Extended Abstract
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Paper/Poster Title	Understanding the Agricultural Land Leasing Market in Ireland: A Transaction Cost Approach

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Abstract	***200 words max***
Formal written land leasing contracts offer an alternative to land purchase for those farmers who wish to expand their land area. These contracts provide greater security relative to informal short-term rental agreements and are particularly important for young farmers and beginning farmers with resources insufficient to purchase land. Formal land leasing contracts vary in terms of their duration and there is limited understanding about the determinants of contract duration in developed countries. In this research, we use econometric techniques and transaction level data to explore the determinants of duration for agricultural land lease contracts in Ireland. Under the Transaction Cost Economics approach, the research explores the role of legal status, price and non-price conditions in influencing the contract duration. Preliminary results indicate that the legal status of the tenant is a significant factor in influencing the duration. Provisions such as break clauses and notice periods appear positively related to duration and confirm the theoretical expectation that long term contracts create a demand for processes that enable adaptation over the course of long-term exchange.	

Keywords	Land Leasing Contract, Transaction Cost Economics, Legal Status, Break Clause, Two stage least squares.
JEL Code	D86; Q12; Q15

Introduction	***100 – 250 words***

The abolition of milk quota in 2015 has resulted in a large expansion in the size of the dairy herd in Ireland (Kelly et al 2020) and prompted a rise in demand for long-term leased land among dairy farmers (Geoghegan et al 2021). In Ireland, dairy cattle rely mainly on a grass-based diet and appear outdoors for most of the year. The large expansion in the dairy herd must therefore be accompanied by more access to land for dairy farmers. However, the land sales market in Ireland is relatively thin with a small proportion of total land area sold annually. Land rental transactions therefore provide a possible alternative for farmers wishing to expand area and herd size.

Recent studies of land rental markets in Ireland are based on farm-level data with an emphasis on the capitalisation of subsidies into land rents (O'Neill and Hanrahan 2016) and the relationship of land tenure with profitability (Bradfield et al 2020). In this research, we use transaction-level data to explore the determinants of contract duration in the agricultural land rental market in Ireland. The research concerns all transactions involving an agricultural use including cereal production, livestock production, forestry and some energy production including wind farming. The data are based on transactions in two NUTS 3 regions during the period from 2013 to Q1 2020. The Transaction Cost Economics (TCE) framework forms the theoretical basis for this research.

Methodology	***100 – 250 words***

The methodology follows the TCE framework where costs are considered to be due to negotiation, monitoring, and the governing of exchanges. Under this framework, it is understood that the benefits of long-term contracting increase with the asset specificity required to undertake the transaction (need to secure the transaction) and decrease with the complexity and the uncertainty of the transaction (need for a flexible contract).

We adopt the two-stage least squares (2SLS) estimation technique for operationalizing the relationship between contract duration and contractual provisions. In addition, we enrich the econometric testing by using the three-stage-least squares (3SLS) routine as a methodological support to validate and explicitly value the 2SLS modelling.

The choice of the empirical estimation method is based on the evidence that a set of provisions are pre-determined and exist before the establishment of the contract, whilst another group of provisions are determined within the contract, together with the duration.

In this perspective, we use the simple, log-linear specification in Equation (1) :

$$(1)\ (Log\_)Duration_i = \alpha_i + \beta_1 Y_i + \gamma_2 Z_ì + \varepsilon_i$$

Where the dependent variable is contractual duration (number of months) and is estimated in the logarithms. In (1), Yi indicates the endogenous variables, including terms of contract, and Zì indicates instruments. In particular, we estimate a simultaneous equation model where the selected instruments (e.g. the geographical location of the parcel) represent variables determined before contracting. The selected endogenous variables (e.g. inclusion of a breaking clause) represent provisions that are jointly determined within the contract and that are jointly determined with the contract duration. The model includes a constant and the error term.

Results	***100 – 250 words***

Preliminary results point to the importance of the legal status in influencing the contract duration with few legal provisions affecting the selected dependent variable. If the tenant is an individual (and not an organization, for instance an incorporated farm), the contract duration is significantly shorter. Approximately one quarter of transactions involve an organisation tenant. This reflects the increasing importance of incorporated farms in expanding food and energy production. Many of these incorporated farms are involved in dairy production and may previously be classified as sole traders or family farms.

Preliminary results show that if the contract includes a break clause or a notice period clause, then the contract duration extends to longer periods. This result is consistent the theory of transaction costs. The higher the rent the tenant has to pay, the shorter the duration of the contract. In particular, the estimated coefficients shows that a 1% increase in the contract rent generates a ‘.11% decrease in the contract duration.

Discussion and Conclusion	***100 – 250 words***

The results are consistent with transaction cost economic theory. The parties need to mitigate long-term contract inflexibility by including ex ante bargained terms and conditions, with provisions allowing for contingent adaptation. Long term contracts can increase the risk of ex post maladaptation, thus, creating a demand for processes that enable adaptation over the course of long-term exchange. This implies the inclusion of break clauses and notice clauses.

The average duration of land lease contracts is 7.5 years. Following the TCE theory, farmers have selected a particular governance structure (long term contracts) in order to minimize transactions costs, generated by the exchange of the land lease. The longer the contract, the higher the transaction costs, and the higher the requirement to secure transactions through a longer time horizon. In the case at issue, the contract duration is longer when two provisions are included in the negotiations: (1) break clause; (2) notice period clause. The influence of payment frequency requires further investigation.

The inclusion of the break clause and the notice period clause in the contract increases the complexity and the uncertainty of the negotiation since the parties can terminate the contract before the contractual pre-agreed termination. Uncertainty and complexity increase transaction costs, and, as predicted by the TCE, this affects the governance structure. In this perspective, the contracts that include those provisions are longer. These findings can inform stakeholders about the variability in contract duration with potential implications for policymaking in incentivising more widespread adoption of formal long-term land lease contracts.