

Land without Value? Unlocking the Zero Lease Puzzle in Swedish Agricultural Transformation

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This paper investigates the drivers and mechanisms behind the zero lease phenomenon in Sweden, which is characterised by no monetary transfer between landowners and land users, and has been captured in agricultural statistics since the late 1990s. The phenomenon is examined through a theoretical framework which combines rent theory with geographical and historically contextualised views of farming and farmland tenure. We use rent statistics but focus on exploring the geographical dimensions of zero lease farmland in Sweden, mapping spatial variations of rents, the scale of free-leased fields and the geographical location of these fields both at the farm and regional level. Our results show how the zero lease is related to geographical space and ongoing transformation processes in agriculture and rural spaces over time. The paper concludes that the zero lease creates a temporal flexibility for landowners, preserves non-monetary landscape values, and creates opportunities for future farming by preserving landesque capital. This Swedish example illustrates well how, when globally integrated markets force farmers to either restructure, intensify or extensify, and old farming models do not fit the global agri-food systems, farmers find ways to adjust through spatial and temporal means. Seeing the zero lease through farm geographies may suggest opportunities and solutions for making an alternative food and farming future.

Keywords: Agricultural land, agricultural restructuring, land tenure, land lease, land value, Sweden

Land is an increasingly scarce and valuable resource globally and land for agricultural activities has for a long time been considered disordered and in crisis. The encroachment onto farmland driven by industrial development, urbanisation, real estate development and other interests competing with agriculture, has been going on for decades, leading to higher land prices, and fragmented and mosaic patterns of farmlands, especially near cities (Wästfelt & Zhang, 2016, 2018). Paradoxically, recent financialisation which turns land into a medium of capital circulation and accumulation has left large parcels of (fertile) land idle or mismanaged, mainly in developing countries (Borras JR & Franco, 2012; Cochet, 2018; Hall, 2013, Kuns et al., 2016; Le Billon & Sommerville, 2017). This makes the questions of food se-

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curity and sustainable food supply listed at the top of the Sustainable Development Goals more perplexing. Concomitantly in industrialised countries, while institutions and regulations may have prevented land grabbing, recent studies suggest the phenomenon of large-scale land acquisitions/concentration is already slowly expanding in the Global North, probably with significant implications for family farming and rural development, though the underlying processes are yet to be understood (Bunkus & Theefeld, 2018; van der Ploeg et al., 2015). What is central to the shifting picture of agricultural land use in Europe is that several contradictory and polarised processes, including farmland abandonment, upscaling of farming, and scarcity of farmland, have been going on simultaneously, becoming increasingly intensified and intersected (Lasanta et al., 2017; Levers et al., 2018; Terres et al., 2015; van der Ploeg et al., 2015).

Contradictory patterns and trends of farmland use are taking place in increasingly compressed spaces at an intensified speed. The emerging perplexing questions here are – Is farmland scarce or not? Is farmland valuable or not? How is the value of farmland determined? What cannot be wrong is that land is always spatially fixed and unevenly distributed. Farmland is in principle an infinitely renewable resource but at the same time it is finite in its spatial extension. Thus, time-space geographical understandings are key to these questions and local factors, drivers and mechanisms (Robinson 2018), as they are likely to tell us more, and do so better, than generalised and sometimes misleading large-scale explanations (Lasanta et al., 2017; Levers et al., 2018). Examining what happens to land with agricultural activities is not done to understand land use change per se but to study it as the manifestation and carrier of agricultural transformation/restructuring. Land tenure, especially lease arrangements, is fundamental to this exploration. However, in the European restructuring context, both empirical case studies (Wästfelt & Zhang 2018), and quantitative mapping of land use change and lease patterns (Levers et al., 2018; Terres et al. 2015) have rarely been linked to more fundamental and critical agrarian questions of capitalist growth as in the Global South (Cochet, 2018; Le Billon & Sommerville, 2017), limiting the theoretical value of land tenure and lease studies.

This paper focuses on developing geographical understandings of agricultural land use by unlocking one illustration of the farmland puzzle – the zero lease phenomenon in Sweden. A zero lease (*gratisarrende*, *nollarrende* in Swedish) is a form of lease where the land is borrowed by the land user from the landowner without involving any transfer of money (Wästfelt, 2014b). It does not involve any written contract, and thus has no legal binding. However, other related deals can exist, for example, an oral and informal agreement on work inputs or exchange of services. In other words, there is a relationship and exchange between the landowner and land user, but this is not in the direct form of monetary payment. This phenomenon at first sight is perplexing as the general picture is the increased competition over land for various purposes worldwide. However, the zero lease is not an exclusive phenomenon only found in Sweden but widely exists in all countries, as suggested

in existing literature. Yet this phenomenon has rarely been at the focus of investigation, which may be related to the informal, irregular, hidden and varied forms that it takes in different contexts. In the Swedish context, this phenomenon has been mentioned for decades in policy documents, but little research has been done so far (except a preliminary study by Wästfelt, 2014b). Thanks to the availability of detailed long-term statistics on leased land, in this pilot study we will combine quantitative analysis with qualitative interpretations to study an examination of the zero lease as a carrier of non-capitalist agricultural change. The practices surrounding the zero lease without contributing to the dominant business model of capitalist growth are likely to be where we can find solutions to the contradictions and problems in the existing model.

Our specific questions are:

- What are the spatial and temporal characteristics of the zero lease in Sweden?
- How can the drivers and mechanisms behind these spatial and temporal characteristics be explained from a geographical perspective?
- How does the zero lease (re)shape the value of agricultural land?

To answer these questions, we situate land dynamics and value questions in a historical and geographical framework of rent explanation and insert a farm geography perspective. The recent call for connecting rent to value, and in relation to nature, draws our attention to socio-ecological relations other than pure economic relations (Andreucci et al., 2017; Andueza, 2020; Purcell et al., 2020). Our attempt to develop a historically and geographically informed theoretical framework is a response to this and may shed light on the new direction of conceptualising rent and value.

We also highlight the need to focus on farm geography and use family farms as the analytical unit for understanding land dynamics and relations. The family farm remains the basic unit shaping these patterns, which do not always follow the industrialisation pathways as expected (van der Ploeg, 2008, 2018). Furthermore, in contemporary rural and agrarian studies there is a general underdevelopment of a farm geography perspective. Such a perspective is key to understanding the uneven and varied experiences of farms in agricultural globalisation. A farm geography perspective centres on the internal farming entities such as location, scale, spatiality, and biophysical conditions. With this perspective, we explore leasing and the zero lease as a reflection of the spatial relationship between farms, farm historical development and tensions coming from globalised competitive markets.

This paper contributes to agrarian studies in the following ways: 1) The zero lease example opens up a new way of understanding agricultural restructuring processes; 2) Through studying the leasing mechanisms and value formulation behind the zero lease, we get insights into the zero lease as a pathway through which extensification occurs on some land while intensification occurs on other land; and 3) Our examination of the zero lease promotes the view of seeing land tenure as a door opener for exploring complex issues in agricultural restructuring associated with global market integration.

A RECONCEPTUALISATION OF RENT AND VALUE THROUGH FARM GEOGRAPHY

This section introduces our theoretical framework which combines rent theory with geographical and historically contextualised views of farming and farmland tenure.

Taking Rent Theory Back to the Rural Context

Marx considered rent as a payment for the use of a resource or property, a concrete form of surplus value commanded by private monopoly ownership. He distinguished three forms of rent – differential rent, absolute rent and monopoly rent – for capturing the different ways this ‘monopoly is economically realised, valorised’ (Purcell et al. 2020: 5 referring to Marx, 1991: 752-6). Despite Marx’s original focus on agricultural land, the contemporary use and development of rent theory have mainly focused on an urban context in relation to gentrification and housing issues (Clark, 1995; Harvey, 2003; Smith, 2002). However, recent studies have begun to extend the rent debate back to rural and agricultural settings (Clark & Pissin, 2020). Within agricultural studies, rent theorisation has not followed a clear line of development but still proceeds roughly along two paths: a political economy path which focuses on property rights, landlord-tenant (power) relations, and capital accumulation through renting (Fairchild & Petrzela, 2022), and the other agricultural economics path which is concerned with intensification, technical development and economic growth, enabled and reflected in the change of supply and demand on renting (Czyżewski & Matuszczak, 2016). In this paper, we seek to link the views from both paths while highlighting a geographical focus.

What makes the theoretical development of rent challenging nowadays is the peculiarities of land as a capital resource in farming, which means the forms of rent go beyond land and increasingly rely on flows of rentier income through financial instruments (Vergara-Camus & Kay, 2017). It becomes necessary to make a distinction between different forms of capital – production capital, financial capital, social capital, and landesque capital. The last form creates investments and “enduring improvements to specific pieces of land” (Håkansson & Widgren, 2016: 10). The entry of financial capital to agricultural land is not possible in Sweden as it is prohibited by the land acquisition act (Slätmo, 2018), which clearly demonstrates a major role the state can play in intervening the circulation of financial capital (Ouma et al., 2018). Yet the seeking of potential rents still progresses through large-scale, industrialised and high-tech farms, leaving little room for alternative small-scale farms to develop (Clark & Pissin, 2020).

A geographical perspective was not explicitly theorised in farmland-rent relations, but its relevance has been long suggested. Agricultural production is always location- and context-specific. The location of land impacts its functional possibilities and thus the value associated with the land as a production unit. This was captured

by Marx in ‘differential rent’ as capitals competing to produce on lands of superior quality or location have to pay extraordinary profits, or a higher rental price, to the landlord (Purcell et al., 2020: 5 referring to Marx, 1991: 799-811). However, this is incomplete. Localised geographical perspectives of farming also include the dimensions of spatiality, scale and the relational location of fields which define in more detailed ways how rent works. The time horizon is another important but not fully theorised component of rent. Lease, the user rights to agricultural land, can be enforced with different temporal horizons. It can be a yearly right and it can also last for many years even as an inheritable right that is possible to transfer between generations, as will be explained below in the case of Sweden. Moreover, lease agreements always have a time frame but the benefits to landowners are not necessarily realised within this frame. For example, landesque capital accumulates and often pays the value to the landowner over the long term, in the future after the lease period.

Agriculture as a Frontier of Capitalist Expansion – Intensify, Extensify or Restructure the Land

Enhancing land productivity through intensification and specialisation has for long been a key underlying approach in contemporary policy for solving food provisioning with a growing world population. Technological development contributes to the increase of productivity and thus the decrease of rents. Yet instead of following a linear intensification, agriculture as a machine of capitalist expansion has oscillated between both frontier expansion and shrinkage in history. One of the most prominent examples of frontier expansion in history is the agricultural frontier moving west over the North America continent (Shannon, 1977). The current frontier expansion over clear-cut rainforest in Amazonas is another example driven by the global market demand for cheap fodder and meat. Still another example is the intensification of land use within the green revolution, where poor people were lifted out of poverty by improved farming praxis with heavy use of artificial fertilisers and pesticides (Hurt, 2020).

In spite of efforts for frontier expansion, extensification processes such as abandonment and overgrowing have also been common historically. For example, the infections which spread from the old world to the new world in the late 15th century resulted in devastating abandonment of whole agricultural societies in Mexico and South America (Dull et al., 2010). In the northern European context, the Black Death some hundred years earlier also resulted in abandonment of agricultural land which was turned into pastures for animals, after which the whole agricultural system changed into a mixed farming system extensively raising animals and more intensively growing cereals instead of having a pure focus on cereals. Contemporary land grabbing activities are reformulating agricultural land as a profitability frontier. They seek to maximise profits from land and labour while redistributing the propor-

tion of profit between labour and capital in favour of the latter (Cochet, 2018), but the associated capital accumulations do not rely on production change.

These intensive and extensive land use changes are expressions of changing rent dynamics closely connected to the rhythms of capitalist expansion. In Sweden, a strong entrepreneurial ideal has been growing since the 1990s with the liberalisation of the Swedish agricultural sector, and agricultural production is being steered towards the global markets. However, these processes are still shaped by social relations and social capital basically because family farms still represent the majority of Swedish agricultural enterprises. On family farms, “agropreneurs”, or entrepreneurial farmers, do not always act as pure capitalists (Cochet, 2018). Trust and succession issues inherent to family farms greatly influence land use while family farms also have an advantage in distributing labour to match the temporal-spatial need of agriculture.

Freeholding Vs Leasing in History – Labour Inputs and Use Being More Important Than Ownership

Marx considered that land tenure sets up a monopoly for landowners to charge rent. Nowadays, land grabbing activities often occur in contexts where the institutional rights to land are diffuse or not fully developed. As mentioned, the land acquisition act in Sweden forbids companies from owning farmland, and only physical persons are allowed to own farmland (Slätmo, 2018). In this way, the dominance of family farming is sustained. However, similar to other family farms in Europe, for the last half century Swedish farms have been struggling with generation shift. In contrast to other European countries where contract farming has become extensive, in Sweden it is more common to rent out land so as to keep the farm in the family (Grubbström & Eriksson, 2018).

In Sweden, there is often a highly secure feeling among tenants and landowners (Wästfelt & Zhang, 2018), even concerning lands with a zero lease. This is not just a result of clear institutions but rather has to do with a long history and strong tradition emphasising the use of land as the condition for owning land (usucapition) (Wästfelt, 2014a). Even if there was an ownership the right to use land could be overruled by the kingdom. Freeholders (*skattebönder* in Swedish) paid tax to the kingdom, and tenants on noble estates paid rent for access to farms in terms of labour. They had the right to continue growing their leased farm over generations as long as they provided day labour for the owner. Freeholders needed to maintain proper use; otherwise, the land could be taken by the king and could be given to other farmers.

The historical evolution of the lease has developed to the current two distinct forms of lease in Sweden: 1) the whole farm lease (land including buildings and stable houses, with five-year fixed leases and negotiations every five years, and an inheritable lease contract) and 2) the side lease (only land, with yearly automatic

renewal and a new price). Side leases have increased greatly over the last 50 years, which reflects changes in both landowners and tenants. Leaseholding farmers want high flexibility to respond to more rapid food market changes, while land-owning families are not active in farming but do not want to sell land as they anticipate a land value increase in the future. The latter consideration is especially apparent with farmers close to the city (Wästfelt & Zhang, 2018).

This lease structure institutionally creates differentiations in rent. Both whole farm lease and side lease markets are local markets; it is often a neighbour who becomes the tenant. The lease fee is affected by many geographical factors, such as the size of the land, the soil conditions and the possibilities to rationalise the use by putting neighbouring fields together. The side lease fee refers directly to the possible future value of land; the land price refers to other values which do not necessarily have to do with agricultural production.

METHODS AND MATERIALS

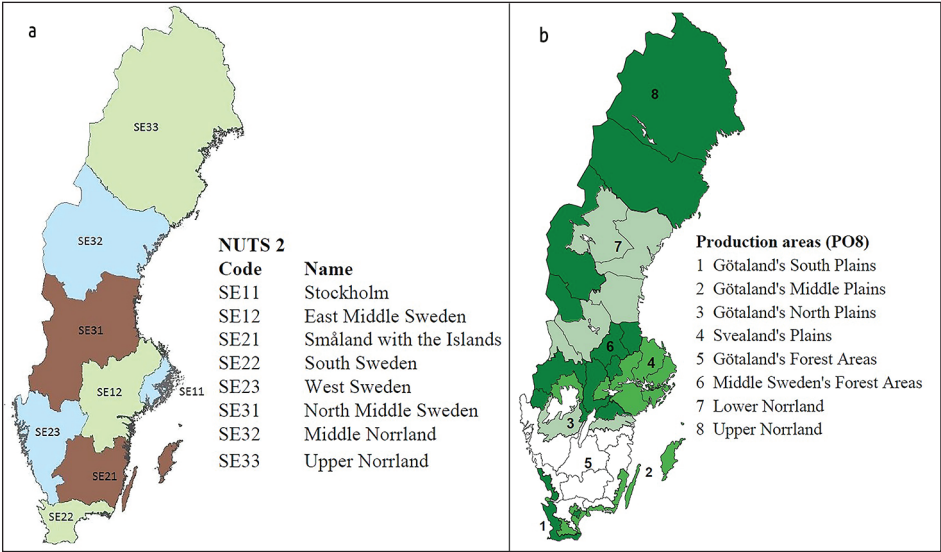
The empirical part of this study relies on statistical analysis, learnings from our previous studies (Wästfelt & Zhang, 2016, 2018) and other studies on agricultural and rural transformation in Sweden. We have conducted statistical analysis of lease data on a national scale, with a special focus on the farm and field scales, in order to make sense of the geographical processes of the zero lease.

Our statistical data was all from the Swedish Board of Agriculture (*Jordbruksverket*, SBA) but in three forms: 1) the biannual reports on agricultural land rents (*Arrendepriser på jordbruksmark* in Swedish, published by *Jordbruksverket*) from 2001 to 2020; 2) the statistical database of the Board (*Jordbruksverkets statistikdatabas* in Swedish, which provides more detailed data than the reports); and 3) other data from the same tenant survey behind the first two forms of data but that was directly acquired from SBA upon agreement. The rent survey started from 1999 and was done every second year, where the zero lease existed as a specific topic from the beginning. 1,800 tenants were asked to reply to questions concerning two years at a time. These tenants were selected from those who were included in the agricultural register in the second of the two years that the survey focused on. They were asked about how many lease agreements they had in total, and for the eight lease agreements with the largest areas, they were asked to state how much they had paid in total for the lease agreement, the size of the fields, and during the last two years whether the land was pasture or for other purposes. For each lease, the tenants were also asked to state whether they considered that they were paying a market price. Then further questions varied over the years, such as whether the lease was written or oral, whether there was anything other than land included in the agreement, etc. The country was divided into six geographical regions, which largely follows NUTS 2 except that two areas were merged – Stockholm merged

into Eastern Middle Sweden, and Upper Norrland and Middle Norrland merged to become North Sweden (Figure 1a). In recent years, lease data has also been classified according to a production area map of Sweden (Figure 1b). The survey data has its limitations. As the definitions and methods have changed over time, the data are not completely comparable between years.

The data, directly received from SBA, is composed of information on rent and number of fields organised by field size and county. The approximate number of leases that usually form the basis for SBA's calculations is 2,200–2,500 per year, which then refers to all leases, both those that only contain arable land or pasture and those that contain a combination of these. Leases containing “other land” are not included in the calculations. All rents are based on leases that only include arable land where it is stated that the tenant considers s/he pays a market price. To exclude the impact of inflation on interpreting rent change trends over time, we have adjusted the rent data based on the Swedish Consumer Price Index (SCB 2022), using 1999 as the base year.

Figure 1: a - NUTS 2 in Sweden; b - Production areas in Sweden



RESULTS

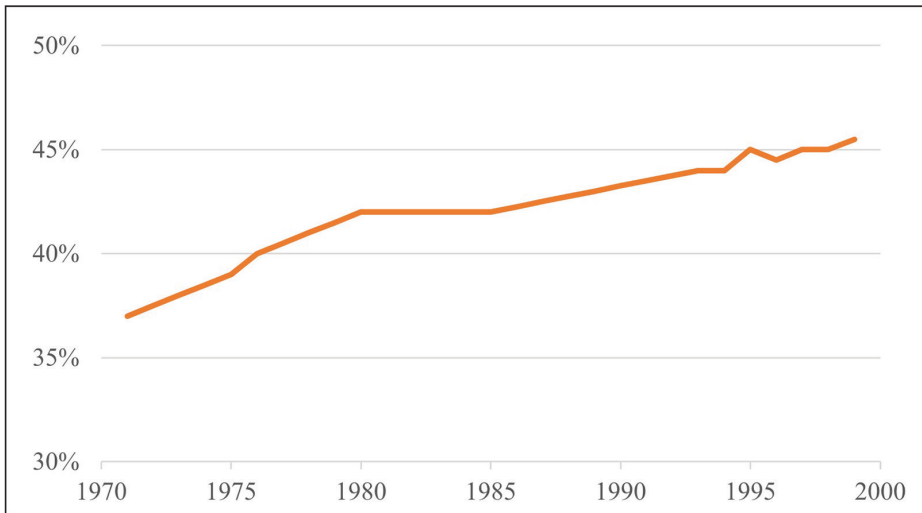
In this section, we first present and briefly explain the spatial and temporal patterns of leasing and zero leasing in Sweden based on statistical analysis. Then we seek to interpret the underlying drivers and mechanisms behind these patterns by applying our theoretical framework. In contrast to our previous study at the peri-urban fringe of Gothenburg (Wästfelt & Zhang, 2018), this study is based on statistics related to large regions. This means that we are not able to ask questions about

distance to urban centres as a factor affecting leasing and zero leasing. However, the broad differences between regions in the whole of Sweden can be taken into account. At the European and global geographical scales, our results well reflect the centre-periphery relationship in the agricultural globalisation nowadays.

Spatial and Temporal Patterns of Leased Land in Sweden

The proportion of leased land in Sweden quickly rose in the 1970s, and by the middle of the 1990s, it represented 45% of the arable land (Figure 2). The proportion was roughly stable after the 2000s but slightly declined to the national average level of 40% from the mid-2000s until now. This pattern matches well with the trend of the state-led restructuring of the agricultural sector which started from the 1970s and went on until the 1980s. After the liberalisation of agriculture in the 1990s, specialisations and restructuring including an increase of farm size continued. At this time the restructuring was driven by the global market competition as the special production subsidies had been lifted by a decision in the parliament in 1990. Former restrictions on owning and running farms by those without professional education were also lifted at this time. These changes meant that farming started to compete on the land market with other purposes of use, such as golf courses and horse farms. The restructuring also gave incentives for prosperous farmers to buy and enlarge their farms (Wästfelt, 2018).

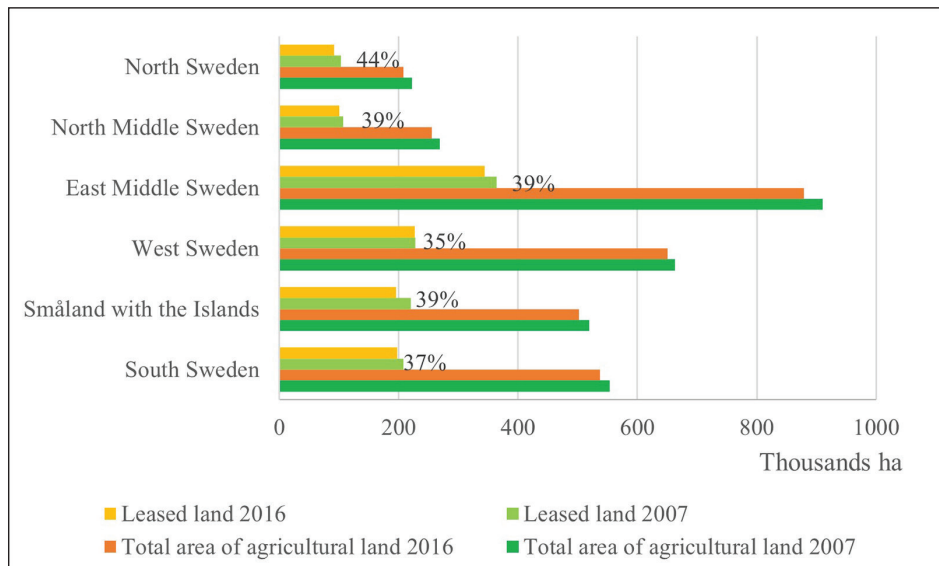
Figure 2: Proportion of arable land with a lease in Sweden, 1971-1999



Source: Jordbruksverket (2001), Diagram 3.1

A further look into the regional variation, as in Figure 3, shows us that leased land in North Sweden has had a significantly higher proportion of the agricultural land (44% in 2016) compared to West (35%) and South Sweden (37%).

Figure 3: The proportion of agricultural land with a lease by region, 2007, 2016

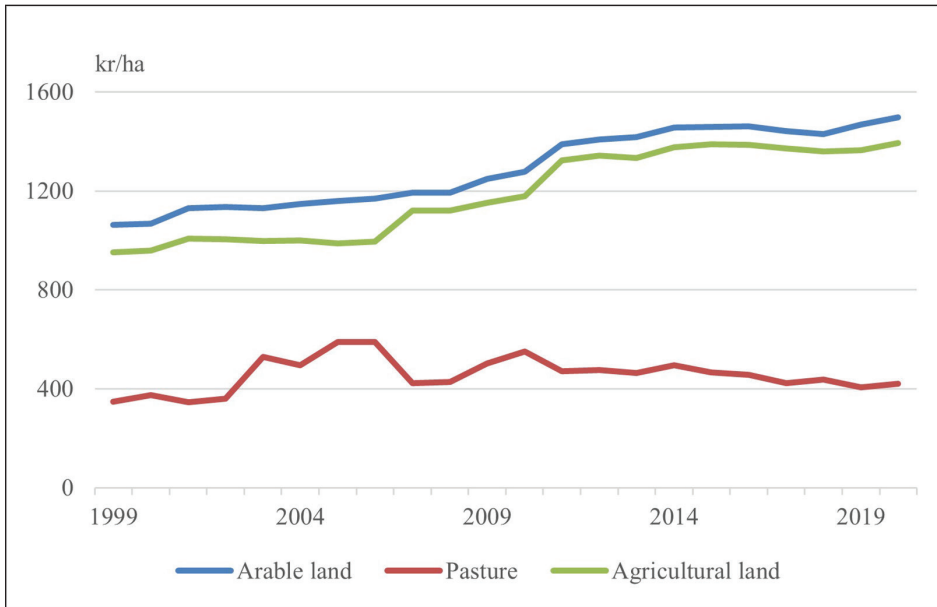


Source: Jordbruksverket (2008) and (2018)

The rents on arable land and pasture significantly differ (Figure 4). Nowadays, the rent on arable land is nearly 1,500 kr (150 Euros) per ha but only 400 kr on pasture. The rent increase over time has only been driven by that of arable land as the rent on pasture only increased in a few years in the 2000s. However, it should be noted that, during this period much former arable land also changed to pasture, which suggests an extensification process (Wästfelt & Eriksson 2017). Overall, this implies that rent increases have occurred on an increasingly concentrated group of arable lands.

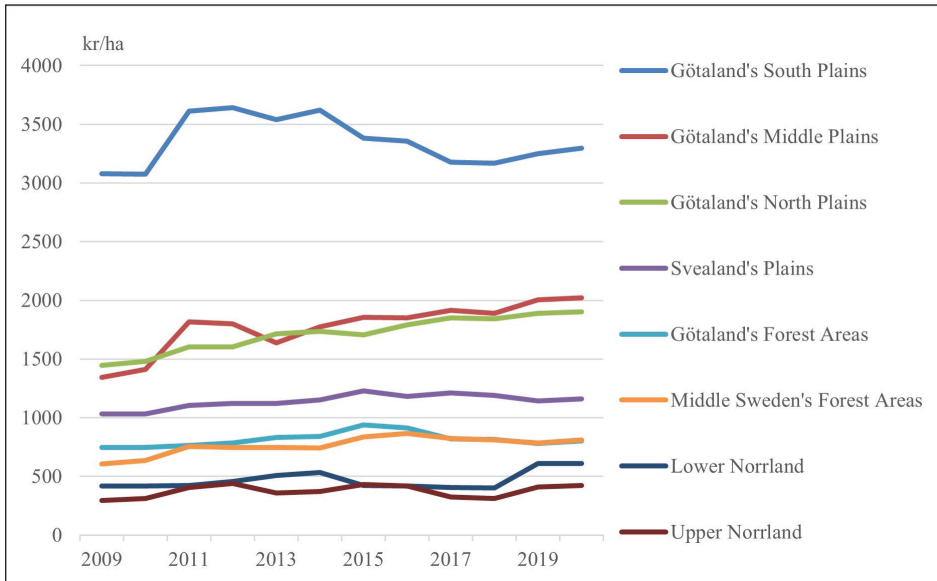
The high variation of rents between regions in Sweden is shown in Figure 5. The rents in 2020 vary between 400 and 3,300 kr nationwide, with large price differences between the south and north. This reflects the basic differences of climate and related growing conditions between the north and south. Although conditions for holding animals are good in the north, this requires higher costs for stable building and winter fodder production. Arable lands in the most southern parts are high yielding, with yields of 10 tons/ha and over. The landscape here is also easy to re-structure into optimal fields and farms.

Figure 4: Rents including zero lease lands on arable land, pasture, and agricultural land, national average, 1999-2020



Source: Jordbruksverkets statistikdatabas (2020)

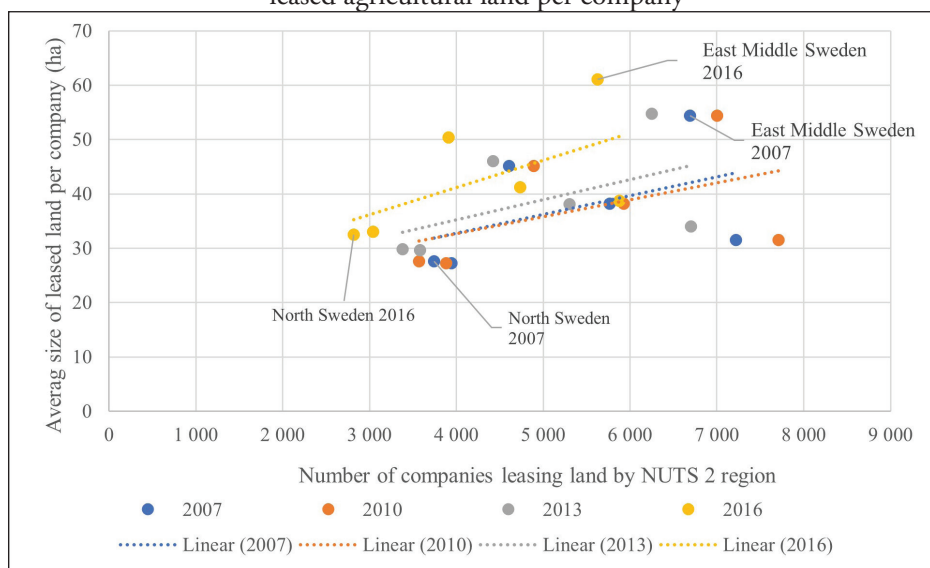
Figure 5: Rents excluding zero lease lands on agricultural land by production area, 2009-2020



Source: Jordbruksverkets statistikdatabas (2020)

Figure 6 shows that, over ten years from 2007 to 2016, the number of companies leasing land has decreased in all regions of Sweden while the average size of leased land per company has increased. For example, in North Sweden, the number of companies leasing land dropped from 3,743 to 2,821 while the size of leased land per company increased from 27.6 ha to 32.5 ha. In the region East Middle Sweden, where both the number of companies with leased land and the size of leased land per company are comparatively large, the number of companies also significantly decreased while the size of leased land per company increased from 2007 to 2016 over ten years.

Figure 6: Number of companies with leased agricultural land and average size of leased agricultural land per company

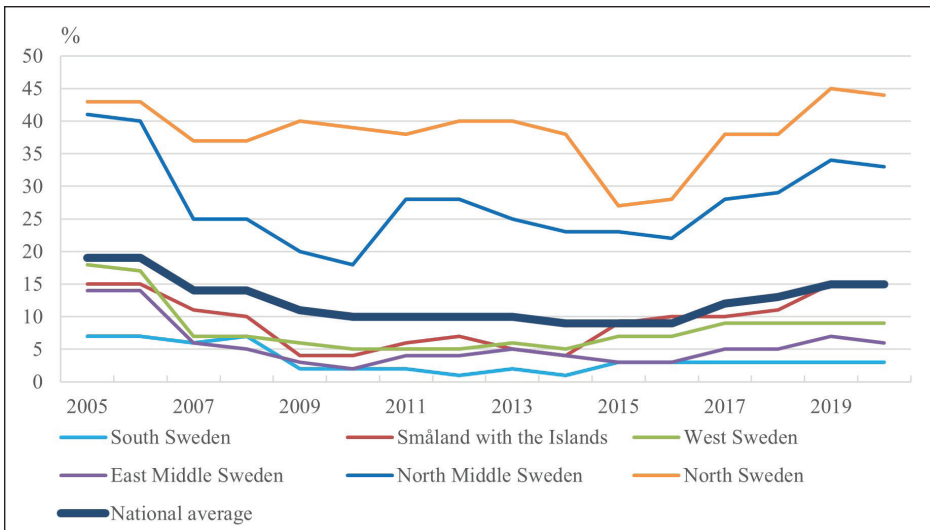


Source: Jordbruksverket (2008), (2010), (2014) and (2018)

The proportion of zero leasing at the national average level has had a slightly different pattern from the general proportion of leasing, with a U shape from the mid-1990s to 2020 (35% in 1994, 19% in 2005, 9% in 2014-2016, and 15% in 2019-2020). As figure 7 shows, the zero lease exists all over Sweden but the spatial difference is prominent; in North Sweden almost 80% of leased agricultural land per company had a zero lease in the mid-1990s and the figure is still above 40% nowadays, while in South Sweden the proportion has almost always been under 10% and in the last decade the maximum was 3%. Recently, after 2015, zero leases have been on the rise again after a significant decline, which was mainly driven by increases in the northern parts of Sweden. The processes behind the changing patterns could be that landowners sometimes have incentives to take lands back from

leases while structural adjustment towards fewer but larger farms continues. With the increase of farm size over time, farmers can work on larger areas of land with new machinery. This makes it possible and necessary to add zero lease land to the expanding farms.

Figure 7: Proportion of zero leasing in agricultural land leases by region, 2005-2020



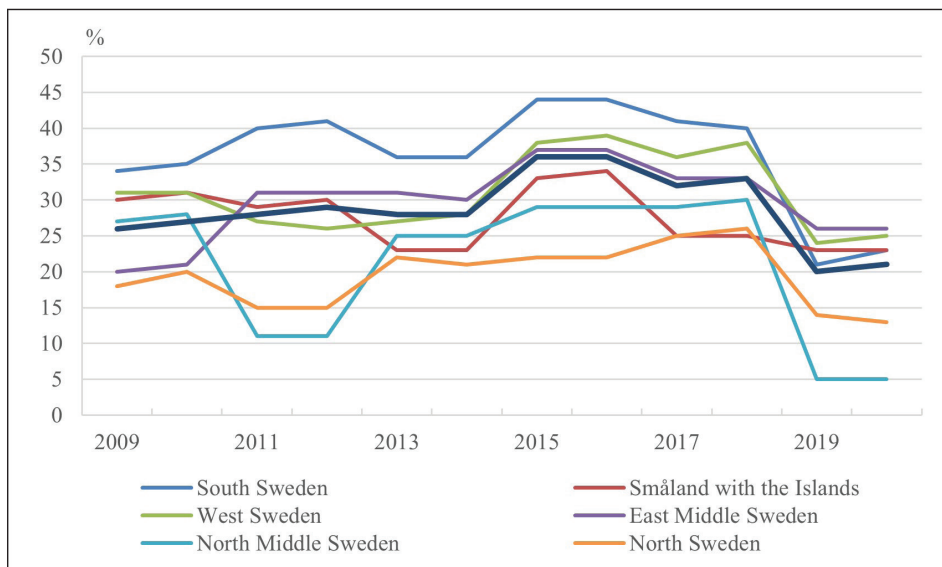
Data source: Jordbruksverkets statistikdatabas (2020)

The decrease and then increase in the proportion of zero leasing for agricultural land seem to be related to the role of the agricultural subsidy, as following the Fischler reform 2003 the subsidies became directed towards direct payment and no longer subsidising production (Wästfelt 2018). In the Swedish case, this might have resulted in an interest among landowners in taking back leased land in order to receive subsidies. As figure 8 shows, leased land which had a connection to agricultural subsidy increased and then decreased during the last decade. This may have been because when there was more use of the agricultural subsidy, the proportion of zero leasing was lower. This relation needs further investigation to understand the mechanism behind it.

Figure 9 shows that the zero lease is more dominant for certain field sizes, and this shows both temporal and spatial variations. Nationally, on average, although the zero lease is most common in the field size 0-9 ha, it declined over the 15 years from 2000 to 2014. In line with this, the zero lease has increased in the field size groups of 10-19 ha, 20-29 ha, and 30-39 ha. This trend of the zero lease for larger fields is more apparent in North Sweden where land is more abundant despite being less productive, and has appeared slightly in West Sweden where landscapes are

fragmented with much grazing of animals. Eastern Middle Sweden has a stable but low level of zero leasing as the flat landscape is easy to rationalise, and in the most productive cereal production region, South Sweden, only a small proportion of free-lease land exists in mid-sized fields.

Figure 8: Proportion of leased land with agricultural subsidy by region, 2009-2020



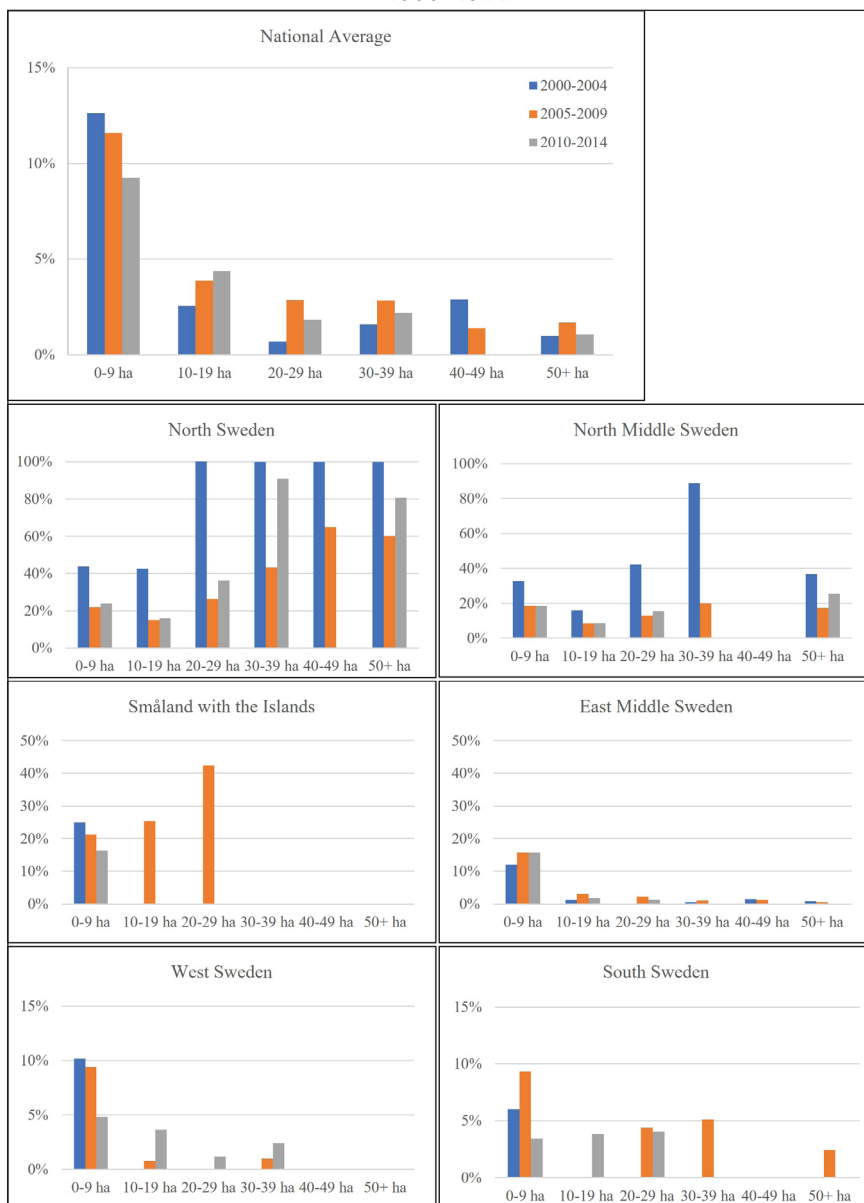
Source: Jordbruksverkets statistikdatabas (2020)

The sharp difference between northern and southern Sweden, where the north has a lot of zero leasing while the most southern part has little is closely related to the history of colonisation. The most northern part is the last colonised land, which was a state-driven frontier in the early 17th century along the coastline to the Baltic Sea. In the forested inland regions, new farms were established as late as in the early 20th century. In the north, nowadays farms are often inherited and used for permanent residence or as summer houses, where hunting rights often belong to family farms and are used by relatives in urban centres once a year. This is in contrast to the most southern parts where land has been cultivated over the last 4,000-6,000 years and the long-term use has improved the soils. Agriculture in this area is highly specialised and most farms are cereal producers without animals. By leasing land, farms can scale up and reach high labour productivity. Leases in this context thus represent a flexible solution to the need to increase farm size without capital fixation.

To summarise the results in this section, we have shown huge differences between northern and southern Sweden in terms of rents and the amount of zero leasing; rents differ greatly between arable and pasture; the zero lease is mostly related to

small fields but over time zero-leased land has a tendency to increase in size up to 40 hectares; and there is a clear correlation between the subsidy scheme and the amount of zero leasing, although we need more study to understand how this happens.

Figure 9: Proportion of zero leasing in parcels with lease by field size and region, 2000–2014



Source: Lease data from SBA

The Drivers and Mechanisms of the Zero Lease

Zero leasing of agricultural land shows a clear relationship to the size/scale of leased land. Small-scale farmlands more often have a zero lease than larger pieces of land. From a processual perspective, smaller areas are often added on to larger neighbouring farms while smaller parcels often become extensively used, where arable land is turned into pasture or used for fodder production. These processes follow the general trends in the transformation of Swedish farming that has been ongoing since 1990 (Wästfelt, 2021).

The zero lease can be interpreted as the last step in an extensification process where land is used less economically-efficient compared to how it was used historically. Extensification occurs at different paces on different types of land, as our results clearly show, rents decline from arable land to pastures and finally, to zero leasing for land with no monetary value. However, the existence of the zero lease all over the country indicates that there may be certain common drivers behind the ongoing processes, which needs further investigation.

From a value perspective, the zero lease can be interpreted as holding value as a form of insurance. It ensures future flexibility, as land can quickly be returned to productive arable land. Most often, the zero lease is on a few pieces of land that a farm owns instead of the whole farm. Looking back, the zero lease has preserved open land and prevented it from becoming overgrown where landesque capital has been put into land by former generations. From a future perspective, land can be used for production in the future. Landscape and environmental qualities are retained and socio-environmental values are preserved.

From our previous studies based on interviews with farmers (Wästfelt & Zhang, 2016, 2018; Wästfelt, 2021), we know that there are other logics besides pure economics which often steer decision-making about leasing and especially so for the zero lease. For landowners, the zero lease enables the preservation of cultivation possibilities in the future and the preservation of former created landesque capital by clearance of land. As no rent is paid, no capital can be accumulated by the landowner. The alternative cost for owners could be the potential loss of growth of forest (in southern Sweden 3-6 m³/year/ha). From the land user's perspective, labour is put into land without any security of long-term benefits from supporting land values, but yearly use values (e.g. grazing and fodder) are transferred from landowners to users without any cost. Finally, we conclude that zero lease fulfils a need of both landowners and users for temporal flexibility in a fast-changing agricultural society.

DISCUSSION

Land leasing has a long history and nowadays it has an increasingly important role in agricultural restructuring processes. The speeding up of structural adjustments after 1990 in Sweden has resulted in a falling number of farms and an in-

crease in the average size of leased land. These processes follow a general trend in specialisation and structural adjustment of larger farms, facilitating the seeking of potential rents (Clark & Possin, 2020). The lease has an important role to play in this process, making it possible to expand farm size without capital. The decrease in the zero lease from 2006-2010 and its revival from 2016 is counterintuitive. It may have to do with changes in the agricultural subsidy system. Many owners may have taken back land from a zero lease during this period as it became economically profitable to have land in their own hands to get subsidies. After 2016 the zero lease became more popular again and this has to do with the continuation of the structural adjustment. Many farmers retire and give up farming, and their farmlands are leased and added to neighbouring farms. Following this, larger areas of land are now often held on zero leases.

The location of a farm in Sweden, the northern European periphery, as well as its location in the neighbourhood together with the size of the land play a role in shaping the expansion of the zero lease. The size of land is especially significant in all areas of Sweden because if the land parcel is too small it is preferable to let it be used for free by others. This also has to do with the cost of using the land. If the land is located remotely and is small, the cost of using it would be too high. These farm geographies provide us with more detailed understanding of the 'differential form of rent' which was little discussed in previous rent studies. Family farm traditions on smaller farms hold back land to reach land markets, and favour leasing it out even on a zero lease. The preferred value is the value of having the land used and the possibility of future use, but not the value of the products possible to produce because it is too costly to use the land in relation to the revenue of the produce. A zero lease is a form of lease reflecting non-capitalist values. The tenant keeps extensive land but does not invest in it while the owner preserves the land as agricultural land without any cost. Sentimental values attached to land are included as well as landesque values, and possible unknown future values as well. If land parcels are large enough, they can become integrated into large intensive production farms. If land parcels are small they tend to become used either as pastures or extensively for fodder production.

CONCLUSIONS

In this paper, we focus on the zero lease and explore the drivers and mechanisms behind this non-capitalist phenomenon. One problem which we outlined in this paper is the generic lack of geographical theory development which would make it possible to explain the simultaneous processes of intensification and extensification. Farms can expand and intensify at the same time as farmlands in the same neighbourhood are abandoned or let to users on a zero lease. The drivers and mechanisms behind these processes as well as the spatial and temporal patterns of the zero lease

show a way forward where location, farm scale and local neighbourhood are taken seriously into account in the investigation of intensification and extensification of restructuring processes.

In this paper, we argue that

- The zero lease is a result of overall farm restructuring as well as changing family farm strategies (local restructuring forced by pressures from local to global markets).
- The zero lease can tentatively be interpreted as feedback on intensification at some places on the global scale, which may make the land not worth highly intensive production.
- The zero lease is also an indirect result of new technical capacity enhancement and an attempt to increase labour productivity on large, modern, intensified farms. This effect takes place in remote and small-scale farms which are outcompeted because they do not fit into the dominant modern farming models.

Agricultural land is spatially fixed. The local spatial context (the scale of fields and location of fields) has a clear effect on changing processes, making land become zero-leased land. The finite nature of land as a resource does not mean that agricultural land cannot become useless and extensified and finally abandoned. This is because intensification also tends to produce related extensification in other geographical places. In this paper we see simultaneous processes in Sweden but as we know they are also linked to global processes. Current global market competition favours labour-efficient and capital-intensive solutions. Adaptation to new technologies means farm scale increases, following which the functional farm model is changed, and in turn small fields in distant locations are excluded from being farmed.

Nowadays, there is increasing consensus that the current capitalist mode of growth and accumulation is not sustainable in the long-term, either for ensuring necessary food security or for climate change adaptation. There is a debate on whether alternative approaches beyond the current mode are on the horizon. FAO has recently changed its policy orientation to promote small-scale farming rather than industrialised enterprises (FAO & IFAD, 2019). Agrarian debates suggest an agenda for 'agrarian degrowth' (Gerber, 2020) and partly contribute to thinking beyond land grabbing (Oliveira et al. 2021). However, recent research also argues that concepts such as degrowth are not enough to give concrete ideas on alternative ways (Kallis et al., 2018). Further theoretical development needs to amalgamate political economy, agricultural economics, farm geography and environmental welfare politics for the development of a congruent theory which can explain how farm geographies change with the effect of multiscalar drivers coming with global integration. This paper presents a first step in this direction of development.

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