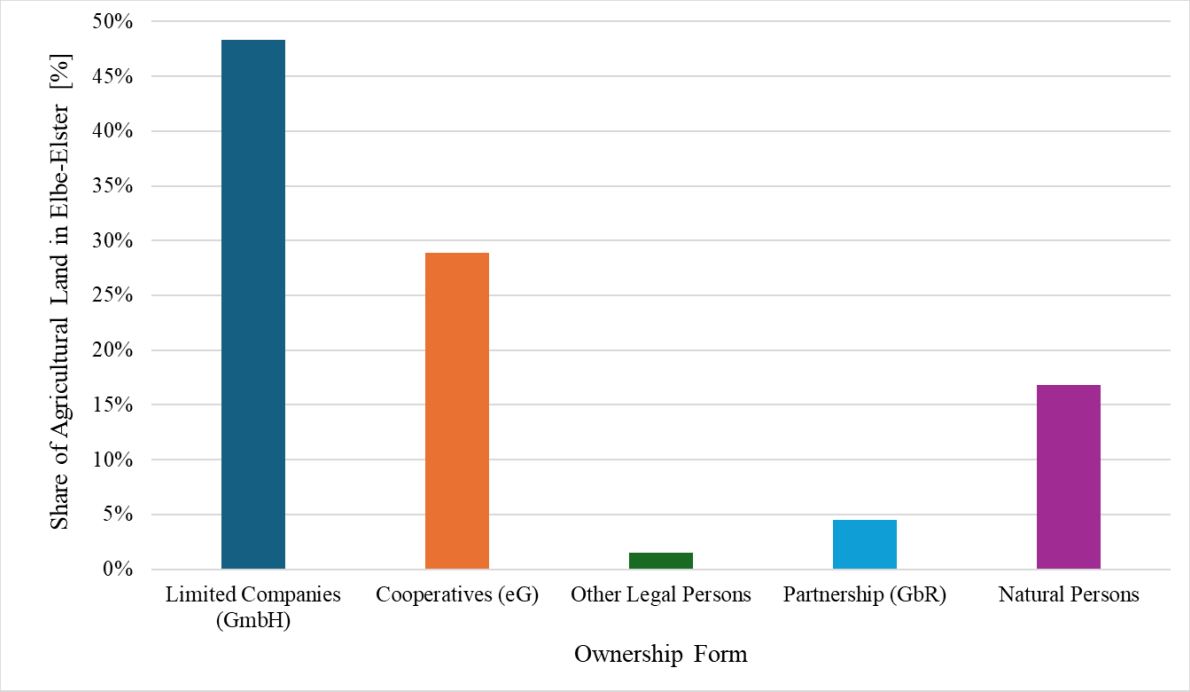

Figure 4. *Share of agricultural land in Elbe-Elster [%] by ownership form: limited companies 48.31%, cooperatives 28.86%, other legal persons 1.53%, partnerships 4.49%, and natural persons 16.81%.*

6.2. Land Grabbing in Elbe-Elster

There is an increasing interest in land by a diversity of investors who are looking to further accumulate value. In the interviews, several ways investors encroach on agriculture in Elbe-Elster were mentioned: investors buying farms, land grabbing for solar power production, land grabbing for climate change mitigation, land grabbing for industrial sprawl, and lastly, rent seeking by landowners.

6.2.1. Investor-Owned Farms

Through my interviews and the quantitative research on ownership of farms, I identified seven investor-owned farms in Elbe-Elster (for a detailed description, see Appendix F). These investors together farm 15.42% of land in Elbe-Elster, similar to the 14% found by Tietz (2017). This shows how individual sales of farms accumulate over time and lead to a huge concentration of ownership in the hands of a few.

These investors can be categorised according to the class function they take, as well as the sector and scale of the investors (see Table 1). In addition to the seven investors in Elbe-Elster, I have included First Sentier Investors as they own two farms bordering the county and as most of my interviewees mentioned them. What becomes visible when categorising investors is that

there is a great diversity of classes of capital. While some companies are solely agricultural (Kupfer GbR, WM Agrar, Görtz Group), others obtain their capital mainly from other sectors: Osterhuber Agrar and Schlieben Agrar are active downstream of agricultural production, while Quarterback, Benner Holding, and First Sentier Investors are active in several sectors at the same time, with the commonality that all three own real estate. In addition, Quarterback and First Sentier Investors are active in the financial sector, indicating their interest in capital appreciation. Investors also differ in scale. Some are active in East Germany (Kupfer GbR, WM Agrar, Schlieben Agrar) or Germany (Benner Holding), others own farms in other countries in Europe (Görtz Group, Osterhuber Agrar), and two are even transnational in scale (Quarterback, First Sentier Investors).

When it comes to the distinction into capital or MLP, things are more clear-cut at first glance. Except for the farm owned by Benner Holding, all investors take an own-operate approach, thereby assuming the class function of capital (Fairbairn, 2014). Nevertheless, it is likely that many of the investors are not just interested in the limited returns from agriculture but also in the appreciation of land, assuming both the class function of capital and MLP. This goes particularly for Quarterback and First Sentier Investors due to their activity in the financial sector. Investors with a sole focus on agriculture or connections downstream of agricultural production are surely also interested in the value of land but are probably focused on agricultural production.

Table 1. *Categorisation of investors owning farms in and around Elbe-Elster.*

Sector	Agricultural	Industrial	Commercial	Financial
	Kupfer GbR, WM Agrar, Görtz Group Osterhuber Agrar, Schlieben Agrar First Sentier Investors Quarterback, Benner Holding[2]	Quarterback, Benner Holding	Osterhuber Agrar, Schlieben Agrar Quarterback, Benner Holding	First Sentier Investors Quarterback
Scale	Regional Capital	National Capital	International Capital (Regional Focus)	Transnational Capital
	WM Agrar, Schlieben Agrar, Kupfer GbR	Benner Holding	Osterhuber Agrar, Görtz Group	First Sentier Investors, Quarterback
Class Function	Capital		Modern Landed Property	
	Everyone Else		Benner Holding	

6.2.2. Solar Power

My findings support Müller and Pampus' (2023) claim that there is currently a solar rush in East Germany. Constitutive of a 'rush' is a mad scramble for land that different actors of

[2] Benner Holding own another farm and I am not sure whether they take the own-lease out or the own-operate approach there. Hence, I noted them down as agricultural as well.

different scale want to get on board of. Next to large companies developing the parks and those building them, there are also players further down the chain who want a piece of the pie. Individuals or companies specialise in securing land and receiving authorisation from the municipalities, before selling these rights to a project developer. Additionally, some solar companies hire scouts to search for willing landowners. This 'gold digger atmosphere' has resulted in dubious tactics where farmers and landowners are approached constantly by solar power companies, receiving calls and letters in the mail almost every day. Because of that some interviewees criticise the massive scale of the ad campaigns and aggressive techniques, with some questioning whether the planned projects would all be finished. This hype around solar power is further highlighted by the fact that once a park is built, ownership changes frequently, either due to insolvency or buyers (again of different scale) looking for already developed solar parks, simply as an investment: *"Yes, but it's already the fourth owner. So that just tells me, it must be lucrative somehow." (Interviewee 6, farm manager).*

Solar can be built on roofs or land. In Elbe-Elster many farms keep animals and therefore have large stables. Solar companies offer to renovate the roofs in exchange for putting solar panels on them afterwards. Farmers do not share in the returns from solar power. However, investors are more interested in solar on agricultural land because of the higher profit margins, following the imperative of 'the bigger, the better'. The building of solar parks is justified with the necessity of the green energy transition (Müller & Pampus, 2023). In some cases, solar parks are also built to better the ecological footprint of the owners or the recipients of the solar energy. Hence, the 'solar rush' in East Germany is a massive green grab.

As solar panels have a limited lifespan, land is rented from the owners, underlining that land grabbing does not necessitate ownership (Oliveira et al., 2021). Besides paying rent, there are also other models of profit sharing such as including farmers in the maintenance of the parks for a small fee or sharing the profits from solar production with landowners by making them co-owners. Sometimes, landowners even attempt to do solar by themselves. However, most of the time, landowners simply receive a rent.

Farmers are approached by solar companies and get offered a rent between 3,000 and 4,000€ per hectare per year if they give up some of their land for solar parks. When farmers rent out their land to solar, they take the class function of MLP as they no longer produce on the land but receive a ground rent simply because of their ownership of the land. However, as mentioned before, large parts of the land farmers farm are rented. These landowners get offered the same

3,000 to 4,000€ per hectare, which is much higher than the average of 116€ per hectare they receive from farmers (Landwirtschaftszählung, 2020c). If landowners are looking to extract a maximum of value from their land, they prefer solar over agriculture. Farmers cannot compete:

> *"Well, you can't do anything with the solar things... we're talking about 2 to 4,000€ per hectare prices in circulation. And here there are still farms that have leased land for 50€ per hectare and the other stories... There are also some who pay 200€ for some, but then it stops in these poor areas." (Interviewee 6, farm manager).*

This showcases how the relations between different classes of capital and MLP play out. Owners of solar parks are dependent on landowners. Yet, they collaborate with other solar park owners against these landowners in offering the same rent and by excluding them from production. At the same time, they compete with other capitals (farmers) for land.

I have classified the 39 owners of solar parks along the same dimensions as investors buying farms (see Table 2). Firstly, owners are often active in more than one sector. For example, many solar companies build parks (industrial), sell the energy (commercial), and offer the parks as an investment (financial). Other owners are active in completely different branches such as construction and tax consultancy. Interestingly, 18 out of 39 solar parks are offered as investment opportunities, underlining the financialisation of the green energy transition. Lastly, only one park in Elbe-Elster is owned by a company involved in agricultural production. However, this company is focused on renewable energy production and bought farms in East Germany as an investment. Hence, not a single park in Elbe-Elster is owned by a farmer, showcasing how farmers are squeezed out of the profitable 'solar rush'. Secondly, owners differ in scale. While most owners are only active within Germany, there are also quite a few international and transnational companies that own solar parks in Elbe-Elster. Importantly, when looking at the companies' headquarters, it becomes clear that most owners are not based in Elbe-Elster, meaning that the profits from the 'solar rush' accrue far away from where the solar parks are built and the farmers who lose their land (see Figure 5).

Table 2. *Categorisation of solar park owners in Elbe-Elster.*

Sector	Agricultural	Industrial	Commercial	Financial
	1	32	35	18
Scale	Regional Capital	National Capital	International Capital (Regional Focus)	Transnational Capital
	8	17	5	9
Class Function	Capital		Modern Landed Property	
	32		8	

I consider all solar park owners that are not directly involved in the building or maintenance of the park to assume the class function of MLP. This is because without any connection to production and solely through ownership, these companies receive ground rent. As a reminder, ground rent is paid by those who want to make use of an asset to the owners of that asset. In this case, the asset is not the solar park itself but solar power. MLP is of analytical relevance here as it highlights that land is being grabbed for the sole purpose of rent extraction and that not only landowners can assume this class function. Importantly, I do not consider those that own only one park and are based in Elbe-Elster as MLP, because they likely use the energy themselves and thereby do not profit from ground rent.

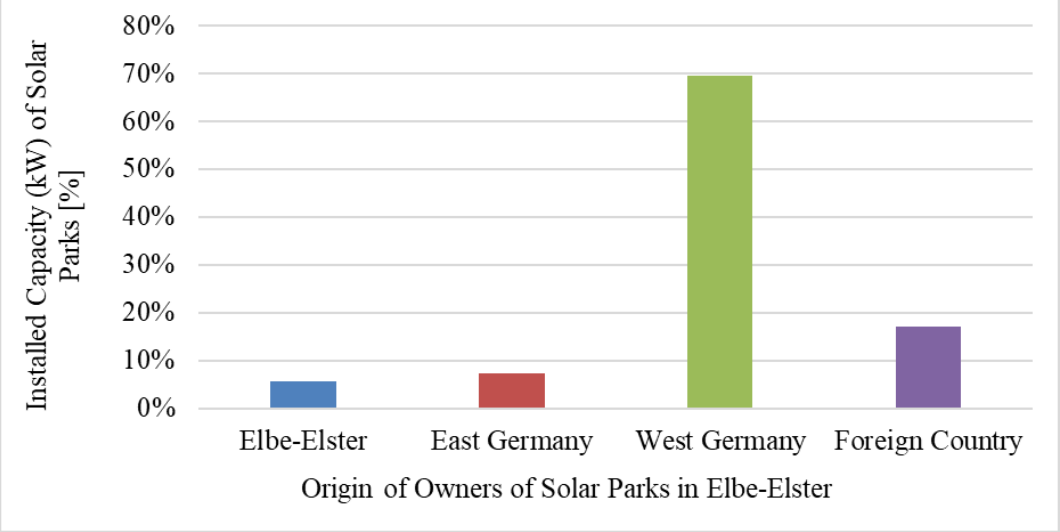

Figure 5. *Installed capacity (kW) of solar parks [%] in Elbe-Elster by origin of the owners: Elbe-Elster 5.61%, East Germany 7.25%, West Germany 69.57%, Foreign Country (China,*

Denmark, England) 17.17%. Here I consider all 51 owners. Three of the 51 owners are natural persons, meaning that there is no information on where they are based. However, together they make up only 0.39% of total installed capacity and are therefore negligible.

6.2.3. Climate Change Mitigation

Next to grabbing land to build solar parks, interviewees also mentioned another form of green grabbing: removing land from agricultural production for the purpose of climate change mitigation. One prominent example of this are ecological compensation areas. In Germany, if a natural habitat is destroyed to build something like houses or solar parks, this has to be compensated for, thereby doubling the pressure on agricultural land (Bundesamt für Naturschutz, n.d.). Farmers spoke about individuals, the state, real-estate companies, or industry buying land to compensate for their projects. Sometimes, the buyers were not from the region but bought land in Elbe-Elster because it is comparatively cheap:

> *"At the moment, how should I put it, investors are investing in such a way that they are buying larger areas, many of them are from Bavaria and elsewhere, and the point is, because the prices of leases and in agriculture are higher in Bavaria, that they need compensation areas for something like decommissioning or when there are construction measures, that they then buy here." (Interviewee 5, farm manager).*

What all these instances have in common is that the buyers offer more money, outbidding local farmers. For example, in one case a gravel company in Elbe-Elster acquired ecological compensation areas by paying 22,000€ for one hectare compared to the average buying price in Elbe-Elster of 5,864.5€ in 2023.

6.2.4. Industrial Sprawl

While less prominent, in some cases farmers also lose land to industrial sprawl. For example, one interviewee referred to an industrial area which was being further and further extended. In this case the state in the form of the municipality uses its pre-emptive right to buy land and then sells it to the investors wanting to extend the industrial areas. This was justified with the number of employees working in industry compared to agriculture: *"The newspapers came, we talked: 'You with your 30 workers. We have 120 workers that we employ.' And that's how we were made dead in the media." (Interviewee 5, farm manager).* In another case, a gravel mining company is extending its operations by expropriating farmers from their land using an authorisation from the 1990s (Jussen, 2022). One farm in Elbe-Elster has lost 450 hectares of agricultural land since 1990 due to this (ibid.). Interestingly, in these two cases it is not that

investors offer higher buying prices – even though money is surely a motivation behind both – but that the law favours industrial over agricultural use. This shows how the state can facilitate the further encroachment of capital on agricultural land.

6.2.5. Rent Extraction

Rent plays a huge role in agriculture in East Germany as farmers lease 68% of the land they farm (BMEL, 2023). These landowners clearly assume the class function of MLP. Based on my interviews, landowners can be distinguished into two groups: The first type of landowners usually still live in the region, maybe even work on the farm they rent their land to, and, in general, have a connection to agriculture. These landowners usually do not demand a high rent and are loyal to 'their' farm. However, these landowners are becoming fewer and fewer. The second type of landowner are: 1. the heirs of the first type, 2. reinstated owners who had moved away, or 3. investors who have gotten their hands on land by buying it from the former two. These landowners lack a connection to agriculture and view the land primarily as a means of value extraction, either through rent or selling the land to the highest bidder.

Farmers' pre-emptive right to land is supposed to restrict non-agricultural buyers. However, the pre-emptive right is a blunt sword. When a non-agricultural person puts in an offer to buy land, farmers in the region are informed and can make use of their pre-emptive right. If a farmer is interested, they have to match the price of the first offer and hand in a lot of documents within a rather short period of time. According to employees at the county's agricultural office, usually small farms do not have the money to match the offer and large farms cannot prove that they require the land. Who the buyers of land are I cannot say as data on landowners is not available publicly in Germany. However, during the interviews a few types of buyers were described. They buy land as an investment and view extracting more rent as an added benefit. Sometimes these are well-off individuals buying land on a small scale and sometimes they are highly capitalised investors buying land through the farms they own. One interviewee from the county bordering Elbe-Elster even gave this interesting example: Two individuals from West Germany founded an agricultural enterprise for the purpose of legally obtaining land on a large scale and then renting it all out to local farmers.

A common strategy of landowners seems to be blackmailing farmers. They request a lot of rent or a high selling price and if farmers do not comply, they simply ask another farmer. As mentioned above, land ownership is fractured and often one field is owned by more than one person. Ironically, this highly fractured land ownership benefits the landowners. If farmers

cannot comply with the demands, they might lose a piece of land in the middle of a field which makes it much harder to farm the rest of the field. Furthermore, landowners often own several pieces of land which are spread across the area of the farm:

> *"But now I have one, they only have six hectares, they insist, they want the money, and they just have a bit here and a bit there and a bit there. If they sell somewhere else and then they get stubborn, then you've got half a hectare in one field where you can drive around. You know, they all [farms in the area] have something like this." (Interviewee 10, family farm).*

6.2.6. Summary

To summarise, there are many different actors trying to grab land in Elbe-Elster in various ways. The actors range from small-scale capital to transnational companies; are interested in agricultural production, renewable energy, or rent extraction; and grab land by offering higher prices and squeezing farmers out. All of this causes farmers to lose control of their land and the returns produced from it. While share deals are an issue (Brunner, 2019; Herre, 2013; Laschewski & Tietz, 2021; Tietz, 2017) and there is indeed a 'solar rush' underway (Müller & Pampus, 2023), it is important to study the totality of land grabs to fully understand its impact both on land ownership and on farmers.

6.3. Crisis and the Logic of Capital

An essential question in the land grabbing literature is around the differences in production before and after land grabbing takes place. Generally, it is assumed that "land is incorporated into a wider control regime framed by capitalist relations" (Wolford et al., 2024, p. 5). However, land use in East Germany is already framed by capitalist relations. This makes the question around differences between investor-owned farms and farmer-owned farms even more interesting. I first describe how the conditions of production for farmers are shaped by crisis, before moving on to explain differences and similarities in production between investors and farmers.

6.3.1. Farmers in Crisis

"I've been doing this for almost 30 years now and there have only been very few times when we were able to produce without any problems and when we were profitable." (Interviewee 2, farm manager).

As the quote above shows, farmers are in a perpetual state of crisis and when asked about the profitability of their farms almost all farm managers said they are struggling. While this is partly due to the low quality of soil in Elbe-Elster, the pressures interviewees named apply to farming more generally (see Figure 6 and 7).

Figure 6. *Picture of rubber boots hanging from a town sign in Elbe-Elster that I took during one of my field visits. This is a form of protest taking place all over Germany at the moment. It signifies that farmers might be forced to 'hang up' their profession if business as usual continues (von Redecker, 2024).*

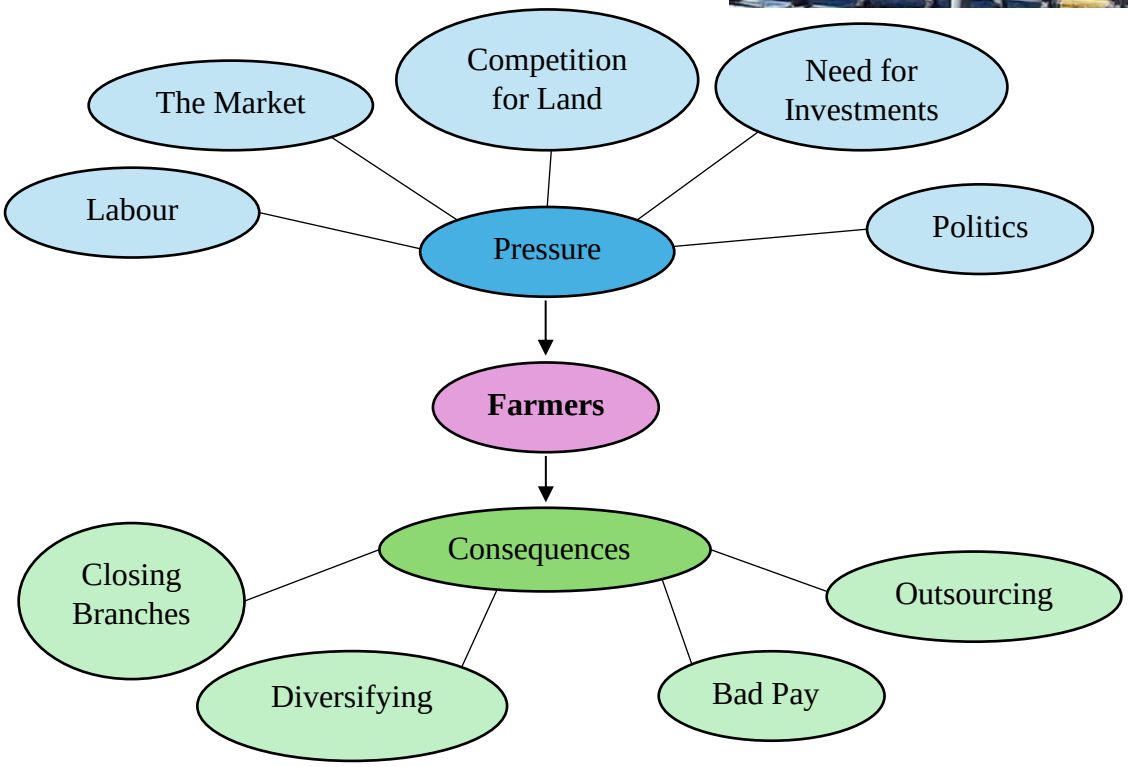

Figure 7. *Pressures on farmers in Elbe-Elster and possible consequences.*

Farms' profitability depends on market prices both for inputs and for outputs. Market prices can fluctuate dramatically, and these changes make it difficult to plan. For example, in the milk sector, prices are often so low that farms are losing money:

> *"We were involved in a project with dairy for five years, which included an economic comparison of operations. Where external comparisons were made. The group of 14 farms, they always said it was like the Bundesliga, one was Champions League. So they were all farms that could produce milk. They made an average loss of seven cents over the five years. So there were some that made a profit of two cents, and then there were some that made a loss of 12 cents. And those were the ones that were good at it. Then you know how we all cosmetically recalculate what we do with our main branch of production, milk. And when we see the ups and downs of other prices for our products there. It's not feasible for us to be profitable in the long term." (Interviewee 2, farm manager).*

Furthermore, industrialised farming requires farmers to constantly modernise which requires large investments and hence taking on debt (van der Ploeg, 2010). Investments include new machinery, and in Elbe-Elster where many farms keep animals, new stables and automatic milking parlours.

Another pressure on farmers is agricultural policy. With ever changing requirements regarding ecological- and animal welfare-measures, farmers lack planning security. For example, regulations for animal welfare change, meaning that requirements for stables also do, which, as just explained, are a huge investment. Additionally, farmers complain about the overbearing bureaucracy: *"Bureaucracy is a big issue, it practically overwhelms us. […] The costs and what we have on our desk constantly are simply overwhelming, and we could invest the time and social commitment in our employees." (Interviewee 9, farm manager).* Ironically, regulations make agriculture more difficult and less profitable, but farmers also depend on the subsidies provided by the state (Germany and the EU) for their survival: *"So if we no longer had the farm payments, then we would be done for." (Interviewee 3, farm manager).*

Additionally, farmers also suffer from the increased competition around land. As farmers have to compete with investors who are offering higher prices, and as landowners are looking to profit from rent extraction or renewable energy production, farmers lose land. This can be extremely difficult. Afterall, farmers need a certain area of land to be able to feed their animals: *"And for us it's like this, when hectares of land disappear here, something is no longer enough.*

I have to run the barn, I have to feed the animals." (Interviewee 6, farm manager). In addition, farmers are also suffering from the rise in rent and buying prices. As elaborated on above, landowners blackmail farmers and put them in a tough spot. They often cannot afford to lose land that is in the middle of a field, but they also cannot exceed a certain amount of rent or purchase price. Firstly, they simply cannot afford it, and secondly, they risk other landowners finding out and demanding the same. Farmers have to make difficult choices:

> *"Sometimes we also have an investor in the area. That is always very, very tedious and difficult. Because then the expectations for returns are high and we usually have to swallow a higher price because the land is in the middle of our parcel or next to a field, and in principle we have to accommodate the investors to some extent so that we don't destroy our structures." (Interviewee 8, farm manager).*

Lastly, labour shortage is an issue in East Germany and accordingly all farmers are extremely worried about having enough workers. Many farmers struggle to find employees and are of the opinion that this will only get worse. As a result, production becomes more difficult and competition for labour with other farmers and other sectors increases.

The limited profitability of agriculture restricts how competitive farmers can be as employers. The only cost farm managers can influence is wages and so this is where farm managers can ensure their survival: *"We would like to pay more but we simply cannot." (Interviewee 9, farm manager).* Therefore, several farm managers pointed out that the new minimum wage was putting economic pressure on their farm because they suddenly had to pay their employees more. Importantly, low wages are not just common for labour but also for farm managers and owners. In their desire to keep their farms afloat, they allocate low wages to themselves: *"When I see how much I earn as managing director of an agricultural business, perhaps a worker on the assembly line at VW wouldn't get up early in the morning for that." (Interviewee 4, farm manager).*

Due to the lack of labour in agriculture, farmers have to increasingly outsource work either to contracting companies or by using temporary employment agencies. However, this is expensive, and farmers cannot always afford it. Firstly, contracting companies are hired for specific labour processes such as slurry distribution or driving a chipper. The contractors usually have a large fleet of expensive machinery and a couple of workers who drive from farm to farm, quickly getting their work done. Outsourcing certain labour processes is common in large-scale farm structures, but farmers have to rely on contractors more and more. Secondly,

non-German labour through temporary employment agencies is increasingly employed by farmers in the region, often for labour intensive work such as milking or harvesting vegetables and fruit. Temporary employment agencies offer workers mostly from Poland or Romania. These temporary workers often receive low wages and face poor working conditions.

Lastly, because agriculture is so unprofitable, farmers have to streamline agricultural production, for example by closing labour-intensive, low-profit branches such as butcheries or dairy cows. Additionally, farmers have to diversify in order to survive. This is often linked to renewable energy production such as biogas and solar.

6.3.2. Investor-Owned Farms: Differences and Similarities

One notable difference between investor-owned farms and farmer-owned farms is that for most investor-owned farms, ownership is spatially and personally removed from the farm. This means that owners have limited connection to the land or the people working it. Important decisions are made away from the farm, for example by professional financial controllers, creating a strong hierarchy. At the same time, the change in ownership is often not transparent to outsiders as the employees and farm managers stay the same. This is because investors need expertise on the ground and want to keep the local population and especially the lessors happy:

> *"And that's also a win for the landowners. Because they still want to lease to their old LPG. And it's still there in a tangible form, with the people you know. So it's not someone from Leipzig who's running the farm, it's the locals who are doing it to maintain the appearance of regionality." (Interviewee 12, agricultural sales representative).*

When it comes to production, differences and similarities between investor-owned farms and farmer-owned farms depend on the class function investors assume. According to my interviewees, those investors that are solely interested in value appreciation and not production, thereby assuming the class function of MLP, often do not do agriculture 'properly' after they have bought a farm. There is no longer intensive agriculture as these investors are often focused on short term returns – in line with the financialisation of land – selling the farm for parts and trying to maximise EU subsidies before selling the farm again.

However, most of the time investors (also) assume the class function of capital in that they are interested in agricultural production and continue farming 'properly'. In accordance with the research on the effects of investors on farming, this entails making changes to maximise returns

(Brunner, 2019; Herre, 2013; Laschewski & Tietz, 2021; Tietz, 2017). Often, investors streamline farms by closing branches or modernising. As this reduces the number of employees necessary, investors can offer higher wages, giving them a competitive advantage to farmer-owned farms struggling to find labour. To further increase efficiency, investors outsource a lot of their labour to contractors. Furthermore, investors often diversify production through renewable energy production. This is supported by the fact that several investors that bought farms in Elbe-Elster or surrounding areas aim to build solar parks (Appendix F). Renewable energy offers higher returns than agriculture and importantly, increases the price of the land in case of a potential sale. Potentially, this also improves the ecological footprint of the parent company.

What is notable about this is the similarity between farmer-owned and investor-owned farms. Many of the changes investors make – outsourcing labour, modernising, closing branches, and diversifying production – correspond to general trends in agriculture. The changes investors make are economic choices that would probably have happened at some point anyway. Afterall, everyone is embedded in the logic of capital. However, there are important differences as investors are more able and more willing to change production in such a way.

Investors are more able to make changes to their production as they have more capital at their disposal. While farmers rely on banks to grant them loans if they are in economic trouble or if they need to make investments, investors can more quickly and easily generate capital. For investors, this opens more options such as building solar parks, outsourcing labour to expensive contractors, and modernising. Especially when it comes to building solar parks, investors also have access to more expertise (Laschewski & Tietz, 2021). More capital also allows investors to offer higher land prices, which makes it harder for farmers to compete:

> *"And the keyword investors, if someone like that comes into a rural region, what I have always noticed is that the price per hectare soon doubles. So if you want to buy land, you have to pay double the price as a farm." (Interviewee 1, investor).*

If more capital translates into more land, investors might have more market power: *"Whoever has money has power, and whoever has large farms at some point will perhaps be able to approach retailers differently." (Interviewee 4, farm manager).*

Importantly, not all farm managers are willing to make changes to their production, especially when it comes to streamlining farms and diversifying production. In the interviews two possible explanations were given for this. Firstly, while the new generation of farm managers

is more willing to close branches or venture into new fields like solar power, older owners and managers are not, either because they do not want to make difficult choices shortly before they retire or because they want to do things the way they have always been done. Secondly, another argument was made that farmers value more than just maximising returns. This relates to both diversifying production and closing branches. I elaborate on farmers' thoughts around diversifying in the form of solar parks in the next section. Here I want to point out, that farmers might not be as willing to close branches as they work with their employees' every day – as opposed to investors who are removed from the land and the people working it – and are willing to sacrifice to preserve things as they are:

> *"We basically cross-subsidised it [a butchery] for years or had zero returns and when the business was in trouble, the bank literally said to me: 'Well, I hope you close the butcher's shop first and the farm shop so that we can get the business back on its feet.' I tried and yes, luckily, we managed to develop and continue running the farm shop. But we made virtually no profit at all and an investor from outside, who looks at returns, so to speak, and doesn't have to look anyone who has a job there in the eye because they are far away…" (Interviewee 8, farm manager).*

In conclusion, just like farmer-owned farms, investor-owned farms are constrained by the difficult conditions of agriculture. However, investors are more able and willing to make economic choices than farmers are. Furthermore, investor-owned farms are more hierarchical, and ownership is further distanced from the land. These findings align with the effects found by previous research on investor-owned farms in East Germany (Brunner, 2019; Herre, 2013; Laschewski & Tietz, 2021). In other words, investor-owned farms are more deeply integrated into the logic of capital. The difference between the two is not categorical. Rather, investor-owned farms epitomise a more advanced stage in capitalist development, providing a glimpse into the future of agriculture.

6.4. Farmers Interactions with Investors

Land grabbing affects farmers negatively when it is in the form of losing land, competing with investors for labour, and rising prices for land. It adds even more pressure to already difficult conditions of production. However, solar parks can also be built on farmers' land, granting them a stable rent, or their entire farms could face being bought up by investors. Farmers' reactions to these latter forms of land grabbing are more complicated and heavily shaped by the crisis they are in as well as their perceptions of investors.

As agriculture is not profitable on its own, several interviewees considered it necessary to rely on different pillars such as renewable energy to keep surviving:

> *"And farming today no longer means being a farmer or agrarian, it means being an entrepreneur in all directions. Being open-minded and, above all, always thinking in terms of the future. In the long term. And that's the field of renewable energies at the moment." (Interviewee 1, investor).*

If a farmer rents out their land to a solar power company, they receive a stable income that is potentially higher than the returns from farming the land. Therefore, the 'solar rush' can provide a stable and lucrative income source in a sector that is dominated by insecurity. Furthermore, if solar parks are going to be built anyway, farmers might at least profit from them. Some farmers also expressed interest in doing solar by themselves, thereby receiving more than just rent. However, this requires capital which farmers often do not have.

Other farmers are more sceptical and for some it is even a matter of principle: they are farmers, and they are supposed to farm. 'Growing' solar on their fields has nothing to do with their job:

> *"But why should I, as a farm, do this and subsidise agriculture? If politicians want agriculture to no longer pay off or no longer pay off here on the farms, then you have to draw the consequences and stop. Then there will be no more farming here, I have to say that clearly." (Interviewee 6, farm manager).*

In short, while solar is viewed by some as a chance to keep their farm afloat, others consider it as a betrayal of their professional ethos and view the need to diversify as a sign that agriculture is simply not worth it.

In general, farmers often share the sentiment that investors are going to further encroach on agriculture and that there is no stopping them. Many interviewees do not see a future without investors in agriculture. Some said that they could imagine their own farms would one day have to ask for outside help as they were struggling economically or because they were faced with a generational change of their owners:

> *"But we are all very close to the edge and any one of us could be the next one to be faced with the question: 'What do I do, do I sell the land now to bob along again or do we let someone else come in here to bail us out?'" (Interviewee 4, farm manager).*

This is attributed to the general crisis of agriculture. Without systemic change, farmers will not survive on their own, will have to rely on investors, and will be further integrated into the logic of capital:

> *"If we really want it to remain regional, and also be controlled regionally by our people or people here in the region who are committed to it, then I think we also need to create better political conditions." (Interviewee 3, farm manager).*

As investors seem to be a necessary evil, farmers at least want to control who buys their farm and choose a 'good' investor, someone who provides capital but otherwise does not infringe on production. Firstly, farm managers want to retain as much freedom in their decisions as possible. Secondly, in line with Emmann, Surmann and Theuvsen's (2015) findings that farmers care about investors' connection to agriculture, most interviewees emphasised that investors that do proper agriculture are much better than investors who are only interested in renewables and in land as an asset, instead of as a source for agricultural production: *"And the trick is to find people who really want to use their capital for agriculture, so where the idea is not just to convert the land into solar or something else." (Interviewee 2, farm manager).*

To summarise, agriculture without outside capital is almost impossible. Some farmers say that agriculture should be worth it on its own (a matter of principle), some say that they just need to find a way to minimise the risk of outside capital (finding a good investor, doing solar themselves). Throughout all of this, an overarching theme is that farmers value agriculture. For them, the most important thing is that farming continues.

6.5. Is it Land Grabbing?

As a reminder, I understand land grabbing to be "the capturing of control of relatively vast tracts of land and other natural resources through a variety of mechanisms and forms that involve large-scale capital that often shifts resource use orientation into extractive character" (Borras et al., 2012, p. 851). This definition includes two steps: first, large-scale capital captures control of vast tracts of land, and second, consequently land use changes as land is further integrated into the logic of capital.

Firstly, capital is indeed capturing control of land in East Germany. However, neither the capital nor the land is always large-scale. While investors with connections to transnational capital are buying farms, there are also wealthy individuals buying small pieces of land. These pin-prick land grabs are just as relevant. Generally, because of the fractured land ownership,

individual landowners with tiny pieces of land in the middle of a field can wield a lot of power, extracting value simply through ownership. Furthermore, solar parks so far only occupy 290 hectares of land in Elbe-Elster, which amounts to less than 1% of agricultural land. Nevertheless, my interviews clearly showed that competition with solar is a major concern for farmers. In general, what the great diversity of individuals and companies grabbing land in Elbe-Elster shows is that there is a gold rush atmosphere. It is indicative of a land rush that everybody wants to get on board, including small-scale capital. Therefore, instead of dismissing pin-prick land grabs by small-scale capital, we have to look at the totality of land grabs – investor-owned farms own 15% of land in Elbe-Elster – and the impact – even one landowner with less than a hectare can put immense pressure on farmers.

Secondly, how land use changes depends greatly on the type of land grabbing. Firstly, investors buying farms does not shift resource use greatly, but instead further embeds land into the logic of the market. Investors differ in which class function they assume when buying a farm, focusing on agricultural production, value extraction, or both. Either way, it is likely that industrialised agricultural production is continued. However, investor-owned farms differ from farmer-owned farms in that investors are more willing and able to move from agricultural production to solar parks, and can outcompete farmers for land, leading to an even further concentration of ownership. Secondly, industrial sprawl and green grabbing to either build solar parks or to turn land into ecological compensation areas change land use, and squeeze farmers out of agricultural production. Thirdly, landowners attempting to maximise the rent they receive does not directly change land use. It can, however, affect land use as investor-owned farms or solar companies are able to pay more.

To summarise, despite land grabbing being dispersed, and effects on production being limited, there is something important happening in East Germany. When looking at the totality of land grabs, the pressure this puts on farmers, and the further integration of agriculture into the logic of capital, it becomes obvious that there is massive control grab underway. Rent is both a motive for this control grab as well as a motive for landowners enabling it. Hence, my research emphasises the significance of Marx's third class of MLP in understanding the underlying dynamics of land grabbing.

7. Conclusion

The purpose of my thesis was to unravel how land grabbing manifests itself in East Germany and how it affects existing commercial agricultural enterprises. Through this I wanted to shine a light on two understudied aspects of the global land grab: how land grabbing plays out in highly industrialised contexts and the role of modern landed property. The overarching aim was to unravel how the abstract logic of capital underlying land grabbing materialises in the concrete case of Elbe-Elster.

What my research revealed is a diverse array of actors seeking to profit from land. These actors range from individuals to transnational corporations and from farmers to solar park owners. They assume different class functions, as they are interested in profiting from production, from rent, or both. They grab small parcels of land, or large farms. And they buy land, or they rent it. What all these actors have in common is that they are driven by the imperative to accumulate.

Importantly, in highly industrialised contexts like Elbe-Elster, land use changes through land grabbing are not massive. Nevertheless, the concentration of ownership and further subsumption into the logic of capital are important developments.

A key finding from my research is that land grabbing needs to be viewed in the context of the agrarian crisis. Farmers are under immense pressure. The logic of capital is both a cause of this and the only solution: either farmers accommodate investors, or they perish. Hence, in their desire for agriculture to continue, they are further integrated into the logic of capital.

Fundamentally, understanding land grabbing necessitates considering it as a symptom of capitalist development. With this in mind, the land grab is truly a global phenomenon that simply manifests differently depending on the context. Additionally, thinking about land grabbing solely in the context of huge land use change or exclusively as a plight of smallholder farmers is inadequate. What land grabbing is really about is the further integration of land into the logic of capital with a resulting concentration of control in the hands of a few. Consequently, ownership is increasingly distanced to the land and the people working it.

Importantly, this is a development that is hard to reverse. Once land ownership is in the hands of investors, it will likely remain there without systematic change. Thus, grappling with the implications of land grabbing necessitates understanding its underlying mechanisms and broader implications for agrarian development worldwide.

7.1. Future Research

There are several themes from my research that I think are deserving of more attention. Firstly, class analysis seems a suitable method for studying land grabbing in industrialised settings. Future research should further distinguish between different classes of capital and utilise MLP and accordingly rent as analytical categories. Secondly, the solar rush is surely not just limited to Elbe-Elster, nor Germany. My tentative analysis of the owners of solar parks revealed that they are mostly non-local, large-scale actors grabbing value, often linked to the financial sector. This is not in line with the popular demand that the green energy transition should be democratic and just. Therefore, I think the solar rush warrants further research, with a particular focus on where and how profits accumulate. Thirdly, while this was outside of the scope of my research, a large part of the agricultural workforce in East Germany consists of employed workers, and the foreignisation of labour is an increasingly important theme. Hence, in the context of East Germany much more research needs to be done on farm labour and how it is affected by the concentration of ownership. Lastly, what has become clear throughout my thesis is that farmers are being squeezed and feel under immense pressure. This sense of despair should not be taken lightly and requires further attention.

References

Andreucci, D., García-Lamarca, M., Wedekind, J. & Swyngedouw, E. (2017). "Value Grabbing": A Political Ecology of Rent. *Capitalism Nature Socialism*, *28*(3), 28-47, https://doi.org/10.1080/10455752.2016.1278027

Bernstein, H. (2010). *Class dynamics of Agrarian change.* Kumarian Press.

Borras Jr., S. M., Franco, J. C., Gómez, S., Kay, C., & Spoor, M. (2012). Land grabbing in Latin America and the Caribbean. *The Journal of Peasant Studies*, *39*(3–4), 845–872. https://doi.org/10.1080/03066150.2012.679931

Borras Jr, S. M., Arango, L., Belay, M., Franco, J. C., Kham, S. S., Moreda, T., Ra, D., Rojas, I. Wang, C., Ye, J. & Xu, Y. (2024). Death of agrarian societies by a thousand cuts: 'Pin prick' land grabs and the land rush. The Land Deal Politics Initiative. Retrieved May 15,2024, from https://www.researchgate.net/publication/379292723

Borras, S. M., & Franco, J. C. (2024). Land rush. *The Journal of Peasant Studies*, 1–16. https://doi.org/10.1080/03066150.2024.2317961

Braun, V., & Clarke, V. (2013). *Successful qualitative research: a practical guide for beginners.* SAGE.

Bundesamt für Naturschutz. (n.d.). *Eingriffsregelung*. Retrieved May 11, 2024, from https://www.bfn.de/eingriffsregelung

Bundesamt für Verbraucherschutz und Lebensmittelsicherheit. (2023). *Bekanntmachung Nr. 23/01/006 über die zugelassenen und/oder registrierten Futtermittelunternehmer sowie Bekanntmachung des Verzeichnisses der Kommission gemäß Artikel 19 Absatz 6 der Verordnung (EG) Nr. 183/2005 (Stand vom 5. Dezember 2022)*. Bundesanzeiger. https://www.bundesanzeiger.de/pub/de/amtliche-veroeffentlichung?3

Bundesministerium für Ernährung und Landwirtschaft. (2023). *Agrarpolitischer Bericht der Bundesregierung*. https://www.bmel.de/SharedDocs/Downloads/DE/Broschueren/agrarbericht-2023.html

Bunkus, R., and Theesfeld, I. (2018). Land Grabbing in Europe? Socio-Cultural Externalities of Large-Scale Land Acquisitions in East Germany. *Land, 7*(3), 98. https://doi.org/10.3390/land7030098

Bunkus, R. (2021). *Who farms the fields?: New concepts of land grabbing in developed countries* [Doctoral dissertation, Martin-Luther-Universität Halle-Wittenberg]. Share_it. http://dx.doi.org/10.25673/73808

Campling, L., Miyamura, S., Pattenden, J., & Selwyn, B. (2016). Class dynamics of development: A methodological note. In J. Pattenden, L. Campling, S. Miyamura & B. Selwyn (Eds.), *Class Dynamics of Development* (pp. 1-23). Routledge.

Campling, L. (2021). The corporation and resource geography. In M. Himley, E. Havice & G. Valdivia (Eds.), *The Routledge Handbook of Critical Resource Geography* (pp. 188-200). Routledge.

Capps, G. (2016). Tribal-Landed Property: The Value of the Chieftaincy in Contemporary Africa. *Journal of Agrarian Change. 16*, 452-477. 10.1111/joac.12179.

Creswell, J. W. (2013). *Qualitative inquiry and research design: choosing among five approaches* (3rd ed.). SAGE Publications.

Desmarais, A. A., Qualman, D., Magnan, A., & Wiebe, N. (2015). Land grabbing and land concentration: Mapping changing patterns of farmland ownership in three rural municipalities in Saskatchewan, Canada. *Canadian Food Studies*, *2*(1), 16–47. https://doi.org/10.15353/cfs-rcea.v2i1.52

Desmarais, A. A., Qualman, D., Magnan, A., & Wiebe, N. (2017). Investor ownership or social investment? Changing farmland ownership in Saskatchewan, Canada. *Agriculture and Human Values*, *34*(1), 149–166. https://doi.org/10.1007/s10460-016-9704-5

Emmann, C. H., Surmann, D., & Theuvsen, L. (2015). *Charakterisierung und Bedeutung außerlandwirtschaftlicher Investoren: Empirische Ergebnisse aus Sicht des landwirtschaftlichen Berufsstandes*. Diskussionsbeitrag No. 1540, Georg-August-Universität Göttingen, Department für Agrarökonomie und Rurale Entwicklung (DARE). https://hdl.handle.net/10419/108527

Fairbairn, M. (2014). 'Like gold with yield': evolving intersections between farmland and finance. *The Journal of Peasant Studies*, *41*(5), 777–795. https://doi.org/10.1080/03066150.2013.873977

Fairhead, J., Leach, M., & Scoones, I. (2012). Green grabbing: a new appropriation of nature?. *Journal of Peasant Studies*, *39*(2), 237-261. https://doi.org/10.1080/03066150.2012.671770

Fine, B. (1984). *Marx's capital*. London: Macmillan.

Gibbs, G. R. (2007). *Analyzing qualitative data*. SAGE Publications, Ltd, https://doi.org/10.4135/9781849208574

Gunnoe, A. (2014). The political economy of institutional landownership: Neorentier society and the financialization of land. *Rural Sociology, 79*(4), 478-504. https://doi.org/10.1111/ruso.12045

Gustafsson, K., & Hagström, L. P. 1972. (2018). What Is the Point?: Teaching Graduate Students how to Construct Political Science Research Puzzles. *European Political Science, 17*(4), 634–648. https://doi-org.ludwig.lub.lu.se/10.1057/s41304-017-0130-y

Hammett, D., Twyman, C., & Graham, M. (2014). *Research and fieldwork in development*. Routledge.

Herre, R. (2013). Land concentration, land grabbing and options for change in Germany. In J. Franco & S. M. Borras Jr. (Eds.), *Land concentration* (pp. 62-69). Transnational Institute. https://www.tni.org/files/download/04._germany.pdf

Huber, M. T. (2022). Resource geography III: Rentier natures and the renewal of class struggle. *Progress in Human Geography*, *46*(4), 1095-1105. https://doi.org/10.1177/03091325221074006

Hubert, C. (2018). Capital/Labour separation in French agriculture: The end of family farming?. *Land Use Policy, 77*, 553-558. https://doi.org/10.1016/j.landusepol.2018.05.062

Jussen, R. (2022, August 24). Erweiterung von Kiesabbau in Mühlberg führt zu Streit. *Rundfunk Berlin-Brandenburg.* https://www.bfn.de/eingriffsregelung

Kay, S. (2016). *Land Grabbing and Land Concentration in Europe*. Transnational Institute. https://www.tni.org/files/publication-downloads/landgrabbingeurope_a5-2.pdf

Landberatung. (2022, December 8). *Pünktliche Auszahlung Agrarförderung 2022*. Retrieved May 8, 2024, from https://www.landberatung.de/puenktliche-auszahlung-agrarfoerderung-2022/

Landkreis Elbe-Elster. (n.d.a.). *Der Landkreis Elbe-Elster stellt sich vor*. Retrieved May 14, 2024, from https://www.lkee.de/Unser-Landkreis/Der-Landkreis-stellt-sich-vor/

Landkreis Elbe-Elster. (n.d.b.). *Landwirtschaft im Landkreis Elbe-Elster*. Retrieved May 13, 2024, from https://www.lkee.de/Wirtschaft-Leben/Landwirtschaft/

Landesvermessung und Geobasisinformation Brandenburg. (2024, January 1). *Bodenrichtwerte: land- und forstwirtschaftliche Flächen* [Interactive Map]. https://bb-viewer.geobasis-bb.de/

Landwirtschaftszählung. (2020a). *Anbau auf dem Ackerland in landwirtschaftlichen Betrieben nach Fruchtarten – Jahr – regionale Tiefe: Kreise und krfr.* Städte (41141-02-02-4) [Data set]. Statistische Ämter des Bundes und der Länder. https://www.regionalstatistik.de/genesis//online?operation=table&code=41141-02-02-4&bypass=true&levelindex=1&levelid=1715241205522#abreadcrumb

Landwirtschaftszählung. (2020b). *Landwirtschaftliche Betriebe mit Viehhaltung und Zahl der Tiere – Stichtag – regionale Tiefe: Kreise und krfr. Städte* (41141-03-02-4) [Data set]. Statistische Ämter des Bundes und der Länder. https://www.regionalstatistik.de/genesis//online?operation=table&code=41141-03-02-4&bypass=true&levelindex=1&levelid=1715243371974#abreadcrumb

Landwirtschaftszählung. (2020c). *Landwirtschaftliche Betriebe und deren landwirtschaftlich genutzte Fläche (LF) nach Eigentums- und Pachtverhältnissen – Jahr – regionale Tiefe: Kreise und krfr. Städte* (41141-06-01-4) [Data set]. Statistische Ämter des Bundes und der Länder. https://www.regionalstatistik.de/genesis//online?operation=table&code=41141-06-01-4&bypass=true&levelindex=0&levelid=1715181995093#abreadcrumb

Laschewski, L., & Tietz, A. (2021). *Auswirkungen überregional aktiver Investoren in der Landwirtschaft auf ländliche Räume: Ergebnisse aus zwei Fallstudien*. Thünen Report No. 80, Johann Heinrich von Thünen-Institut. https://doi.org/10.3220/REP1598343204000

Manske, D., & Schmiedt, J. (2023). Geo-locations and System Data of Renewable Energy Installations in Germany (V20230420) [Data set]. Zenodo. https://doi.org/10.5281/zenodo.8188601

Marx, K. (1990). *Capital: A critique of political economy* (Vol. 1). Penguin Books.

Marx, K. (1991). *Capital: A critique of political economy* (Vol. 3). Penguin Books.

Mitteldeutscher Rundfunk. (2023, March 19). *Kritik an Leipziger Immobilienfirma wegen Kauf eines Agrarbetriebs*. https://www.mdr.de/nachrichten/sachsen/landwirtschaft-bauern-verkauf-land-boeden-zukunft-100.html

Moosmeier, J. (2011). *Verwaltungsgrenzen Deutschland (De, Länder, Rgbz, Kreise)* [Data set]. ArcGIS Hub. https://hub.arcgis.com/datasets/ae25571c60d94ce5b7fcbf74e27c00e0/about

Müller, K., & Pampus, M. (2023). The solar rush: invisible land grabbing in East Germany. *International Journal of Sustainable Energy*, *42*(1), 1264-1277. https://doi.org/10.1080/14786451.2023.2260009

Oliveira, G., McKay, B. M., & Liu, J. (2021). Beyond land grabs: new insights on land struggles and global agrarian change. In G. de L. T. Oliveira, J. Liu & B. M. McKay (Eds.), *Beyond the Global Land Grab* (pp. 1-18). Routledge.

Pritchard, B., Burch, D., & Lawrence, G. (2007). Neither 'family' nor 'corporate' farming: Australian tomato growers as farm family entrepreneurs. *Journal of rural studies, 23*(1), 75-87. https://doi.org/10.1016/j.jrurstud.2006.04.001

Reimer, J. & Teigeler, M. (2024, January 15) Warum die Bauern auf der Straße sind. *Deutschlandfunk.* https://www.deutschlandfunk.de/bauernproteste-102.html

Serna, L. A. (2022). Land grabbing or value grabbing? Land rent and wind energy in the Isthmus of Tehuantepec, Oaxaca. *Competition & Change*, *26*(3-4), 487-503. https://doi.org/10.1177/10245294211018966

Sippel, S. R., Larder, N., & Lawrence, G. (2017). Grounding the financialization of farmland: perspectives on financial actors as new land owners in rural Australia. *Agriculture and Human Values*, *34*, 251-265. https://doi.org/10.1007/s10460-016-9707-2

Subasat, T., & Mavroudeas, S. (2023). Financialization Hypothesis. *World Review of Political Economy, 14*(2), 204-233.

Sultana, F. (2007). Reflexivity, positionality and participatory ethics: Negotiating fieldwork dilemmas in international research. *ACME: An International E-Journal for Critical Geographies, 6*(3), 374-385. Retrieved from https://acme-journal.org/index.php/acme/article/view/786

Tietz, A. (2017). *Überregional aktive Kapitaleigentümer in ostdeutschen Agrarunternehmen: Entwicklungen bis 2017*. Thünen Report No. 52, Johann Heinrich von Thünen-Institut. https://doi.org/10.3220/REP1510300718000

Umweltbundesamt. (2023, December 21). *Photovoltaik-Freiflächenanlagen*. https://www.umweltbundesamt.de/themen/klima-energie/erneuerbare-energien/photovoltaik/photovoltaik-freiflaechenanlagen#flacheninanspruchnahme-durch-photovoltaik-freiflachenanlagen

Van der Ploeg, J. D. (2010). The food crisis, industrialized farming and the imperial regime. *Journal of agrarian change, 10*(1), 98-106. https://doi.org/10.1111/j.1471-0366.2009.00251.x

Van der Ploeg, J. D. (2020). Farmers' upheaval, climate crisis and populism. *The Journal of Peasant Studies, 47*(3), 589-605. https://doi.org/10.1080/03066150.2020.1725490

Von Redecker, E. (2024, January 20). The empty boots of German farmers tell a story of hardship, fuel wars and far-right threat. *The Guardian.* https://www.theguardian.com/commentisfree/2024/jan/20/germany-farmers-boots-fuel-far-right-protests-afd

Vonovia. (2023). *19 Nach der Equity-Methode bilanzierte Finanzanlagen.* https://report.vonovia.com/2023/q2/de/nach-der-equity-methode-bilanzierte-finanzanlagen/

Vonovia. (n.d.). *Aktionärstruktur.* https://www.vonovia.com/investoren/die-vonovia-aktie/aktionaersstruktur

Wolford, W. W., White, B., Scoones, I., Hall, R., Edelman, M., & Borras, S. M. (2024). Global land deals: what has been done, what has changed, and what's next? *The Journal of Peasant Studies*, 1–38. https://doi.org/10.1080/03066150.2024.2325685

Appendix

Appendix A: Characteristics of Interviewees

Interviewee	Investor	Farm manager	Family farmer	Agricultural sales representative	Politically active	Renewable energy
1	1	1				
2		1			1	
3		1			1	
4		1				
5		1				
6		1				
7		1				
8		1	1			
9		1	1			
10			1			
11			1			
12				1		
13				1		
14			1	1	1	
15					1	
16					1	
17					1	
18						1
19						1
	1	**9**	**5**	**3**	**6**	**2**

Appendix B: Interview Guide

Introduction

- Who am I? What do I want to achieve with this master's thesis?
- Obtain verbal consent.

Context questions

- Can you briefly describe your role/position? What is your relationship to agriculture? Do you come from this community?
- For farmers: *Legal form, size of farm, how much land is owned by the farm, who "owns" the farm, cultivation, labour (how many and who, wages, working conditions), what do they do with profits (who receives a share, reinvest in agriculture or spend on other things)*

Changes in farm structures and role of investors

- What is the role of so-called "investors" in agriculture in this region? Distinguish between buying land (extracting rent) and owning a farm.
- What is the role of renewable energy?
- Who are the different actors?
- Influence on the land market: Do the investors exert strong competition by offering higher rental and purchase prices than the others?
- Have you heard of specific farm takeovers in your neighbourhood? How did these take place?
    - What were the old owners' motives for selling the farm? What were the investor's motives for the takeover?

Effects of these changes

- How do farms run/owned by "investors" differ from other farms?
    - The farms: *Legal form, size of farm, how much land is owned by the farm, who "owns" the farm, cultivation, labour (how many and who, wages, working conditions), what do they do with profits (who receives a share, reinvest in agriculture or spend on other things)*
    - Farming in the region: dealing with other farmers?
    - The region: dealing with local residents?

- How have farms that have been taken over changed (before - after)?
- What is the role of renewable energies?

Identity

- Is there a feeling of solidarity between farmers?

Policy

- Should it be made more difficult for “investors” to enter agriculture and how would you approach this (legally)?

Appendix C: Descriptive Data on Farms in Elbe-Elster

In Germany, it is difficult to access data on who owns farms and especially land. The only way to get an overview of the farms in a region is through the EU agricultural payments. Through a website (agrar-fischerei-zahlungen.de) I looked up every municipality in Elbe-Elster and noted down the recipients of EU agricultural payments.

Unfortunately, the latest data is from 2022 so it is a possibility that farms have changed. However, for a broad overview, this data is absolutely sufficient. EU agricultural payments provide information on several things. Firstly, the basic payment scheme tells us the amount of land a farm tends to (Laschewski & Tietz, 2021). In 2022, farmers in Germany received 167.56€ per hectare through the basic payment scheme (Landberatung, 2022). As I found this number only on one website, I checked my father's EU agricultural payments of 2022 to confirm. Secondly, farms that are organic receive a bonus. Thirdly, in the case of natural persons, when a farm is owned by a 'young farmer' they receive a bonus. Fourthly, some farms receive a compensation fee for disadvantaged areas. Fifthly, some recipients are classified as small farms. They receive a payment capped at 1,250€ and are freed from greening and compliance measures. This payment pools the other payments. Hence, it does not allow a deduction of how much land a recipient farms, whether they are organic, or farmed by a young farmer. Therefore, I left the 15 recipients of this payment in Elbe-Elster out of my further analysis. Dividing 1,250€ – the maximum amount the 15 small farmers in Elbe-Elster receive – by 167.56€, results in barely above seven hectares and it is not likely that recipients have much more than that. Hence, it is not a huge limitation that I am not able to include them in the further analysis.

There are several other limitations of which the most important one is that EU agricultural payments provide no information on whether a farm has animals. Keeping animals does not necessarily require land which means that some farms do not even receive EU subsidies. Luckily, every farm using animal feed is registered in a publicly accessible list (Bundesamt für Verbraucherschutz und Lebensmittelsicherheit, 2023). Through this I completed the overview of farms in Elbe-Elster. However, also people with a few chickens in their backyard show up on this registry. Therefore, I did not add the natural persons who received animal feed but no EU subsidies.

Excluding the 15 small farms, Elbe-Elster has 333 farms receiving EU subsidies and 13 additional farms receiving animal feed, totalling 346 farms. In total, they farm 87,322 hectares,

averaging 286 hectares per farm. Compared to the 353 farms and the 88,636 hectares noted by the agricultural census in 2020, these results are not far off (Landwirtschaftszählung, 2020c). The differences likely arise because of changes since 2020, because of different classifications (e.g. recipients of animal feed), and because of human error. 24 of the farms owned by a natural person received the bonus for young farmers (6.94% of farms, 2.57% of agricultural land) and 28 farms were classified as organic (8.09% of farms, 5.67% of agricultural land). A total of 243 farms received the bonus for location disadvantages, once more underlining that Elbe-Elster has poor conditions for agriculture (70.23% of farms, 96.63% of agricultural land). This shows that while organic farms (on average 177 hectares) and farms owned by young farmers (on average 93 hectares) are smaller than the average farm in Elbe-Elster, farms receiving the compensation bonus for disadvantaged areas are larger. It makes sense that farms owned by young farmers are smaller, as only natural persons are eligible for this payment. However, it is noteworthy that organic farming seems to me more prominent on smaller farms.

86 farms of the 109 farms that are not owned by natural persons receive animal feed. An additional 13 farms that have no animals of their own, are part of a holding that keeps animals. Hence, 99 out of 109 farms that we have information on keep animals, underlining how integral animal production is for farms in Elbe-Elster. This is further underlined by the fact that these 99 farms farm 82.13% of agricultural land in Elbe-Elster.

19.36% (67) of farms are owned by limited companies, 4.91% (17) by cooperatives, 2.02% (7) by other legal entities, 5.22% (18) by partnerships, and 68.5% (237) by natural persons (see Figure A). This distribution looks very different when looking at the land these different ownership forms farm. Limited companies own 48.31% of the land, cooperatives, 28.86%, other legal persons 1.53%, partnerships 4.49% and natural persons 16,81% (see Figure B). This is also reflected in the average size of the ownership forms, as limited companies farm on average 630 hectares, cooperatives 1,482 hectares, other legal persons 190 hectares, partnerships 218 hectares, and natural persons 62 hectares (see Figure C). Noteworthy here is that cooperatives farm the most land by far. On average, legal persons farm 755 hectares.

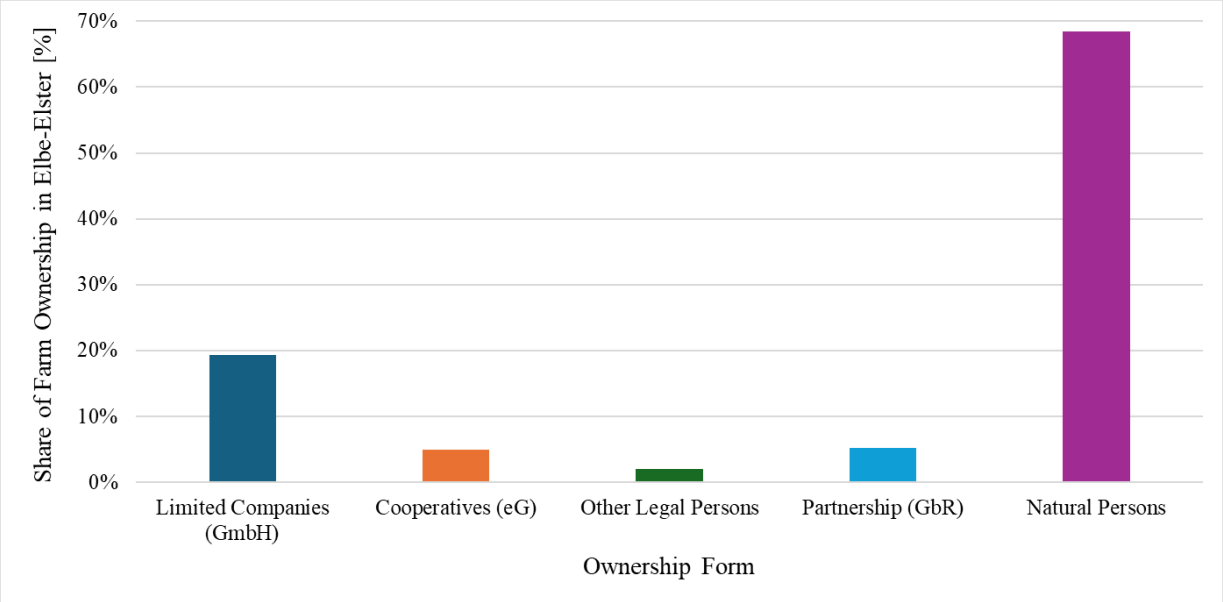

Figure A. *Share of farm ownership in Elbe-Elster [%] by ownership form.*

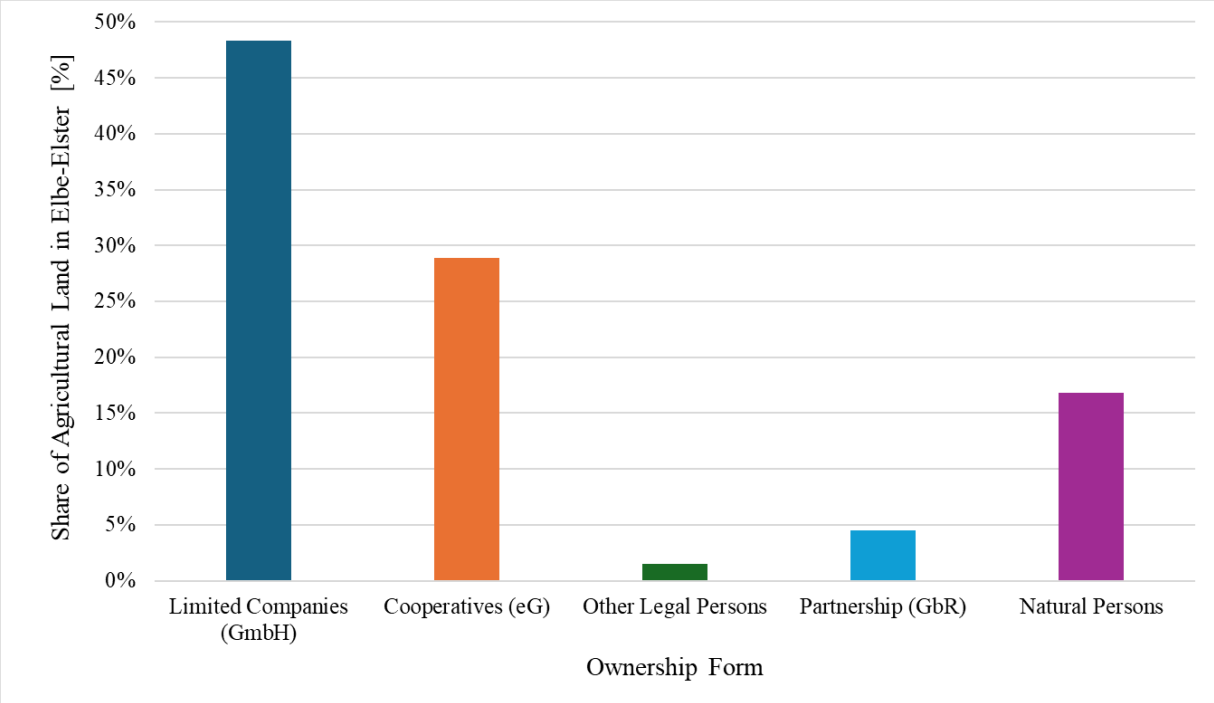

Figure B. *Share of agricultural land in Elbe-Elster [%] by ownership form.*

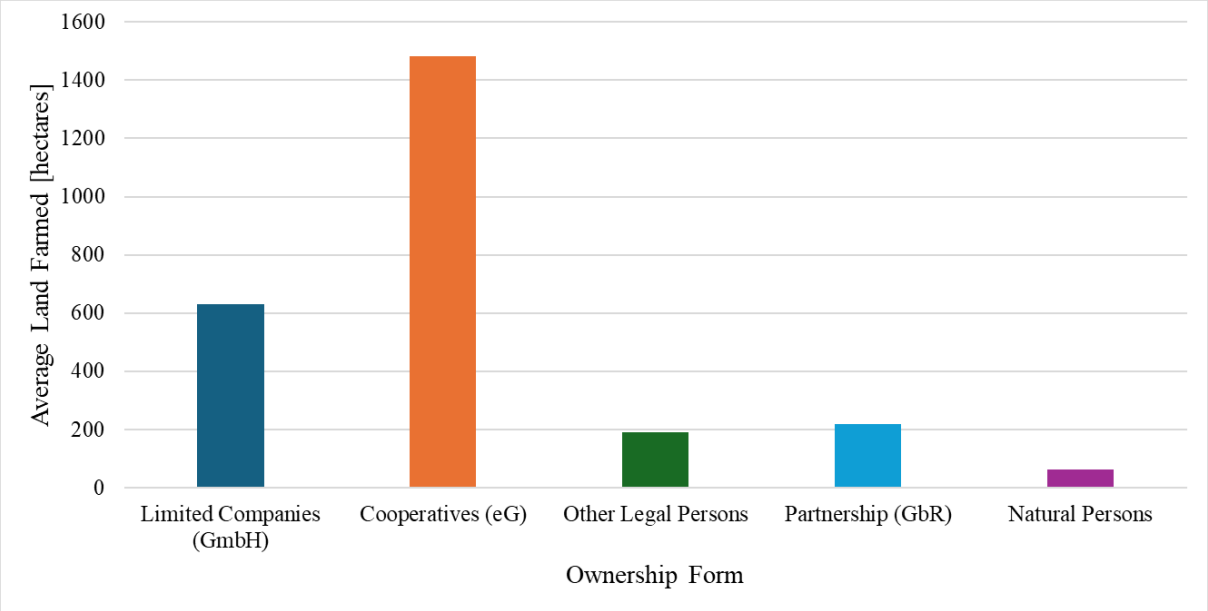

Figure C. *Average land farmed [hectares] by ownership form.*

Based on my research, there are at least 22 holdings in Elbe-Elster, together controlling 63 farms. Most holdings consist of two or four farms but there is also one holding with six farms. The holdings are organised very differently with some headed by limited companies and some headed by cooperatives. The reasons behind this are complex and outside of the scope of this thesis. This changes the average size of farms in the county and further underlines the importance of looking at land concentration. Together, the 22 holdings farm 57% of agricultural land in Elbe-Elster and farm 2,269 hectares on average each. Meaning that only 22 entities farm over half the agricultural land in Elbe-Elster.

In my research I identified seven investors in Elbe-Elster. Together, they farm 15.42% of the agricultural land in Elbe-Elster, or 13,465 hectares. Four of the 22 holdings are owned by investors. The other three investors own one farm each. The Görtz Group farms no land at all as they are solely focused on pig production. On average, the other six farm 2,244 hectares.

Farm	Investor	Recipients of EU Agricultural Payments	Recipients of Animal Feed	Basic Payment Scheme (Euros)	Hectares Farmed	Hectares Farmed by Holdings	Holding	Limited Company	GmbH & Co. KG	KG	Cooperative	Partnership
Agrar-Produktivgenossenschaft Prießen eG		1		173,316.87	1,034.36	1,034.36	1				1	
Schweineproduktion Prießen GmbH			1	0	0,00			1				
Agrargenossenschaft eG Frankena		1	1	214,584.06	1,280.64						1	
Agrargenossenschaft Werenzhain eG		1	1	323,608.96	1,931.30	2,082.47	1				1	
Agrargesellschaft Trebbus GmbH		1	1	25,329.55	151.17			1				
Roitsch GbR		1		17,981.56	107.31							1
Mutterkuh-AGRAR-GmbH Lugau Sitz Drößig		1		167,467.36	999.45	2,695.08	1	1				
Mutterkuh-Agrar-GmbH Lugau			1	0	0,00			1				

Landw. GmbH Finsterwalde		1	1	284,120.82	1,695.64			1				
Agrargenossenschaft Gräfendorf eG	Kupfer GbR	1	1	389,376.08	2,323.80						1	
Agrargenossenschaft Züllsdorf eG		1	1	307,197.91	1,833.36	1,947.44	1				1	
Mutterkuhhaltung Züllsdorfer Land GmbH		1	1	18,365.04	109.60			1				
Züllsdorfer Landservice GmbH		1		750.53	4.48			1				
Agrargenossenschaft Grochwitz eG		1	1	94,705.60	565.20						1	
Berghof Osteroda Geflügel GmbH		1	1	1,504.45	8.98			1				
ELSTER WERKE GmbH		1		959.54	5.73			1				
GbR “Herzberger Grund”		1	1	9,773.53	58.33							1
Katja Kohlstock & Dr. Wolfram Korbien GbR		1	1	25,895.49	154.54							1
Landw. Unternehmen Uwe Fritzsche KG		1		32,120.91	191.70					1		
LVP GmbH Herzberg		1	1	96,499.59	575.91			1				
Beelitzer Frischei GmbH			1	0	0,00			1				
Olaf und Max Braband GbR			1	0	0,00							1
“SÜBRA” BIO-Fleisch GmbH & Co. KG		1		50,323.16	300.33	990.98	1		1			
SÜBRA GmbH u. Co KG		1	1	115,725.89	690.65				1			
Agrargenossenschaft Bernsdorf eG		1	1	145,786.48	870.06						1	
Agrargenossenschaft Stolzenhain eG		1	1	319,956.24	1,909.50	1,974.16	1				1	

Landw. Erzeuger GmbH Brandis		1		10,833.36	64.65			1				
SCHÖNEWALDER Agrar GmbH		1	1	66,268.85	395.49	2,182.87	1	1				
Fließgrund Agrarproduktion GmbH		1	1	299,492.57	1,787.38			1				
Jeßnigker Agrar GmbH		1	1	300,425.48	1,792.94	2,175.05	1	1				
Agrarhof ALTE WIESEN GmbH		1	1	64,026.09	382.11			1				
AG Sonnewalde eG		1	1	388,676.25	2,319.62						1	
Agrofarm Großmar eG		1	1	551,997.45	3,294.33	4,411.71	1				1	
Lapro Ossak GmbH		1	1	117,303.10	700.07			1				
Fleischrind GmbH Lindena		1	1	69,925.33	417.32			1				
Landwirtschaftsbetrieb & Gallowayzucht GmbH			1	0	0			1				
Klaus und Roberto Töpfer GbR		1		1,462.03	8.73							1
Görtz Sonnewalde GmbH & Co. Landwirtschaftsbetrieb KG	Görtz Group		1	0	0				1			
Feldbau GbR		1	1	133,328.20	795.70							1
Agrargesellschaft mbH Prösen		1	1	95,448.31	569.64	1,341.49	1	1				
Landw. Untern. LAWI - GmbH		1	1	95,572.58	570.38			1				
Lawi Landtechnik Center GmbH		1		33,759.98	201.48			1				
Mutterkuhhaltung - GbR		1	1	125,562.79	749.36							1

Agrarprodukte Oschätzchen eG		1	1	302,698.52	1,806.51						1	
Forstbaumschulen F. Pückler Zeischa GmbH & Co KG		1		19,040.75	113.64				1			
Osterhuber Agrar GmbH Gut Prieschka	Osterhuber Agrar	1	1	181,288.38	1,081.93	1,081.93	1	1				
Schweinemast Oschätzchen GmbH			1	0	0			1				
Agrargenossenschaft Beyern eG		1	1	363,601.03	2,169.98						1	
Dienstleistung & Maschinenhof - Landwirtschaftliches Lohnunternehmen GmbH (DIMA-GmbH)		1		4,167.46	24.87			1				
GbR Grey/Tischler		1	1	45,389.62	270.89							1
Landgut Großrössen GmbH		1	1	109,559.24	653.85			1				
Marktfruchtbau GbR Wolff		1	1	18,921.06	112.92							1
Landwirtschaftsbetrieb Kathrin und Konrad Meier GbR		1	1	35,252.03	210.38							1
Milchhof Kölsa-Rehfeld GmbH		1	1	180,998.83	1,080.20			1				
RGC Agrar GmbH		1		13,170.53	78.60			1				
Agrargenossenschaft Mühlberg eG		1	1	194,831.85	1,162.76	5,710.69	1				1	
Mühlberger Fahrzeug- und Landtechnik GmbH		1		159,996.89	954.86			1				
Elbtal GmbH Mühlberg		1	1	143,404.20	855.84			1				
Landhof GmbH Möglenz		1	1	149,008.18	889.28			1				
Ziegram - Rinderhof GmbH		1	1	170,833.67	1,019.54			1				

Burgwall/Röder GmbH Kosilenzien		1	1	138,808.84	828.41			1				
Schäferei Heischmann/Hauswald GbR		1		77,352.22	461.64							1
Zschege GbR		1		24,892.90	148.56							1
Agrar GmbH Prestewitz		1	1	218,666.35	1,305.00	1,765.81	1	1				
Landhof GmbH Prestewitz		1	1	77,212.17	460.80			1				
Elsterland GmbH Wahrenbrück		1	1	149,030.15	889.41			1				
Roland u. Marion Kluge		1		2,237.10	13.35							1
Landhof GmbH Bönitz	Quarterback	1	1	43,046.90	256.90	2,641.54	1	1				
Agroland Landw. Unternehmens GmbH		1	1	172,162.47	1,027.47			1				
Röderland GmbH Bönitz		1	1	227,407.46	1,357.17			1				
Agrargesellschaft Groß-Garz mbH			1	0	0	205.89	1	1				
Rinderproduktion Wiederau GmbH		1	1	34,499.29	205.89			1				
Agrargenossenschaft Oppelhain eG	WM Agrar	1	1	154,515.15	922.15	2,750.03	1				1	
AHVG Allgemeine Handels- und Verwaltungsgesellschaft für die Landwirtschaft mbH			1	0	0			1				
Landfleisch Rothstein GmbH		1	1	157,467.63	939.77			1				
Agrar GmbH Sorno		1		148,811.86	888.11			1				

Landwirtschaftsbetrieb H. Richter & G. Richter GbR		1	1	18,343.36	109.47							1
Agro Vermögensverwaltungs GmbH Massen		1	1	48,583.42	289.95	1,810.21	1	1				
Massener Höfe Dienstleistungs- und Tank GmbH		1		8,765.91	52.32			1				
Massener Höfe Ackerbau und Technik GmbH		1		55,271.38	329.86			1				
Massener Höfe Milch, Vieh und Weide GmbH		1	1	190,697.53	1,138.09			1				
AG eG Dollenchen/Lieskau		1	1	297,824.83	1,777.42	1,932.16	1				1	
Agrar GmbH Dollenchen		1	1	25,927.33	154.73			1				
Spargelbau GmbH Sallgast		1		6,208.22	37.05			1				
Hanse Forst KG		1		1,310.78	7.82					1		
Agrar GmbH “Elstertal” Plessa		1	1	323,422.67	1,930.19	2,383.21	1	1				
Plessaer Zucht- u. Mastrind GmbH		1	1	54,168.94	323.28			1				
Fleischrinderzucht u. Mastbetriebe Schraden-Koppel GmbH		1		21,738.85	129.74			1				
Equorum Kulturgut eG			1	0	0						1	
Agrar GmbH Hillmersdorf	Benner Holding	1	1	91,312.88	544.96			1				
GbR Hillmersdorf		1	1	108,562.23	647.90							1
G. u. S. Pirl Blonde Aquitaine, Zuchtbetrieb GmbH & Co. KG		1	1	4,795.34	28.62				1			

Agrar & Forstbetrieb Klopp GbR			1	0	0							1
Landwirtschaftsbetrieb Klemens u. André Mahl GbR		1	1	12,158.89	72.56							1
Burgwall Agrar GmbH		1	1	204,148.93	1,218.36			1				
Milchgut Kolochau GmbH	Schlieben Agrar	1	1	114,733.66	684.73	4,122.62	1	1				
Agrar GmbH Schlieben		1	1	103,179.92	615.78			1				
WENAU Agrar GmbH		1	1	83,214.33	496.62			1				
Agrar GmbH Lebusa		1	1	389,658.35	2,325.49			1				
Tierzucht Lebusa GmbH		1	1	154,387.51	921.39			1				
Ökologische Teichwirtschaft GbR			1	0	0							1
Porky Schweinezucht GmbH		1	1	179,960.07	1,074.00			1				
Schradenfrucht Gröden landwirtschaftliche Unternehmensgesellschaft mbH		1	1	87,329.00	521.18	858.02	1	1				
Schradenhof Biol. ext. GmbH		1		56,440.02	336.83			1				
Hirschfeld Agrar GmbH		1	1	178,296.90	1,064.08	3,829.13	1	1				
Hirschfeld Fleisch- u. Wurstwaren GmbH		1		76,136.22	454.38			1				
Schradenmilch Milch- und Vieherzeugungs GmbH		1	1	162,243.02	968.27			1				
Güterverwaltung GmbH		1	1	224,932.26	1,342.40			1				
Friweika e.G.			1	0	0						1	

All Natural Persons					14,682.48							
	7	**96**	**84**		**87,321.88**		**22**	**67**	**5**	**2**	**17**	**18**

Appendix D: Owners of Solar Parks in Elbe-Elster

Owner	Installed Capacity (kW)	Elbe-Elster	East Germany	West Germany	Foreign Country	Agricultural	Industrial	Commercial	Financial	Regional	National	International (regional focus)	Transnational	Capital	MLP
ASG Solar GmbH	9,489		1				1	1	1		1			1	
Berger Bau	996			1			1					1			1
Better Energy	1,350				1		1	1				1		1	
BOSIG Baukunststoffe GmbH	804	1					1				1				1
estateproperty a/s	5,011				1			1	1				1		1
encavis	7,669			1			1	1	1				1	1	
Doric GmbH	1,559			1			1	1	1				1	1	
DSH-Dentaltechnik	213	1					1	1		1					1
EnerGeno eG	6,884			1			1	1			1			1	
ENERPARC	4,200			1			1	1	1				1	1	
China Everbright Environment	3,707				1		1	1	1				1		1
Frankfurt Energy Holding	2,322			1			1	1	1			1		1	
equitix	39,782				1			1	1				1		1
SoMoAktiv	1,421			1			1	1			1			1	
UmweltProjekte	8,740		1					1	1		1				1
Krematorium Elbe-Elster GmbH	141	1						1		1					1
LHI Group	50,836			1				1	1				1		1
MKK GmbH	488	1					1			1					1

nawes GmbH	750			1			1	1	1		1			1	
Parabel Solar	726			1			1	1			1			1	
Renewable Energy Capital Partners GmbH	21,706			1			1	1	1		1			1	
renoc	982	1					1	1		1				1	
Stillger & Stahl GbR	5,680			1				1	1		1				1
Schliebener Stahl- und Metallbau	736	1					1	1			1				1
Greenvest Solar	749			1			1	1	1		1			1	
Hahn & Partner Steuerberatung	2,060			1				1			1				1
BayWa r.e.	21,139			1			1	1					1	1	
Energiebauern GmbH	29,993			1		1	1	1			1			1	
Novatech	9,058			1			1	1		1				1	
Schiemann & Mende GmbH	2,803	1					1			1					1
GP Joule	3,152			1			1	1	1			1		1	
Kube Holzbau + Photovoltaik	2,499		1				1	1		1				1	
sunfarming	1,000		1				1	1	1				1	1	
Stadtwerke Finsterwalde GmbH	1,879	1					1	1		1					1
WI Energy GmbH	749			1			1	1	1		1			1	
Thüga Gruppe	1,485			1			1	1			1			1	
Uesa GmbH	8,542	1					1	1				1		1	
Walter Solar GmbH	749			1			1	1	1		1			1	
Widmann Holding GmbH	11,455			1			1	1			1			1	
Schreiber und Widmann GbR	1,143			1											
PV Rückersdorf GbR	1,891			1											
GruEn GbR	720	1													
Klaus Mayr PV	1,810		1												

Urban Portfolio GmbH	750			1											
Solar Lönnewitz GmbH & Co. KG	4,069			1											
PV Gröden GmbH & Co. KG	2,848			1											
Greenfield Kraftwerk 1 GmbH & Co. KG	2,064			1											
ARKA Merchant GmbH & Co. KG	318			1											
Natural person	750														
Natural person	285														
Natural person	99														
51	**290,251**	**10**	**5**	**29**	**4**	**1**	**32**	**35**	**18**	**8**	**17**	**5**	**9**	**24**	**15**

Appendix E: Thematic Analysis – Themes and Codes

Themes	Codes
Investor-Owned Farms	1. Benner Holding 2. First Sentier Investors 3. Osterhuber Agrar 4. Schlieben Agrar 5. Quarterback 6. WM Agrar 7. Kupfer GbR
Land Grabbing	1. Solar is booming 2. Solar is sketchy 3. Solar power investors: different size, regionality, focus 4. Solar power investors: quick turnover, many different investors 5. Solar on roofs in exchange for renovation 6. Solar power investors only interested in large solar parks on agricultural land 7. Solar power investors offer higher rent to landowners than farmers do 8. Solar on agricultural land: investors own the project and farmers receive rent 9. Different profit-sharing models (solar) 10. Climate change mitigation 11. Industrial sprawl 12. Type of landowners: don't want to sell, value agriculture (often older generation) 13. Type of landowners: want to sell, no connection to agriculture (the heirs, non-regional) 14. Selling land: looking for the highest price 15. Suboptimal regulation around land buys

	16. Investors buy land, offering higher prices than farmers do 17. Types of investors buying land: smaller capital, often well-off individuals 18. Types of investors buying land: big, capitalised investors 19. Landowners demand high rent (blackmail)
Farmers in Crisis	1. Agriculture is not profitable 2. Dependency on market prices 3. Agriculture requires investment (debt) 4. Dependency on regulation 5. Dependency on subsidies 6. Competition for land and labour 7. Investors increase land prices 8. Balance between not losing land and not paying too much rent (can't afford it, other landowners might find out) 9. Lack of labour 10. Bad pay 11. Closing branches (butchery, animal production) 12. More outsourcing of labour (contractors) 13. Foreign labour 14. Farmers have to rely on different pillars (e.g. solar)
Differences and Similarities Between Farmer-Owned Farms and Investor-Owned Farms	1. Not doing proper agriculture 2. Short term thinking 3. Sold again 4. Employees and farm managers stay the same 5. No transparency

	6. Owners are distanced from the farm (making it easier to make tough decisions) 7. Hierarchy: decision-making power is centralised and removed from the farm 8. Economic choices, oriented towards returns, streamlining (closing branches, modernising) 9. Investors interested in renewables 10. Higher wages (because less labour, because streamlined and modernised) 11. Outsourcing labour 12. Differences in production only arise because investors make economic choices that farmer-owned farms would do as well 13. Investors have more capital than farmers (for rent or investments) 14. Investors have more market power because of their size and capital 15. Investors offer higher rent and buying prices, increasing what farmers have to pay to compete 16. Young generation of farm managers is more likely to make economic choices 17. Farmers value more than just maximising returns
Farmers' Interaction with Investors	1. Renewables (solar) as a chance for farmers 2. Farmers interested in doing solar themselves 3. Farmers can't afford to do solar by themselves 4. We are farmers, that's what we should do (solar)

	5. Investors are coming, there is no stopping them 6. Farms might require investors 7. To prevent investors systemic change is necessary 8. If it's happening anyway, I have to choose the lesser evil / minimise the risk 9. Choosing a 'good' investor 10. Investors relationship to agriculture matters 11. The most important thing is that agriculture continues

Appendix F: Investor-Owned Farms in Elbe-Elster

Through the interviews and the research on ownership structures of farms in Elbe-Elster described above, I identified the investor-owned farms in Elbe-Elster. Importantly, when asked about investors no one named all of these. Usually people mentioned First Sentier Investors, Quarterback, WM Agrar, and the potential takeover of a farm. Only a few interviewees identified Agrar Schlieben, Osterhuber, and Benner Holding as investors. No one mentioned the Görtz Group. Importantly, First Sentier Investors does not own farms in Elbe-Elster, but only two bordering the county. I nevertheless chose to include them as so many interviewees referred to them.

Osterhuber Agrar

This is a company from Bavaria which is active downstream of agricultural production as a forwarding agency for agricultural commodities. The company owns several farms and dabbles in renewable energy, mostly biogas. According to one of my interviewees, Osterhuber Agrar also owns a farm in Hungary.

Quarterback

This is the most prominent case of an investor buying a farm in Elbe-Elster. About a year ago, the sale of a farm to the company Quarterback from Leipzig was finalised. Quarterback is a real estate company which has recently also become active in the renewable energy sector. 40% of Quarterback is owned by Vonovia, which is a German real-estate company of which the shares are listed on the stock exchange (Vonovia, 2023). The largest shareholders are BlackRock, Norges Bank Investment management, and a pension fund (Vonovia, n.d.). A farmer from Berlin also wanted to buy the farm, but allegedly, because of their bigger offer, the former owners decided on Quarterback. The farmer made this public, leading to the case being discussed widely in the media (Mitteldeutscher Rundfunk, 2023). Quarterback is continuing with agricultural production but is also planning on building solar parks on the land.

WM Agrar

This is a company which owns farms in three different states in East Germany, including one in Elbe-Elster. The company is focused on renewable energy, agriculture, and livestock farming. According to information gathered during my field visit, they have nine farms with a total of 13,000 hectares of land. I do not know whether WM Agrar is tied to another company or whether the capital used stems from a non-agricultural sector.

Agrar Schlieben

This is a holding with four farms and one biogas plant in Elbe-Elster. The farms were initially bought by two people, one of whom is a farmer from Bavaria active downstream of agricultural production. The other one is apparently also not from the region, but now lives there and manages the farms. The latter investor has now bought out the former. According to one of my interviewees, when one of the farms was bought it was done in the form of a 'hostile takeover'.

First Sentier Investors

Since 2023, the transnational investment group First Sentier Investors owns the German Agricultural Holding (DAH) with 14 farms, over 20,000 hectares of land, several biogas plants, and solar parks. Two of their farms while not technically in Elbe-Elster are right on the border. First Sentier Investors bought the DAH from the Zech Group, a real estate company. The Zech Group in turn bought the land from the KTG which owned over 40,000 hectares of land before going bankrupt in 2016 (Brunner, 2019). My interviewees usually mention the DAH as an example of 'bad' investors.

Kupfer GbR

While I was in Elbe-Elster, everyone was talking about a farm in the county that was in financial trouble, speculating on whether it would be the next 'victim' of investors. During my field work the farm was sold to two farmers with a farm around 60 kilometres away. From my superficial online research, it seems like the two farmers have no other business affiliations.

Benner Holding

Only one interviewee mentioned this farm. In 2018, the farm was bought by two investors from West Germany who own several farms, agricultural trade companies, and a biogas venture in East Germany. These investors sold it again to Benner Holding in 2022, a company from Hesse in West Germany. The company began in shoe manufacturing and now also owns real estate, restaurants, online shopping platforms, solar parks, and two farms. Benner Holding rents out its farm in Elbe-Elster to Schlieben Agrar, the investor-owned farm mentioned above.

Görtz Group

No one mentioned this farm during my interviews. However, the farm's owners live in the Netherlands and own several other farms in Germany and, according to their website, in at least

one other country, potentially the Netherlands. The Görtz Group is focused on pigs. Based on my research, the Görtz family has no associations with other companies or sectors.