

Review

The Case for Long-Term Land Leasing: A Review of the Empirical Literature

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Abstract: Land, as a factor of production, has a vital role within the agricultural sector compared with other sectors. However, in recent years, land mobility has become a significant issue around the world with increased concentration and competition for land ownership, limiting the overall competitiveness of the agri-food sector and constraining the potential opportunities for new entrant farmers to access land. While land leasing is increasingly being embraced as a common form of land tenure serving as an alternative to the purchase of land for agriculture, the length of lease has been shown to have a significant impact on land productivity and sustainability. In this study, we provide a comprehensive and systematic review exploring the benefits of longer-term land leasing with a particular focus on developed countries and some selected developing countries in the context of commercial farming with more formal arrangements. Specifically, we highlight the barriers to long-term land leasing and identify potential incentives that might be adopted to encourage long-term land leasing for both landowners and farmers who seek to rent land.

Keywords: land leasing; agricultural policy; land use; tenure security



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1. Introduction

Land, as a factor of production, has a vital role within the agricultural sector compared with other sectors [1,2]. Efficiently operating agricultural land markets are critical in determining efficient production systems and structures and in their contribution to wider sustainable development at a societal level [3–6]. Agricultural land markets supported by policies that guarantee tenure arrangements for farmers have been shown to contribute to the productive utilisation of land as a resource by facilitating the transfer of land from less productive producers to more productive producers [7–11]. In recent years, land mobility has become a significant issue around the world with increased concentration and competition for land ownership [12], limiting the overall competitiveness of the agri-food sector and constraining the potential opportunities for new entrant farmers to access land [13–15].

Generally, land can be accessed either by permanent or temporary transfer [16] and the distinguishing factor in the transfer of land is the power of control over the bundle of property rights [17]. Property rights determine the social relationship between actors in relation to a valuable property object, in this case agricultural land [18,19]. The permanent transfer of land through purchase, sale or inheritance/gift confers ownership of the land to the particular physical person/legal entity who then expresses the fullest bundle of property rights [20]. In this context, when the transfer of land is temporary, mainly through leasing, this represents a partial bundle of property rights [20].

The transfer of land through sale is usually very limited due to high transaction costs, credit market imperfections and can also involve complex legal requirements and family issues. [9,21]. For example, less than 2% of utilisable agricultural area (UAA) is typically being sold every year in European Union (EU) member states [16,22]. The value is even lower in the United States of America, where it is estimated that only about 0.5%

of farmland is sold annually [23]. Hence, permanent transfer of land is achieved through inheritance/gift. However, this usually results in the ownership of land being concentrated in the hands of very few people excluding those who may have an interest in farming but do not have access to such opportunities [16].

Land leasing, as an alternative to the purchase of agricultural land, is increasingly being embraced as a mechanism for securing tenure of land. A major contributing factor to this trend is the high purchase price of agricultural land due to an overall lack of land coming on to the market for sale each year [1,5,9,24].

In this study, we provide a comprehensive and systematic review of the justification for long-term land leasing. We also highlight the challenges to long-term land leasing and identify potential incentives that might be adopted to encourage long-term land leasing for both landowners and farmers who seek to rent land. An understanding of the benefits that long-term land leasing provides has the potential to improve the efficiency of the agri-food supply chain and enhance sustainable agricultural production. This study will provide an evidence base to inform the development of policies targeted at incentivising farmers and landowners to adopt long-term land leasing, thereby delivering a more efficient land market alongside providing greater financial security to landowners. In addition, the results of this study will be useful in the design of policies to support future land leasing schemes which can provide improved equilibrium between land owned and land leased over a longer period of time. It also has the potential to facilitate structural change, as improved stability in the land market in the long term can allow for better strategic decision making at farm level.

It is important to emphasize that the focus of this paper is mainly to provide justification for long-term land leasing by reviewing its benefits and challenges across different countries with a particular focus on developed countries and some selected developing countries in the context of commercial farming with more formal arrangements. It does not attempt to provide detailed analysis of land use and associated policies or traditions/norms around land tenure in distinct countries. This is because land markets and land use policies are quite diverse across different countries and can even vary within a single country [25].

The rest of the paper is organised as follows: In Section 2, we explain the concept of land leasing and the theoretical background. A detailed description of our search strategy is presented in Section 3. In Section 4, we highlight the need for long-term land leasing, while in Section 5 we identify the challenges to the adoption of long-term land leasing. We point out the ways to facilitate the adoption of long-term land leasing in Section 6 and conclude in Section 7 by presenting an overview of the study outcomes alongside highlighting some suggested areas for future research.

2. The Concept of Land Leasing and Theoretical Background

A lease by definition is the transfer of possession and use of a physical asset for a time less than its expected useful life in return for economic consideration [26]. From an economic perspective, the terms lease and rent have many similar features, including having a duration less than the useful life of the asset and transferring the residual rights associated with the asset to the renter. However, technically they are quite different; rental refers to the short-term rights to use assets and is not regarded as transferring possession of the asset to the renter, but instead conveys only a temporary license [26]. Leasing is an instrument of investment finance through which the legal ownership of the good is dissociated from its economic ownership [27]. Lease performs an essential economic function of allowing a person or legal entity to acquire an asset at lower cost than what they would have to pay to own the asset [26].

A rural lease according to de Almeida and Buainain [28] is “an agrarian contract by which a person (lessor) is bound to allow another (lessee), for a fixed or undetermined period of time, the use of land or rural property, part or parts thereof, including or excluding other goods, improvements made and/or facilities, in order to exercise farming, cattle raising, agro-industrial, extractive or a combination of activities, via compensation or rent,

subject to the percentage limits permitted by the law". The lessor takes back possession of the land or rural property after the lease expires while the lessee is entitled to use the land or rural property free of interference from the lessor during the lease provided the lessee pays the rent and performs the other obligations of the lease [26].

Specifically, in the case of land, the lease agreement, which may be written or oral, transfers parts of the bundle of property rights from the landowner to the tenant in exchange for either a fixed rental payment every period (a fixed rent contract) or a predetermined share of the output (share-cropping contract) [2,5,17,22,29]. Land leasing contracts are regulated by a lease agreement which sets out the obligations of the parties involved during the period of the lease and so provides useful legal protection to everyone concerned [1,18,19]. The legally required elements are usually minimal which allows the parties greater flexibility in structuring the other aspects of their relationship using specific lease provisions tailored to their individual needs and circumstances [26]. The leasing is undertaken under a different set of conditions and level of protection for the lessee with different combinations of three groups of rights—user rights, occupancy rights, and owner rights [20,30].

Land leasing is an important tool for economic development and its growing use can be explained by its effects on generating liquidity, releasing equity capital and improving accounting ratios [26,27]. From a rural development point of view, land leasing performs social functions by enabling people who do not own land or possess only limited capital and income to access it, thereby providing conditions for entrepreneurship in the field of agriculture [5]. For the lessee, the leasing of land serves as a medium to obtain income from farming without having to commit a lot of money to the purchase of land. Whereas, for the lessor, land lease serves as a great opportunity to obtain incomes without cultivating the land [31].

Land leasing also functions to minimise the risk of owning land, by transferring the residual rights from the owner to the lessee for the duration of the lease, allowing the lessee to try out the use of the land without having to purchase the land with debt financing [9,26,30,32]. With this, both the lessor and the lessee bear less risk than if they held the land alone. Reducing risk is a benefit, for which the party who achieves the greatest reduction in risk will have to compensate the other. Leases provide a ready mechanism to do this through adjustments in rent [26].

Leasing land also comes with greater managerial flexibility, while meeting environmental restrictions, off-farm work obligations and can accommodate different forms of contracts. The flexibility allows it to serve as an important means of developing the required economies of scale for modern agriculture [33]. For example, a study by [9] among dairy farmers in Ireland showed that those farmers who rent land have higher outputs and are more profitable compared to those farmers who do not rent land. Serra et al. [34] also showed that farmers with a higher proportion of rented land are more productive, are more prone to invest in machinery and use more variable inputs than farmers who only farmed their owned land. Similarly, [30] also found that farms in Sweden with more leased land produced food more intensively compared to farms with a greater portion of owned land. In these studies, it is argued that the direct costs incurred in the form of land rentals creates stronger incentives for the farmers who rent land to work on the land more intensively, relative to the opportunity costs borne by owned fields. Similar conclusions were also reached by [35].

The choice of contract duration is an important component of contract design in agricultural land leases. According to [36], long-term land leases are chosen when the costs of transferring tenant assets attached to the land are high, or if the depreciation of assets beyond the contract period are difficult to assess and therefore difficult to price for transfer to the landowner. On the other hand, short-term contracts reduce the costs of enforcing contract stipulations and the costs of renegotiation or tenant dismissal in the face of market uncertainties, poor tenant performance, or disputes over poorly defined rights to assets. When the tenant's land-specific assets are exhausted within the contract period or if the landowner provides the land-specific permanent assets, then short-term contracts become

more viable [36,37]. However, it is often not the case that land-specific assets are exhausted within the contract period in modern agricultural production systems, particularly in developed countries where agricultural production requires the use of cutting-edge capital equipment and land management techniques to ensure increased productivity and the sustainable management of land. Fixed inputs used in agricultural production are provided directly by either the landowner or tenant and are often not readily shared. The extent to which the tenant or landowner becomes the residual claimant of the input productivity depends on the length of the lease term [37], in particular, if the productive life of the inputs extends beyond the contract period and if the post-contract transfer of asset rights is difficult [37].

The incentives of tenants to provide durable site-specific inputs are weakest for short-term contracts and stronger for longer contracts because the variable for investment incentives is the expectation of being able to appropriate future returns [37,38]. For instance, maintaining soil fertility to increase production requires investment in land management in the form of applying appropriate levels of fertilizer, but the effect of such an investment goes beyond the period in which the investment is undertaken. Tenants will choose the optimal level of investment if they anticipate that they will benefit from increased productivity in the future. Incentives to invest in land improvement can be provided by establishing contracts that are long enough to allow tenants to benefit from future potential productivity gains [38].

3. Materials and Methods

This study systematically collates and appraises key policy documents and academic papers to identify the barriers to long-term land leasing and explore the mechanisms to support and encourage long-term land leasing. The search strategy follows that employed by [39–41]. The review was undertaken in five stages: (1) formulation of the research question, (2) design of the search protocol, (3) literature search, (4) screening of collected literature and (5) analysis and interpretation of the literature.

We develop a search query using a set of keywords to formulate the following:

- Land leasing;
- Land tenure security;
- Land leasing policies;
- Incentives for land leasing;
- Justification for long-term land leasing;
- Encouraging long-term land leasing;
- Barriers to long-term land leasing;
- Land leasing and agricultural productivity;
- Challenges to long-term land leasing.

A comprehensive and extensive search of the scholarly research articles was carried out using three databases—Scopus, Web of Science and Google scholar. In addition, we also utilised available resources in the World Wide Web and Google and also manually searched for papers that were cited in key publications and journals reviewed. All the papers retrieved from the searches were first uploaded to EndNote software [42] to manage references and remove duplicates. Two levels of screening (title-abstract-keyword and then full text screening) were conducted. There was no search restriction imposed on geographic location or date of publication outside those built into the databases themselves. We transferred all the papers retrieved from the EndNote library to the Nvivo software for qualitative analysis [43]. A thematic and open coding (categorisation of text based on known and emergent themes) of the texts to identify relevant issues and linkages in the literature was then conducted in Nvivo [44]. The use of the Nvivo 12 software facilitated a critical review, analysis and synthesis of the literature by simplifying the process of drawing the possible relationships/linkages among different themes (codes).

We explored 2477 studies retrieved from the databases and eventually considered 83 papers, which included 72 journal articles, 1 thesis, 1 book, 1 conference paper and

8 reports for the qualitative analysis. Papers are excluded if they do not contain any information relating to land leasing after reading the abstracts in the first screening process. For the second screening, which involved full text review, papers were excluded if they did not provide any information relating to land leasing in the form of definition, challenges, justification, types or policies. The flow chart for the quantitative search and screening is presented in Figure 1.

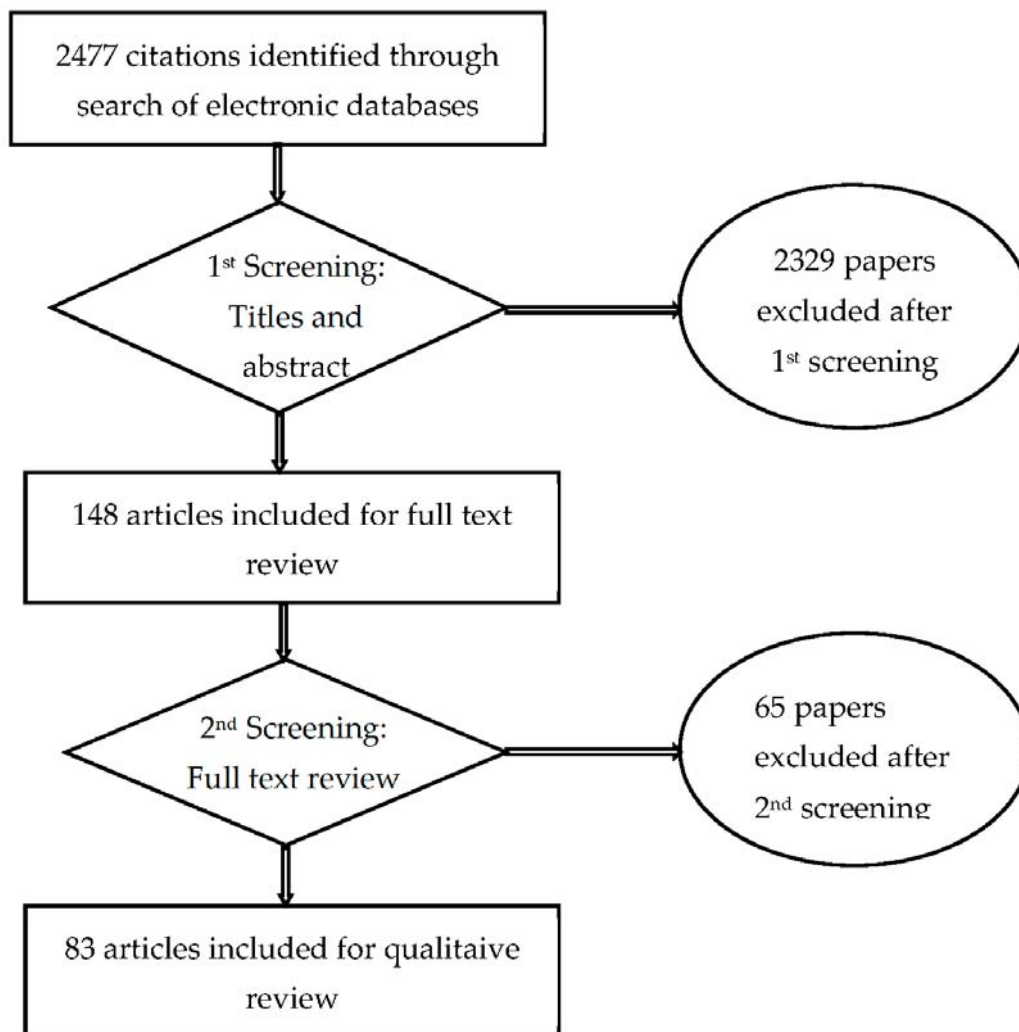


Figure 1. Flow chart for quantitative search and screening.

The distribution of reviewed studies included in the analysis, by year of publication, is presented in Figure 2, and the list of reviewed papers is provided in Appendix A. The majority of the reviewed papers relate to land leasing in developed economies. Where developing countries are mentioned, this is mostly in the context of commercial farming under more formal arrangements. This may be linked to the fact that long-term land leasing is a function of the level of development of land markets, which are more advanced in modern (developed) economies compared to more agrarian-based economies where customary or other community-based land tenure systems dominate (and where indeed land leasing is a much more complicated and contested issue). This is evidenced in the study by [45] in which they found that more technologically advanced societies have a more functional land market compared to those of less developed countries.

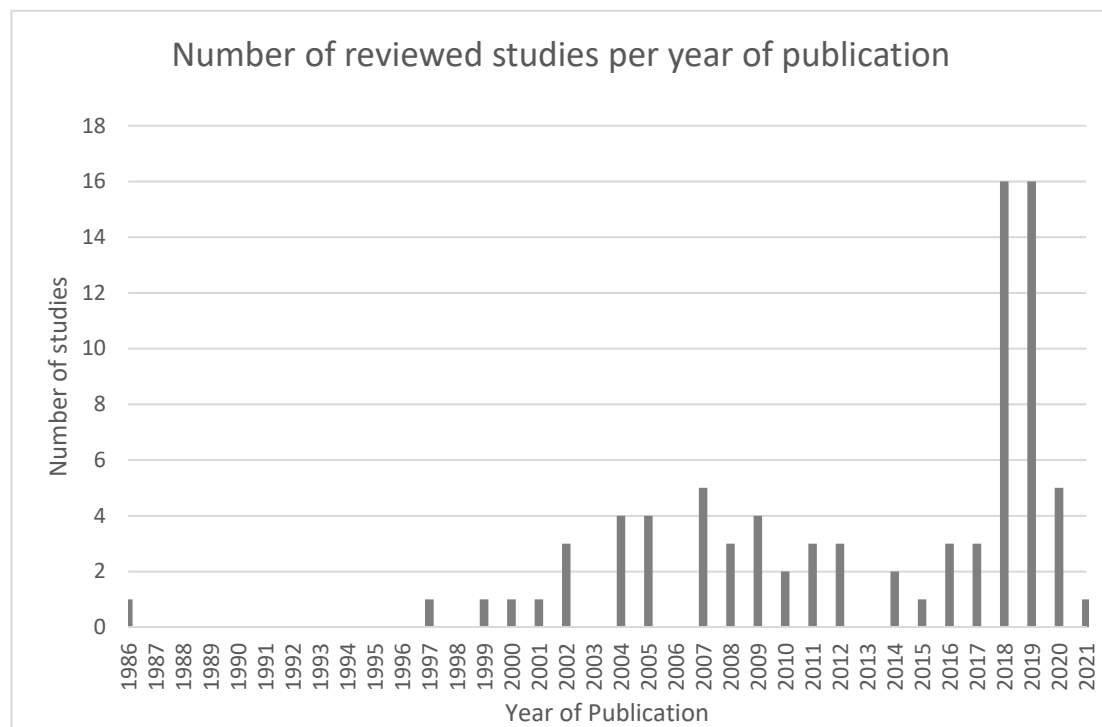


Figure 2. Distribution of reviewed studies included in analysis, by year of publication (total n = 83).

4. The Case for Long-Term Land Leasing

The duration of land rental contracts has a significant impact on the abilities of farmers to respond to changes in the external environment, including economic and production conditions. This is because farmers are often required to make long-term strategic decisions around land and other resource use, type of enterprise and capital investment towards farm expansion [30]. Short-term letting agreements are considered a barrier to these objectives [46]. Generally, countries with well-developed agricultural systems and strict rental market regulations, such as France and Belgium, tend to have a higher rate of agricultural land under lease [1,2,22,47]. Table 1 gives a summary of the proportion of utilisable agricultural area (UAA) under lease in some selected countries.

Table 1. Characteristics of farmland structure in some selected countries.

Countries	Average UAA/Farm (ha)	Owned UAA, % of Total UAA	Leased UAA, % of Total UAA	Share-Cropping, % of Leased UAA
France	58.7	38.3	61.7	1.5
Germany	58.6	38.7	61.4	2.6
United Kingdom	81.41	69.4	30.6	-
Netherlands	27.4	58.8	41.2	34.2
Belgium	34.6	32.9	67.1	1.6
Italy	12.0	64.9	35.1	16.0
Spain	24.1	61.0	39.0	18.5
USA	216	60.0	38.0	34.8
Northern Ireland ¹	41.2	72.2	27.8 ²	-

Sources: Léger-Bosch, Houdart, Loudiyi and Le Bel [47]; ¹ DAERA [48]; ² Land is taken under the conacre system of short-term lettings.

Land leasing can either be short-term, usually less than five years, or long term when the contract spans over five years and the farmer has the ability to access or use the land over a longer time frame. Long-term land leasing has been identified as important for the efficiency of the farmland lease market, with numerous advantages both to the lessee and the lessor compared to short-term land leasing [49]. While a lot of work is being done

to encourage long-term land leasing, short-term land leasing is still very popular. The conacre system which is a short-term land rental system unique to Northern Ireland and the Republic of Ireland is a good example of such [50]. The system (nominally for 11 months or 364 days) permits land to be let to other farmers without the need for either party to enter a long-term commitment. Currently around one third (about 300,000 hectares) of agricultural land in Northern Ireland is being farmed under the conacre agreements. While short-term land leasing contracts might be flexible in relation to contract renewal and adjustment to external changes, such contracts lack long-term security to allow farmers to invest in land development and long-term planning [22,51]. In the following subsections, we explain the justification of long-term land leasing on a point-by-point basis.

4.1. Farm Productivity and Profitability

Farmland tenure security has a significant impact on the utilisation of land. Indeed, land tenure and secure rights in particular have an impact on a farm's profitability by reducing transaction costs relating to land rental renegotiation and through their effect on investment and access to credit. Moreover, by facilitating the reallocation of factors of production, effective land tenure mechanisms maximise allocative efficiency in resource use, allowing for economic diversification and growth [2,52]. For example, a study by Kumari and Nakano [53] in Fiji compared tenure security between three tenure types and found out that that lease tenure insecurity had a significant negative impact on farm productivity and investment. They found from their study that cane farmers with short-term leases (0–5 years) achieve lower productivity levels, 6.5–11 tonnes per hectare, and made less investment in newly planted cane, 0.14–0.25 hectares, compared to farmers on long-term lease and freehold. In a study by Geoghegan and O'Donoghue [16] in Republic of Ireland, they estimated that tillage farmers could potentially earn higher income from leasing out land on a long-term basis, earning 37% less from farming as opposed to leasing out their land and entitlements. They highlighted that if cattle finishers opted not to actively farm and leased out their land and entitlements over a seven-year term, they would earn 44% more from leasing out compared to what they earned if actively farming. Marks-Bielska [1] found that the efficiency of leased land in Poland is comparable to the efficiency of owned land when stable long-term agreements are in place while Akram, Akram, Hongshu, Andleeb, Kashif and Mehmood [10] also found that crop yield in owner-cultivated and long-term contracts is significantly higher compared to yield in share contracts lands.

4.2. Farm Investment

The level of security, often linked to the temporality of lease, affects farmers' long-term perspective of planning production and investment in land [30,54,55]. With long-term land leasing, farmers are able to enter a long-term contract without losing the incentive to make long-term investment [11,56,57]. Generally, investment is usually associated with certainty. Long-term land leasing gives more certainty to the farm business and the scale of farming operations. It offers greater security in land and provides farmers with greater confidence and incentives to invest in land improvement initiatives such as roadways, fencing, reseeded, reclamation, water management and investing in precision agriculture equipment which might improve the long-term fertility and productivity of the land [58]. With secure leasing arrangements, farmers are emboldened to invest in soil and productivity improvements due to them being guaranteed that they can hold the land for a longer time to gain investment returns [10]. For example, Deininger and Jin [59] used a large data set from Ethiopia that differentiates tenure security and transferability to explore determinants of different types of land-related investment and its possible impact on productivity. They found that stronger transfer rights have a positive effect on terracing investment in which it is found to have a significant impact on productivity.

4.3. Farm Level Sustainability and Land Management

Lease terms—including lease length and type—have been identified as a barrier to the adoption of sustainable land management practices and the uptake of agri-environmental schemes [20,58,60]. Sustainable techniques of production, including conservation practices and organic methods, require long-term investments in management and sometimes equipment [61]. Long-term improvements such as drainage tiles, grassed waterways, contour farming and forage rotation crops are not feasible under the short-term leases and this is often an important consideration in farmers' decision to adopt conservation practices [62,63]. Ayamga et al. [64] analysed household farm investment decisions under varying land tenure arrangements in Ghana. They found from their analysis that duration of tenure security positively influenced households' decision to invest in soil improvement and conservation measures. This is linked to the fact that conservation practices are often considered as capital improvements with immediate costs but in which benefits accrue over the long-term. Greater security on the land through long-term leasing gives farmers more confidence to invest in soil and fertility management. This is evidenced in the study by [16] in which they found that land rented over a short rental period (conacre system) in Republic of Ireland often tends to be of poorer quality compared to farms under long-term lease or owner occupied. Also, a study by [65] in which they examined the impacts of participation in off-farm work and land tenancy contracts on the intensity of investment in soil-improving measures and farm productivity in the Punjab province of Pakistan showed that tenure security increases the intensity of investment in long-term soil-improving measures and exerts significant and positive effects on farm productivity. Similarly, a study by [10] has shown that secured land tenure has a positive impact on soil conservation adoption in India. A study by [66] in China on the effect of land transfer quality on the application of organic fertiliser by large-scale farmers showed that the stability of transferred land management rights measured in terms of the "land lease term" has a significant effect on the application of organic fertiliser to land. Specifically, they found that an increase in lease term by one year increased the probability of organic fertiliser application by 2.3% and the intensity of application by 1.45 %. They also found that a break in the land transfer contract during the lease term decreased the probability of applying organic fertiliser by 12.89 %, and the intensity of application by 9.31 %. A study by [38] has also shown that the duration of land leasing contracts is strongly correlated with tree cultivation. In their analysis, they found that increasing the duration of a land leasing contract from one year to more than three years increased the probability of cultivating trees by 80 per cent. This supports the notion that when farmers are not certain of recouping their investment in land improvement they are more likely to adopt management strategies that maximise short-term benefits even if this gradually diminishes the sustainability of soil fertility, thus contributing to negative externalities and possibly leading to market failure [10,60,67].

4.4. Facilitate Structural Change and Encourage New Entrants to Farming

A key driver for improving productivity performance in agriculture is having people with the skills and entrepreneurial drive to implement new ideas in the sector. Access to land in the long term is becoming more difficult for younger and/or new entrant farmers wanting to set up a farming business. This adds to an increasingly aging farming population and limits opportunities for younger farmers and new entrants to get into the industry, who can bring new skills, ideas and innovation into the sector. Long-term land leasing has the potential to facilitate structural change and encourage a younger generation of farmers, with the requisite skills and knowledge, to take up farming and adopt modern technologies and best farming practices to stay competitive [9]. Longer-term tenancy agreements could provide a more secure opportunity for younger and/or new entrants to the farming business to gain knowledge and experience without the fear of losing their investment in the land which can happen in the case of short-term land leasing contracts [68,69]. Given the relatively high cost of purchasing land, long-term land leasing

also serves as a viable alternative by allowing young farmers and new entrants to gain access to land by providing a cheaper means of long-term access to land.

4.5. Access to Credit

Access to credit is a significant part of the agricultural production system. In some countries, depending on the regulation, long-term land leasing has the potential to facilitate the use of land as collateral to access credit markets [1,8,70]. This is because most financial institutions provide credit only when they are confident that there is enough time for repayment and this is not normally possible with short-term land leasing [71]. In a study by [10] in which they investigated the impact of three land tenure arrangements on organic farming (OF) in Punjab, India, they provide empirical support for the assumption that farmers with secured land rights including long-term leasing are more productive compared to those with insecure lease agreements because they have greater access to credits by using land as a collateral. Research by [22] in Saxony, Germany, has also linked long-term land contracts to investment credits by maintaining that farmers with long land rental contracts have greater access to credits.

4.6. Easy Retirement Decision

Finding a suitable successor is increasingly becoming a big challenge for farmers who are planning to retire due to a number of social and economic reasons. For example, 40 per cent of farmers over the age of 60 in the UK have no prospective successor [22]. Similarly, about half of farmers in Republic of Ireland have no identified successor and two thirds of those indicated that they did not intend to fully retire from active farming in the future due to their strong social and moral connections to the land and local community [22,46]. Research has shown that where no successor can be designated, or the successor is not ready to take over the farm, farmers tend to continue to gradually wind down their business rather than selling up or leasing the land out to younger farmers outside the family a phenomenon termed the ‘retirement effect’ [22]. Long-term land leasing offers landowners, who may want to retire from farming, the opportunity to earn stable and long-term income from their land while ensuring the maintenance of the land, machinery and associated farm buildings without any fear of disruption in their income stream [22,72]. Long-term land leasing also ensures ownership of the land is retained should a successor require it in the future. Thus, the landowner also benefits from the opportunity to contribute to the development of the society by making land available to be farmed by a new tenant and at the same time significantly reducing the cost of capital investments that would have been borne by the new entrant [15].

5. Challenges to Long-Term Land Leasing

5.1. The Desire to Keep Land in the Family Name

An important challenge to the development of long-term land leasing is the desire of landowners to keep land in the family name [22]. Historically, family farm businesses not only serve an economic function but also have social and cultural functions from which individuals derive a sense of commitment and belonging to family history and the non-financial (lifestyle) benefits that they derive from farming and owning land [22]. Generally, farmers identify themselves strongly with their farmland and its sense of place, across both space and time, which can make it difficult for them to consider disengaging from active farming and engaging in longer-term land leasing [46]. There is always the desire to continue the family tradition in farming, with a sense of duty to be custodians of the land and a desire to keep the farm operational for future generations [46,72]. Farming on owned land rather than leasing the land has been described as providing the farmer with identity, occupation, control, and status in the community as well as social and cultural capital. As a consequence farming households can find it difficult to make their land available for long-term leasing as it might be associated with a loss of these intrinsic values [46]. “Indeed, studies of farmland market transactions reveal that sales of farmland often only

come about through death or retirement rather than a result of affordability levels” [23]. This has been identified as one of the main reasons for the continued use of short-term land leasing (conacre) in the Republic of Ireland, particularly within small local rural communities despite generous tax incentives to encourage the adoption of long-term land leasing [16]. Landowners find it difficult to disengage from the farm and will as a result prefer to let out their land on a short term basis. Moreover, they may have concerns that a long-term tenant might establish some legal claim to the occupancy of their land [51]. The study by [46] specifically found that the attachment to the land, the high value that is put on the family tradition of farm ownership and the attachment to the farm work itself have an influence on the transfer of land either through sale, long-term leasing or partnership.

5.2. The Fear of Sudden Change in Policy

Policies play a key role in the development of the farmland lease market. Uncertainty around future changes in policy is an important factor that constrains the adoption of long-term land leasing, especially in the EU, normally as a result of the link between the use of the land and the EU subsidy payments [9]. In situations when subsidies accrue to the active farmer who uses the land rather than the landowner, farmland owners, as much as they can, want to maintain control over the land to ensure flexibility. Therefore, they will be reluctant to lease out the land on a long-term basis as a subsidy policy change within the term of the lease may deprive them of future subsidy payments. This was the case in 2013, following the re-negotiation of the Common Agricultural Policy (CAP), in which farmers who had leased out all their land were not considered to be ‘active’ farmers and were therefore not eligible for new entitlements under the new subsidy system [16]. “Although rental income may surpass farm income (including subsidies), the guaranteed nature of subsidy payments (subject to meeting minimum guidelines) means that farmers may be cautious in making decisions that could put their future subsidy income at risk” [16]. Sudden change in policy has also been identified as a reason for the unwillingness of landlords to commit to long-term land leasing in Nicaragua. According to [38], in the 1981 land reform in Nicaragua following the Sandinista revolution, large landholdings not managed by their owners were expropriated and redistributed to former tenants and landless peasants. As a result of this experience, landlords were concerned that this type of reform would be repeated and hence preferred not to make long-term commitments to avoid situations where tenants might be difficult to evict.

5.3. Transaction Costs and Bureaucracy

The process of leasing land for the long term often involves strict legal contract enforcement which might be costly and involve lengthy bureaucratic procedures in some countries. The process might include incurring administrative costs, costs associated with the use of authorised experts and in some countries, such as Germany, both parties need to have a legal adviser, which is also costly [22]. In such an environment, the use of seasonal and informal contracts for a short term may be considered preferable both to the potential lessor and the lessee.

5.4. Lack of Awareness of Government Policies

Lack of awareness of government policies such as tax and subsidy incentives aimed at encouraging long-term land leasing is another factor inhibiting the adoption of long-term land leasing by farmers. This may be as a result of inadequate knowledge or understanding of the policies by either potential renting in or renting out farmers [9]. Most of the time, farmers do not have access to adequate information that they need to make decisions regarding the use and management of their land [73]. This can create uncertainty and a reluctance on the part of those farmers who have land to let out, engaging in anything beyond short-term leasing. For example, a study by [74] in Republic of Ireland identified a lack of awareness around government policies in relation to tax incentives as one of the reasons for the continued adoption of the short-term land leasing system (conacre) despite

generous tax incentives being available. This points to the need for effective extension programmes to provide an avenue for better communication of relevant government policies in order to bring about improved diffusion and adoption of long-term land leasing [73,75].

6. How to Encourage Long-Term Land Leasing

6.1. Legislation

The development of effective land rental policies and legislation is sometimes required to guide the land market and support long-term land leasing [22,76]. For example, in Slovakia, farmers are required to rent land for at least five years to be able to access European CAP funds, thus providing an incentive for farmers to sign contracts with a longer duration of up to ten years [70]. In Belgium, policies enacted to protect tenant farmers and promote long-term land leasing include: pre-emption rights, automatic renewal of the lease for the tenant farmer, a minimum term of agreement of 9 years which can extend up to 18 years or more with an option of a “career agreement” with a term equal to the expected career of the farmer and construction rights. In addition, when they retire, tenants are allowed to transfer their rental agreements to family members who wish to take it up for farming [76]. Similar policies are in operation in France where the minimum length of a lease is also nine years and the availability of long-term leases of 18 and 25 years, as well as career-long leases (the duration is set for the retirement age of the tenant) [22,76]. In Scotland, there are different forms of agricultural leases permitted under the 2003 Act to support long-term land leasing. There are the short limited duration tenancies (SLDTs) which allow agricultural land to be leased for up to 5 years. From the 30 November 2017, this was automatically converted to the Modern Limited Duration Tenancy (MLDT) which has a minimum term of 10 years if the lease agreement was created after 22 March 2011 or Limited Duration Tenancy (LDT) with a minimum term of 15 years, if created before. There is also the Repairing Tenancy Act which sets out to provide a means for a tenant to take on a potentially run-down farm and bear the cost of improvements. The tenancy has a minimum term of 35 years, including an initial ‘repairing period’ of at least 5 years [22,68]. In Sweden, there are two distinct forms of leasehold, whole-farm lease and side lease. The whole-farm lease, which includes buildings and stable houses, is for five years, and the lease contract is inheritable between generations. The costs associated with land investments and buildings are paid by or shared with the landowner [30].

It is important to emphasize that in the formulation of policies to encourage long-term land leasing, it is essential that such laws do not in any way inhibit tenants’ and landlords’ ability to adapt to change, access new schemes, improve productivity and enable structural change. There is also the need for some level of flexibility in the formulation of policies relating to long-term land leasing, for example, by including a break clause at subsequent intervals for the parties involved in the land contract to review performance in relation to compliance with the terms of the lease. This will guard against the development of the so-called ‘grey’ rental sector, in which farmers go into rental contracts (or informal agreements with peers) outside the official land rental sector. Table 2 gives a summary of countries that have land leases governed by statute and some of the associated policies.

Table 2. Policies to support long-term land leasing in selected countries.

Country	Minimum Term Length (yrs.)	Automatic Lease Renewal	Pre-Emptive Right to Buy	Transferability of Lease to Family Members
Belgium	9	Yes	Yes	Yes
France	9	Yes	Yes	Yes
Netherlands	12 years for farms and homesteads; 6 years for separate land or buildings	Yes	Yes	Yes
Scotland	new tenancies under the 2003 Act, LDT has a min. term of either 10 years (if created after 22 March 2011) or 15 years, if created before	Yes	No, after 2003	Yes, under the 2003 Act
Sweden	whole-farm lease for 5 years	Yes		Yes

Source: [22,30,77]; LDT: limited duration tenancy; SLDT: short limited duration tenancy.

6.2. Tax Incentives and Subsidies

Tax incentives and subsidies aimed at stimulating the leasing of farmland have been identified as an efficient mechanism to make land leasing more attractive to landowners who do not wish to farm the land themselves. A study by [78] has shown that farm subsidies have a positive and significant effect on both farmland leasing-in and leasing-out choices. The study indicated that rural households receiving grain subsidies are more likely to lease out (1.5 per cent) and lease in farmland (3.2 per cent). For example, in France, landowners are given incentives for long-term contracts with a 15% reduction in tax on their revenues from rental contracts longer than 9 years and are entitled to per hectare aid of up to EUR 8000 from the government [22]. Similarly, in the Republic of Ireland, the lessor is exempt from income tax on progressively increasing amounts linked to the length of the lease. Leases of five years or longer are exempt for tax purposes up to a lease period of 15 or more years with an exemption for the first EUR 40,000 per annum [16]. According to [9], land leasing tax incentives have resulted in improved resource allocation and farm profitability in the Republic of Ireland.

7. Conclusions

In this study, we have reviewed the literature on land leasing and have highlighted the justification for long-term land leasing. We also focused on the challenges to long-term land leasing and identified ways in which long-term land leasing can be encouraged. The majority of the reviewed papers relate to land leasing in developed economies. Where developing countries are mentioned, this is mostly in the context of commercial farming under more formal arrangements. The results of the study indicate that long-term land leasing has a lot of advantages, including sustainable land management and productivity. Farmers are more likely to effectively manage land and increase productivity without damaging the environment when their tenancy contract is longer. The review also showed that the attachment to the land and the drive to keep land in the family name is an important barrier to long-term land leasing. Other barriers to long-term leasing identified in the study include: the fear of sudden change in policy, lack of awareness on government policies, transaction costs and bureaucracy. We conclude that countries should adopt policies which promote long-term land leasing given its advantages. It should be emphasized that synergy among different factors and the level of implementation of other institutional regulations are required to be able to fully take advantage of long-term land leasing, for example, access to credit for farmers and well-developed agricultural extension systems and programmes. There is also a need to increase awareness of the advantages and benefits of long-term land leasing, through engagement with all stakeholders, farming organisations and professionals within the farming sector. In formulating policies on long-term land leasing, there may be the need for yearly reassessment of rents and having the option of removing a bad tenant. Governments can also assist the process by developing standard principles to guide long-term leasing contracts to assist potential lessors and lessees in achieving an equitable arrangement acceptable to both parties, for example, the appropriate level of rent and principles guiding the use of the land to ensure it is well maintained.

In the interpretation of the study results, it is essential to note that the studies reviewed relate mostly to developed economies. Future research should examine those factors which limit the function of land markets in developing countries. There is also the need for further research on the relationship between long-term land leasing and farm productivity. While it is suggested in this study that long-term land leasing has the potential of improving agricultural productivity, several other human capital, economic, and social factors also influence the production efficiency of farming businesses. It can also be the case that farmers who are more productive, perhaps due to a number of factors, such as capital availability, entrepreneurial spirit and production efficiencies, are the ones that have the financial resources available to rent more land and may therefore already be better placed in terms of raising productivity.

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Appendix A

Table A1. Themes and papers associated with each theme in Nvivo.

S/N	Reference	Focus of the Study/Title	Country/Sub-Region/Region
1	[79]	Understanding the economics of land access in Ireland	Republic of Ireland
2	[9]	The factors influencing the profitability of leased land on dairy farms in Ireland	Republic of Ireland
3	[68]	Increasing the Availability of Farmland for New Entrants to Agriculture in Scotland	Scotland
4	[80]	Farmland Owners' Land Sale Preferences: Can They Be Affected by Taxation Programs?	Finland
5	[22]	Rental Market Regulations for Agricultural Land in EU Member States and Candidate Countries	EU countries
6	[81]	Landowner response to policies regulating land improvements in Finland: Lease or search for other options?	Finland
7	[15]	Agri-Taxation	Republic of Ireland
8	[30]	Keeping agriculture alive next to the city—The functions of the land tenure regime nearby Gothenburg, Sweden	Sweden
9	[82]	Do Chinese farmers benefit from farmland leasing choices? Evidence from a nationwide survey	China
10	[5]	Economic and legal differences in patterns of land use in Ukraine	Ukraine
11	[2]	Farmland tenure and transaction costs: Public and collectively owned land vs conventional coordination mechanisms in France	France

Table A1. Cont.

S/N	Reference	Focus of the Study/Title	Country/Sub-Region/Region
12	[47]	Changes in property-use relationships on French farmland: A social innovation perspective	France
13	[83]	EU land markets and the Common Agricultural Policy	EU countries
14	[51]	Land Leasing: Findings of a Study in the West Region of the Republic of Ireland	Republic of Ireland
15	[20]	Do farmers care about rented land? A multi-method study on land tenure and soil conservation	Austria
16	[58]	Land improvements under land tenure insecurity: the case of pH and phosphate in Finland	Finland
17	[60]	Understanding barriers and opportunities for adoption of conservation practices on rented farmland in the US	US
18	[16]	Socioeconomic drivers of land mobility in Irish agriculture	Republic of Ireland
19	[84]	Farm landowners' objectives in Finland: Two approaches for owner classifications	Finland
20	[17]	Land lease contracts: properties and the value of bundles of property rights	Netherlands
21	[85]	Land access for direct market food farmers	US
22	[69]	Public policy to support young farmers	Thailand
23	[86]	Political reforms, rural crises, and land tenure i	Western Europe
24	[87]	Long-term Land Leasing	Republic of Ireland
25	[72]	Retired Farmers and New Land Users: How Relations to Land and People Influence Farmers' Land Transfer Decisions	Sweden
26	[88]	An Economic Evaluation of the Agricultural Tenancies Act 1995	England
27	[10]	Impact of Land Use Rights on the Investment and Efficiency of Organic Farming	Pakistan
28	[52]	Effects of dual land ownerships and different land lease terms on industrial land use efficiency	China
29	[89]	Exploring long-term land improvements under land tenure insecurity	Finland
30	[90]	Situational analysis of agricultural land leasing in Uttar Pradesh	Northern India
31	[91]	Does Land Tenure Systems Affect Sustainable Agricultural Development?	Pakistan
32	[92]	Leasing of agricultural land versus agency theory: the case of Poland	Poland
33	[93]	land lease tenure insecurity, productivity and investment	Fiji

Table A1. Cont.

S/N	Reference	Focus of the Study/Title	Country/Sub-Region/Region
34	[33]	Drivers of change in Norwegian agricultural land control and the emergence of rental farming	Norway
35	[37]	Contract duration and the division of labor in agricultural land leases	General study
36	[71]	Characteristics of land market in Hungary at the time of the EU accession	Hungary
37	[62]	Land tenure and agricultural management: Soil conservation on rented and owned fields	Southwest British Columbia
38	[63]	Land tenure and the adoption of conservation practices	US
39	[94]	Do farmers manage weeds on owned and rented land differently? Evidence from US corn and soybean farms	US
40	[95]	Institutional drivers of land mobility:	Republic of Ireland
41	[28]	Land leasing and sharecropping in Brazil: Determinants, modus operandi and future perspectives	Brazil
42	[96]	Land tenure type as an underrated legal constraint on the conservation management of coastal dunes	Republic of Ireland
43	[97]	Land leasing in rural Ireland	Republic of Ireland
44	[98]	Investment behavior of the Polish farms	Poland
45	[78]	Why the uncertain term occurs in the farmland lease market	China
46	[99]	Encouraging agricultural land lettings in Scotland for the 21st century	Scotland
47	[100]	A consultation on tenancy reform and call for evidence on farm business reposessions and mortgage restrictions over let land	Wales
48	[7]	Dynamics and resource use efficiency of agricultural land sales and rental market in India	India
49	[32]	Arkansas landlord selection of land-leasing contract type and terms	US
50	[101]	The role of land tenancy in rice farming efficiency	Indonesia
51	[102]	New entrants and succession into farming	Northern Ireland
52	[103]	Aging population, farm succession, and farmland usage	China
53	[104]	The moratorium on agricultural land sale as a limiting factor for rural development	International study
54	[105]	Effects of land tenure and property rights on agricultural productivity	Ethiopia
55	[106]	Taxing and untaxing land: Current use assessment of farmland	US
56	[107]	Land tenure, fixed investment, and farm productivity	Zambia

Table A1. Cont.

S/N	Reference	Focus of the Study/Title	Country/Sub-Region/Region
57	[29]	On the choice of tenancy contracts in rural India	
58	[108]	How cropland contract type and term decisions are made	US
59	[24]	Differentiation of rent for agricultural-purpose land	International study
60	[109]	Indigenous land tenure reform, self-determination, and economic development	Canada and Australia
61	[110]	Promotion incentives, infrastructure construction, and industrial landscapes	China
62	[111]	Passive farming and land development: A real options approach	EU
63	[112]	Female successors in Irish family farming: four pathways to farm transfer	Republic of Ireland
64	[113]	Adaptation to climate change via adjustment in land leasing: Evidence from dryland wheat farms in the US Pacific Northwest	US
65	[114]	The value of social capital in farmland leasing relationships	US
66	[115]	Impact of land reform on sustainable land management in Ukraine	Ukraine
67	[116]	Land Grabbing in Europe? Socio-Cultural Externalities of Large-Scale Land Acquisitions	Germany
68	[74]	Policy Drivers of Land Mobility in Irish Agriculture	Republic of Ireland
69	[117]	Farmland rent in the European Union	EU
70	[118]	Land Tenures as Policy Instruments: Transitions	Australia
71	[119]	Land Tenure Security and Home Maintenance	Japan
72	[120]	The organization and rise of land and lease markets	EU
73	[31]	Land market and e-services	Bulgaria
74	[121]	Land policies and agricultural land markets	Russia
75	[122]	Farmland lease decisions in a life-cycle model	International study
76	[61]	Rented land: Barriers to sustainable agriculture	US
77	[53]	Does land lease tenure insecurity cause decreased productivity and investment in the sugar industry?	Fiji
78	[123]	Rural land ownership in the United Kingdom: Changing patterns and future possibilities for land use	UK
79	[66]	Effects of land transfer quality on the application of organic fertiliser by large-scale farmers	China

Table A1. Cont.

S/N	Reference	Focus of the Study/Title	Country/Sub-Region/Region
80	[38]	Land Tenure, investment incentives, and the choice of techniques	Nicaragua
81	[61]	Rented land: Barriers to sustainable agriculture	US
82	[124]	Participation in rural land rental markets in sub-Saharan Africa	Malawi and Zambia
83	[46]	Retirement farming or sustainable growth—Land transfer choices for farmers without a successor	Republic of Ireland

References

- Marks-Bielska, R. Factors shaping the agricultural land market in Poland. *Land Use Policy* **2013**, *30*, 791–799. [\[CrossRef\]](#)
- Léger-Bosch, C. Farmland tenure and transaction costs: Public and collectively owned land vs conventional coordination mechanisms in France. *Can. J. Agric. Econ. Rev. Can. D'Agroeconomie* **2019**, *67*, 283–301. [\[CrossRef\]](#)
- Wigier, M.; Kowalski, A. *The Common Agricultural Policy of the European Union—The present and the Future. EU Member States Point of View*; Instytut Ekonomiki Rolnictwa i Gospodarki Żywnościowej-Państwowy Instytut: Warsaw, Poland, 2018.
- Dumanski, J.; Terry, E.; Byerlee, D.; Pieri, C. *Performance Indicators for Sustainable Agriculture*; The World Bank: Washington, DC, USA, 1998.
- Fedchyshyn, D.; Ignatenko, I.; Shvydka, V. Economic and legal differences in patterns of land use in Ukraine. *Amazon. Investig.* **2019**, *8*, 103–110.
- Jin, S.; Deininger, K. Land rental markets in the process of rural structural transformation: Productivity and equity impacts from China. *J. Comp. Econ.* **2009**, *37*, 629–646. [\[CrossRef\]](#)
- Awasthi, M.K. Dynamics and resource use efficiency of agricultural land sales and rental market in India. *Land Use Policy* **2009**, *26*, 736–743. [\[CrossRef\]](#)
- Deininger, K.; Jin, S.; Nagarajan, H.K. *Determinants and Consequences of Land Sales Market Participation: Panel Evidence from India*; The World Bank: Washington, DC, USA, 2007.
- Bradfield, T.; Butler, R.; Dillon, E.J.; Hennessy, T. The factors influencing the profitability of leased land on dairy farms in Ireland. *Land Use Policy* **2020**, *95*, 104649. [\[CrossRef\]](#)
- Akram, M.W.; Akram, N.; Hongshu, W.; Andleeb, S.; Kashif, U.; Mehmood, A. Impact of Land Use Rights on the Investment and Efficiency of Organic Farming. *Sustainability* **2019**, *11*, 7148. [\[CrossRef\]](#)
- Gao, L.; Sun, D.; Huang, J. Impact of land tenure policy on agricultural investments in China: Evidence from a panel data study. *China Econ. Rev.* **2017**, *45*, 244–252. [\[CrossRef\]](#)
- Van der Ploeg, J.D.; Franco, J.C.; Borrás, S.M., Jr. Land concentration and land grabbing in Europe: A preliminary analysis. *Can. J. Dev. Stud. Rev. Can. D'Études Développement* **2015**, *36*, 147–162. [\[CrossRef\]](#)
- Zondag, M.-J.; Koppert, S.; de Lauwere, C.; Sloot, P.; Pauer, A. *Needs of Young Farmers. Report I of the Pilot Project: Exchange Programmes for Young Farmers*; European Commission: Brussels, Belgium, 2015.
- Rounsevell, M.; Reginster, I.; Araújo, M.B.; Carter, T.; Dendoncker, N.; Ewert, F.; House, J.; Kankaanpää, S.; Leemans, R.; Metzger, M. A coherent set of future land use change scenarios for Europe. *Agric. Ecosyst. Environ.* **2006**, *114*, 57–68. [\[CrossRef\]](#)
- Department of Agriculture, Food and the Marine (DAFM). *Agri-Taxation Review-Part A Working Group Report*; Department of Agriculture Food and the Marine, Ed.; Department of Agriculture Food and the Marine: Dublin, Ireland, 2014.
- Geoghegan, C.; O'Donoghue, C. Socioeconomic drivers of land mobility in Irish agriculture. *Int. J. Agric. Manag.* **2018**, *7*, 26–34.
- Slangen, L.H.; Polman, N.B. Land lease contracts: Properties and the value of bundles of property rights. *NJAS Wagening. J. Life Sci.* **2008**, *55*, 397–412. [\[CrossRef\]](#)
- Bromley, D.W. *Environment and Economy: Property Rights and Public Policy*; Basil Blackwell Ltd.: Oxford, UK, 1991.
- Von Benda-Beckmann, F.; von Benda-Beckmann, K.; Wiber, M. *Changing Properties of Property*; Berghahn Books: New York, NY, USA, 2006.
- Leonhardt, H.; Penker, M.; Salhofer, K. Do farmers care about rented land? A multi-method study on land tenure and soil conservation. *Land Use Policy* **2019**, *82*, 228–239. [\[CrossRef\]](#)
- Dramstad, W.E.; Sang, N. Tenancy in Norwegian agriculture. *Land Use Policy* **2010**, *27*, 946–956. [\[CrossRef\]](#)
- Ciaian, P.; Kancs, d.A.; Swinnen, J.; Van Herck, K.; Vranken, L. *Rental Market Regulations for Agricultural Land in EU Member States and Candidate Countries. Factor Markets Working Paper No. 15, February 2012*; Archive of European Integration: Pittsburgh, PA, USA, 2012.
- Nickerson, C.; Morehart, M.; Kueth, T.; Beckman, J.; Ifft, J.; Williams, R. *Trends in US Farmland Values and Ownership*; U.S. Department of Agriculture, Agricultural Research Service: Lincoln, NE, USA, 2012.

24. Zavorotin, E.; Gordopolova, A.; Tiurina, N.; Pototskaya, L. Differentiation of rent for agricultural-purpose land. *Sci. Pap. Manag. Econ. Eng. Agric. Rural Dev.* **2019**, *19*, 691–698.
25. Loughrey, J.; Donnellan, T.; Hanrahan, K. The Agricultural Land Market in the EU and the Case for Better Data Provision. *EuroChoices* **2020**, *19*, 41–47. [\[CrossRef\]](#)
26. Merrill, T.W. The Economics of Leasing. *J. Legal Anal.* **2020**, *12*, 221–272. [\[CrossRef\]](#)
27. Neuberger, D.; R  thke-D  ppner, S. Leasing by small enterprises. *Appl. Financ. Econ.* **2013**, *23*, 535–549. [\[CrossRef\]](#)
28. de Almeida, P.J.; Buainain, A.M. Land leasing and sharecropping in Brazil: Determinants, modus operandi and future perspectives. *Land Use Policy* **2016**, *52*, 206–220. [\[CrossRef\]](#)
29. Chaudhuri, A.; Maitra, P. On the choice of tenancy contracts in rural India. *Economica* **2002**, *69*, 445–459. [\[CrossRef\]](#)
30. Wastfelt, A.; Zhang, Q. Keeping agriculture alive next to the city - The functions of the land tenure regime nearby Gothenburg, Sweden. *Land Use Policy* **2018**, *78*, 447–459. [\[CrossRef\]](#)
31. Stoyneva, D. Land market and e-services in Bulgaria. *Agric. Econ. Zemed. Ekon.* **2007**, *53*, 167–172. [\[CrossRef\]](#)
32. Rainey, R.L.; Dixon, B.L.; Ahrendsen, B.L.; Parsch, L.D.; Bierlen, R.W. Arkansas landlord selection of land-leasing contract type and terms. *Int. Food Agribus. Manag. Rev.* **2005**, *8*, 1–19.
33. Forbord, M.; Bj  rkhaug, H.; Burton, R.J. Drivers of change in Norwegian agricultural land control and the emergence of rental farming. *J. Rural Stud.* **2014**, *33*, 9–19. [\[CrossRef\]](#)
34. Serra, T.; Goodwin, B.K.; Featherstone, A.M. Agricultural policy reform and off-farm labour decisions. *J. Agric. Econ.* **2005**, *56*, 271–285. [\[CrossRef\]](#)
35. Kallas, Z.; Serra, T.; Gil, J.M. Effects of policy instruments on farm investments and production decisions in the Spanish COP sector. *Appl. Econ.* **2012**, *44*, 3877–3886. [\[CrossRef\]](#)
36. Cheung, S.N. Transaction costs, risk aversion, and the choice of contractual arrangements. In *Uncertainty in Economics*; Elsevier: Amsterdam, The Netherlands, 1978; pp. 377–399.
37. Yoder, J.; Hossain, I.; Epplin, F.; Doye, D. Contract duration and the division of labor in agricultural land leases. *J. Econ. Behav. Organ.* **2008**, *65*, 714–733. [\[CrossRef\]](#)
38. Bandiera, O. Land Tenure, Investment Incentives, and the Choice of Techniques: Evidence from Nicaragua. *World Bank Econ. Rev.* **2007**, *21*, 487–508. [\[CrossRef\]](#)
39. Adenuga, A.H.; Jack, C.; Olagunju, K.O.; Ashfield, A. Economic viability of adoption of automated oestrus detection technologies on dairy farms: A review. *Animals* **2020**, *10*, 1241. [\[CrossRef\]](#) [\[PubMed\]](#)
40. Singirankabo, U.A.; Ertsen, M.W. Relations between Land Tenure Security and Agricultural Productivity: Exploring the Effect of Land Registration. *Land* **2020**, *9*, 138. [\[CrossRef\]](#)
41. Andrachuk, M.; Marschke, M.; Hings, C.; Armitage, D. Smartphone technologies supporting community-based environmental monitoring and implementation: A systematic scoping review. *Biol. Conserv.* **2019**, *237*, 430–442. [\[CrossRef\]](#)
42. The EndNote Team. *EndNote*, EndNote X9; Clarivate Analytics: Philadelphia, PA, USA, 2013.
43. QSR International. *Nvivo (Released in March 2020)*, 12; QSR International: Burlington, MA, USA, 2020.
44. Braun, V.; Clarke, V. Using thematic analysis in psychology. *Qual. Res. Psychol.* **2006**, *3*, 77–101. [\[CrossRef\]](#)
45. Baker, M.; Miceli, T.J. Land inheritance rules: Theory and cross-cultural analysis. *J. Econ. Behav. Organ.* **2005**, *56*, 77–102. [\[CrossRef\]](#)
46. Duesberg, S.; Bogue, P.; Renwick, A. Retirement farming or sustainable growth—Land transfer choices for farmers without a successor. *Land Use Policy* **2017**, *61*, 526–535. [\[CrossRef\]](#)
47. L  ger-Bosch, C.; Houdart, M.; Loudiyi, S.; Le Bel, P.-M. Changes in property-use relationships on French farmland: A social innovation perspective. *Land Use Policy* **2020**, *94*, 104545. [\[CrossRef\]](#)
48. Department of Agriculture, Environment and Rural Affairs (DAERA). *Statistical Review of Northern Ireland Agriculture, Policy, Economics and Statistics Division*; Department of Agriculture, Environment and Rural Affairs: Belfast, UK, 2020.
49. The Agriculture and Food Development Authority. *Guidelines for Long-term Land Leasing*; Teagasc: Carlow, Ireland, 2017.
50. Adenuga, A.H.; Davis, J.; Hutchinson, G.; Donnellan, T.; Patton, M. Modelling regional environmental efficiency differentials of dairy farms on the island of Ireland. *Ecol. Indic.* **2018**, *95*, 851–861. [\[CrossRef\]](#)
51. Conway, A. Land Leasing: Findings of a Study in the West Region of the Republic of Ireland. *Ir. J. Agric. Econ. Rural Sociol.* **1986**, *11*, 1–18.
52. Ye, L.; Huang, X.; Yang, H.; Chen, Z.; Zhong, T.; Xie, Z. Effects of dual land ownerships and different land lease terms on industrial land use efficiency in Wuxi City, East China. *Habitat Int.* **2018**, *78*, 21–28. [\[CrossRef\]](#)
53. Kumari, R.; Nakano, Y. Does land lease tenure insecurity cause decreased productivity and investment in the sugar industry? Evidence from Fiji. *Aust. J. Agric. Resour. Econ.* **2016**, *60*, 406–421. [\[CrossRef\]](#)
54. Galiani, S.; Schargrodsky, E. Property rights for the poor: Effects of land titling. *J. Public Econ.* **2010**, *94*, 700–729. [\[CrossRef\]](#)
55. Besley, T. Property rights and investment incentives: Theory and evidence from Ghana. *J. Political Econ.* **1995**, *103*, 903–937. [\[CrossRef\]](#)
56. Place, F. Land Tenure and Agricultural Productivity in Africa: A Comparative Analysis of the Economics Literature and Recent Policy Strategies and Reforms. *World Dev.* **2009**, *37*, 1326–1336. [\[CrossRef\]](#)
57. Deininger, K. Land markets in developing and transition economies: Impact of liberalization and implications for future reform. *Am. J. Agric. Econ.* **2003**, *85*, 1217–1222. [\[CrossRef\]](#)

58. Myyrä, S.; Ketoja, E.; Yli-Halla, M.; Pietola, K. Land improvements under land tenure insecurity: The case of pH and phosphate in Finland. *Land Econ.* **2005**, *81*, 557–569. [\[CrossRef\]](#)
59. Deininger, K.; Jin, S. Tenure security and land-related investment: Evidence from Ethiopia. *Eur. Econ. Rev.* **2006**, *50*, 1245–1277. [\[CrossRef\]](#)
60. Ranjan, P.; Wardropper, C.B.; Eanes, F.R.; Reddy, S.M.; Harden, S.C.; Masuda, Y.J.; Prokopy, L.S. Understanding barriers and opportunities for adoption of conservation practices on rented farmland in the US. *Land Use Policy* **2019**, *80*, 214–223. [\[CrossRef\]](#)
61. Carolan, M.; Mayerfeld, D.; Bell, M.; Exner, R. Rented land: Barriers to sustainable agriculture. *J. Soil Water Conserv.* **2004**, *59*, 70A–75A.
62. Fraser, E.D.G. Land tenure and agricultural management: Soil conservation on rented and owned fields in southwest British Columbia. *Agric. Human Values* **2004**, *21*, 73–79. [\[CrossRef\]](#)
63. Soule, M.J.; Tegene, A.; Wiebe, K.D. Land tenure and the adoption of conservation practices. *Am. J. Agric. Econ.* **2000**, *82*, 993–1005. [\[CrossRef\]](#)
64. Ayamga, M.; Yeboah, R.W.N.; Ayambila, S.N. An analysis of household farm investment decisions under varying land tenure arrangements in Ghana. *J. Agric. Rural Dev. Trop. Subtrop. (JARTS)* **2016**, *117*, 21–34.
65. Kousar, R.; Abdulai, A. Off-farm work, land tenancy contracts and investment in soil conservation measures in rural Pakistan. *Aust. J. Agric. Resour. Econ.* **2016**, *60*, 307–325. [\[CrossRef\]](#)
66. Li, B.W.; Shen, Y.Q. Effects of land transfer quality on the application of organic fertilizer by large-scale farmers in China. *Land Use Policy* **2021**, *100*. [\[CrossRef\]](#)
67. Adenuga, A.H.; Davis, J.; Hutchinson, G.; Patton, M.; Donnellan, T. Analysis of the effect of alternative agri-environmental policy instruments on production performance and nitrogen surplus of representative dairy farms. *Agric. Syst.* **2020**, *184*, 102889. [\[CrossRef\]](#)
68. McKee, A.; Sutherland, L.; Hopkins, J.; Flanigan, S.; Rickett, A. Increasing the availability of farmland for new entrants to agriculture in Scotland. In *Final Report to the Scottish Land Commission*; James Hutton Institute and Fresh Start Land Enterprise Centre: Aberdeen, UK, 2018.
69. Faysse, N.; Phiboon, K.; Filloux, T. Public policy to support young farmers in Thailand. *Outlook Agric.* **2019**, *48*, 292–299. [\[CrossRef\]](#)
70. Swinnen, J.F.; Swinnen, J.; Vranken, L. *Land & EU Accession: Review of the Transitional Restrictions on New Member States on the Acquisition of Agricultural Real Estate*; CEPS: Brussels, Belgium, 2009.
71. Hamza, E.; Misko, K. Characteristics of land market in Hungary at the time of the EU accession. *Zemed. Ekon. Praha* **2007**, *53*, 161. [\[CrossRef\]](#)
72. Grubbstrom, A.; Eriksson, C. Retired Farmers and New Land Users: How Relations to Land and People Influence Farmers' Land Transfer Decisions. *Sociol. Rural.* **2018**, *58*, 707–725. [\[CrossRef\]](#)
73. Jack, C.; Adenuga, A.H.; Ashfield, A.; Wallace, M. Investigating the Drivers of Farmers' Engagement in a Participatory Extension Programme: The Case of Northern Ireland Business Development Groups. *Sustainability* **2020**, *12*, 4510. [\[CrossRef\]](#)
74. Geoghegan, C.; Kinsella, A.; O'Donoghue, C. Policy Drivers of Land Mobility in Irish Agriculture. In Proceedings of the European Association of Agricultural Economists (EAAE) > 150th Seminar, Edinburgh, UK, 22–23 October 2015.
75. Fakayode, S.B.; Adenuga, A.H.; Yusuf, T.; Jegede, O. Awareness of and demand for private agricultural extension services among small-scale farmers in Nigeria. *J. Agribus. Rural Dev.* **2016**, *4*, 521–531. [\[CrossRef\]](#)
76. AEIAR. *Status of Agricultural Land Market Regulation in Europe: Policies and Instruments*; Association Européenne des Institutions D'Aménagement Rural: Brussels, Belgium, 2016.
77. Holthuis, J.; ter Burg, P. Agricultural Law in The Netherlands: Overview. 2020. Available online: [https://uk.practicallaw.thomsonreuters.com/1-603-8746?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/1-603-8746?transitionType=Default&contextData=(sc.Default)&firstPage=true) (accessed on 19 December 2020).
78. Zou, B.; Luo, B. Why the uncertain term occurs in the farmland lease market: Evidence from rural China. *Sustainability* **2018**, *10*, 2813. [\[CrossRef\]](#)
79. Geoghegan, C. *Understanding the Economics of Land Access in Ireland*; NUI: Galway, Ireland, 2018.
80. Myyrä, S.; Pouta, E. Farmland owners' land sale preferences: Can they be affected by taxation programs? *Land Econ.* **2010**, *86*, 245–262. [\[CrossRef\]](#)
81. Pouta, E.; Myyrä, S.; Pietola, K. Landowner response to policies regulating land improvements in Finland: Lease or search for other options? *Land Use Policy* **2012**, *29*, 367–376. [\[CrossRef\]](#)
82. Zou, B.L.; Mishra, A.K.; Luo, B.L. Do Chinese farmers benefit from farmland leasing choices? Evidence from a nationwide survey. *Aust. J. Agric. Resour. Econ.* **2020**, *64*, 322–346. [\[CrossRef\]](#)
83. Ciaian, P.; Kancs, d.A.; Swinnen, J.F. *EU Land Markets and the Common Agricultural Policy*; Elsevier: Amsterdam, The Netherlands, 2010.
84. Pouta, E.; Myyrä, S.; Hänninen, H. Farm landowners' objectives in Finland: Two approaches for owner classifications. *Soc. Nat. Resour.* **2011**, *24*, 1042–1062. [\[CrossRef\]](#)
85. Horst, M.; Gwin, L. Land access for direct market food farmers in Oregon, USA. *Land Use Policy* **2018**, *75*, 594–611. [\[CrossRef\]](#)
86. Swinnen, J.F. Political reforms, rural crises, and land tenure in western Europe. *Food Policy* **2002**, *27*, 371–394. [\[CrossRef\]](#)

87. Curran, T. Registering a Farm Partnership—The Requirements. In Proceedings of the Teagasc Farm Business Conference, Tullamore, Ireland, 26 November 2015.
88. Whitehead, I.; Errington, A.; Millard, N. *An Economic Evaluation of the Agricultural Tenancies Act 1995—A Baseline Study*; Department Land Use Rural Management, University of Plymouth: Plymouth, UK, 1997.
89. Myyra, S.; Pietola, K.; Yli-Halla, M. Exploring long-term land improvements under land tenure insecurity. *Agric. Syst.* **2007**, *92*, 63–75. [\[CrossRef\]](#)
90. Mandal, S.; Misra, G.V.; Naqvi, S.M.A.; Kumar, N. Situational analysis of agricultural land leasing in Uttar Pradesh. *Land Use Policy* **2019**, *88*, 104106. [\[CrossRef\]](#)
91. Akram, N.; Akram, M.W.; Wang, H.; Mehmood, A. Does Land Tenure Systems Affect Sustainable Agricultural Development? *Sustainability* **2019**, *11*, 3925. [\[CrossRef\]](#)
92. Marks-Bielska, R.; Zielinska, A. Leasing of agricultural land versus agency theory: The case of Poland. *Ekon. Prawo* **2018**, *17*, 83–102. [\[CrossRef\]](#)
93. Arafat, M.Y.; Saleem, I.; Dwivedi, A.K.; Khan, A. Determinants of agricultural entrepreneurship: A GEM data based study. *Int. Entrep. Manag. J.* **2020**, *16*, 345–370. [\[CrossRef\]](#)
94. Frisvold, G.B.; Albright, J.; Ervin, D.E.; Owen, M.D.; Norsworthy, J.K.; Dentzman, K.E.; Hurley, T.M.; Jussaume, R.A.; Gunsolus, J.L.; Everman, W. Do farmers manage weeds on owned and rented land differently? Evidence from US corn and soybean farms. *Pest Manag. Sci.* **2020**, *76*, 2030–2039. [\[CrossRef\]](#)
95. Geoghegan, C.; Kinsella, A.; O'Donoghue, C. Institutional drivers of land mobility: The impact of CAP rules and tax policy on land mobility incentives in Ireland. *Agric. Financ. Rev.* **2017**, *77*, 376–392. [\[CrossRef\]](#)
96. McKenna, J.; MacLeod, M.; Cooper, A.; O'Hagan, A.M.; Power, J. Land tenure type as an underrated legal constraint on the conservation management of coastal dunes: Examples from Ireland. *Area* **2005**, *37*, 312–323. [\[CrossRef\]](#)
97. Jenkins, W. Land leasing in rural Ireland—some empirical findings from the south-east. *Ir. Geogr.* **1997**, *30*, 99–105. [\[CrossRef\]](#)
98. Wieliczko, B.; Kurdys-Kujawska, A.; Sompolska-Rzechula, A. Investment behavior of the Polish farms—is there any evidence for the necessity of policy changes? *J. Cent. Eur. Agric.* **2019**, *20*, 1292–1301. [\[CrossRef\]](#)
99. Moody, J. *Encouraging Agricultural Land Lettings in Scotland for the 21st Century*; Scottish Land Commission: Inverness, UK, 2018; p. 23.
100. Welsh Government. *A Consultation on Tenancy Reform and Call for Evidence on Farm Business Repossessions and Mortgage Restrictions over Let Land*; Welsh Government: Cardiff, UK, 2012.
101. Khotimah, Y.; Antriandarti, E.; Supardi, S. The role of land tenancy in rice farming efficiency in upland karst mountainous gunungkidul indonesia. *Appl. Ecol. Environ. Res.* **2019**, *17*, 14347–14357. [\[CrossRef\]](#)
102. Jack, C.; Miller, A.C.; Ashfield, A.; Anderson, D. New entrants and succession into farming: A Northern Ireland perspective. *Int. J. Agric. Manag.* **2019**, *8*, 56–64.
103. Zou, B.L.; Mishra, A.K.; Luo, B.L. Aging population, farm succession, and farmland usage: Evidence from rural China. *Land Use Policy* **2018**, *77*, 437–445. [\[CrossRef\]](#)
104. Danylenko, A.; Sokolska, T.; Shust, O.; Wigier, M.; Kowalski, A. The Moratorium on Agricultural Land Sale as a Limiting Factor for Rural Development. In *The Common Agricultural Policy of the European Union—The Present and the Future, Non-EU Member States Point of View*; Wigier, M., Kowalski, A., Eds.; Elsevier: Amsterdam, The Netherlands, 2018; pp. 97–113.
105. Tenaw, S.; Zahidul Islam, K.M.; Parviainen, T. *Effects of Land Tenure and Property Rights on Agricultural Productivity in Ethiopia, Namibia and Bangladesh*; University of Helsinki: Helsinki, Finland, 2009; p. 32.
106. Youngman, J.M. Taxing and untaxing land: Current use assessment of farmland. *State Tax Notes* **2005**, *37*, 727–738.
107. Smith, R.E. Land tenure, fixed investment, and farm productivity: Evidence from Zambia's southern province. *World Dev.* **2004**, *32*, 1641–1661. [\[CrossRef\]](#)
108. Bierlen, R.; Parsch, L.; Dixon, B. How cropland contract type and term decisions are made: Evidence from an Arkansas Tenant Survey. *Int. Food Agribus. Manag. Rev.* **1999**, *2*. [\[CrossRef\]](#)
109. Terrill, L.; Boutilier, S. Indigenous land tenure reform, self-determination, and economic development: Comparing Canada and Australia. *Univ. West. Aust. Law Rev.* **2019**, *45*, 34–70.
110. He, Q.S.; Xu, M.; Xu, Z.K.; Ye, Y.M.; Shu, X.F.; Xie, P.; Wu, J.Y. Promotion incentives, infrastructure construction, and industrial landscapes in China. *Land Use Policy* **2019**, *87*, 9. [\[CrossRef\]](#)
111. Di Corato, L.; Brady, M.V. Passive farming and land development: A real options approach. *Land Use Policy* **2019**, *80*, 32–46. [\[CrossRef\]](#)
112. Cassidy, A. Female successors in Irish family farming: Four pathways to farm transfer. *Can. J. Dev. Stud. Rev. Can. D'Études Développement* **2019**, *40*, 238–253. [\[CrossRef\]](#)
113. Zhang, H.L.; Mu, J.E.; McCarl, B.A. Adaptation to climate change via adjustment in land leasing: Evidence from dryland wheat farms in the US Pacific Northwest. *Land Use Policy* **2018**, *79*, 424–432. [\[CrossRef\]](#)
114. Taylor, M.R.; Featherstone, A.M. The value of social capital in farmland leasing relationships. *Agric. Financ. Rev.* **2018**, *78*, 489–496. [\[CrossRef\]](#)
115. Kuryltsiv, R.; Hernik, J.; Kryshenyk, N. Impact of land reform on sustainable land management in Ukraine. *Acta Sci. Pol. Form. Circumiectus* **2018**, *17*, 105–115. [\[CrossRef\]](#)

-
116. Bunkus, R.; Theesfeld, I. Land Grabbing in Europe? Socio-Cultural Externalities of Large-Scale Land Acquisitions in East Germany. *Land* **2018**, *7*, 98. [[CrossRef](#)]
 117. Střeleček, F.; Lososová, J.; Zdeněk, R. Farm land rent in the European Union. *Acta Univ. Agric. Silvic. Mendel. Brun.* **2011**, *59*, 309–318. [[CrossRef](#)]
 118. Holmes, J. Land Tenures as Policy Instruments: Transitions on Cape York Peninsula. *Geogr. Res.* **2011**, *49*, 217–233. [[CrossRef](#)]
 119. Iwata, S.; Yamaga, H. Land Tenure Security and Home Maintenance: Evidence from Japan. *Land Econ.* **2009**, *85*, 429–441. [[CrossRef](#)]
 120. Van Bavel, B.J.P. The organization and rise of land and lease markets in northwestern Europe and Italy, c.1000–1800. *Contin. Chang.* **2008**, *23*, 13–53. [[CrossRef](#)]
 121. Lerman, Z.; Shagaida, N. Land policies and agricultural land markets in Russia. *Land Use Policy* **2007**, *24*, 14–23. [[CrossRef](#)]
 122. Boumtje, P.I.; Barry, P.J.; Ellinger, P.N. Farmland lease decisions in a life-cycle model. *Agric. Financ. Rev.* **2001**, *61*, 167. [[CrossRef](#)]
 123. Munton, R. Rural land ownership in the United Kingdom: Changing patterns and future possibilities for land use. *Land Use Policy* **2009**, *26*, S54–S61. [[CrossRef](#)]
 124. Chamberlin, J.; Ricker-Gilbert, J. Participation in Rural Land Rental Markets in Sub-Saharan Africa: Who Benefits and by How Much? Evidence from Malawi and Zambia. *Am. J. Agric. Econ.* **2016**, *98*, aaw021. [[CrossRef](#)]