



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

Research Stimulus Fund

Final Report

'Analysis of the functioning of Irish agricultural land markets'

DAFM Project Reference No: 13/S/435

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Collaborating Research Institutions and Researchers: Professor Alan Renwick (UCD), Dr Marija Banovic (UCD), Dr Stefanie Duesberg (UCD), Dr Thia Hennessy (Teagasc), Dr David Meredith (Teagasc), Mr Trevor Donnellan (Teagasc), Dr Jason Loughrey (Teagasc)

Please place one "x" below in the appropriate area on the research continuum where you feel this project fits

Basic/Fundamental	→	Applied	→	Pre Commercial		
1	2	3	4	5 X	6	7

Please specify priority area(s) of research this project relates to from the National Prioritisation Research Exercise* (NRPE) report;

Priority Area (s)	Sustainable Food Production and Processing, Research for Policy
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Key words:

Land Prices, Land Rents, Capitalisation

1. Rationale for Undertaking the Research

Well functioning land markets are a crucial condition for the competitiveness and growth of agriculture and for rural development. The Food Harvest 2020 (FH2020) and Food Wise 2025 reports set out roadmaps for the growth of the Irish agri-food industry. The productive utilisation of the agricultural land resource base of the country will be crucial to the achievement of the growth targets set out in both strategy documents and the maintenance of the economic and environmental sustainability of Irish agriculture.

Despite the importance of land as a factor of agricultural production there is a relative scarcity of recent socio-economic research and economic data i) on the functioning of Irish agricultural land markets and ii) the contribution that enhanced land market mobility could make to improve the productivity and economic and environmental sustainability of Irish agriculture. This research, by improving our understanding of Irish agricultural land markets and how they operate will facilitate the development of policies designed to enhance the functioning of Irish agricultural land markets.

The project answers a number of related questions. From an economic perspective what are the characteristics of a well-functioning land market? What factors influence the participation of farmers and land owners in the Irish agricultural land market? What role do policy, institutional and cultural factors play in explaining the functioning of Irish agricultural land markets? What measures could be taken to address the level of land mobility in Ireland? What information do we have on the functioning of Irish agricultural land markets and what additional information could be collected and disseminated so as to enhance land market functioning?

2. Research Approach

The research approaches used in the project were multidisciplinary and included literature reviews of established conceptual economic models of agricultural land markets, econometric analysis of the capitalisation of agricultural income support payments in Irish agricultural land rents, a review of the functioning of agricultural land markets in Ireland and other OECD countries, the development of simulation models of agricultural land rental markets, the use of models based on the theory of planned behaviour in an analysis of Irish farmer attitudes towards farm succession and inheritance and geo-demographic studies of farm structures and farm successor attitudes towards farm inheritance and agricultural land control.

3. Research Achievements/Results

O'Neill and Hanrahan (2016) find that CAP direct income support payments are highly capitalised into agricultural land rents in Ireland and that the decoupling of direct payments in Ireland in 2005 reduced the degree to which CAP payments are capitalised into land rental rates. The high transfer efficiency of CAP policy income support models in

Ireland is likely to decline as the i) share of land that is farmed under leasehold increases and ii) as the prevalence of longer term lease models increases.

Papers by Loughrey et al. (2016, 2018) highlight the differences in availability and quality of agricultural land market prices and quantity data in Ireland and other EU member states as well as differences in land holding inequality at regional levels within the EU.

An agricultural rental market simulation model was developed that uses a similar approach to that used to simulate the functioning of milk quota auction markets by Hennessy et al. (2012). A paper is being presented at an upcoming EAAE seminar in 2019 on this work..

Duesberg et al. (2017) built on a survey commissioned by Macra na Feirme on farm succession and inheritance and the attitudes of farmers towards succession and inheritance. The findings of Duesberg et al. underline the importance of understanding the attitudes and preferences of older farmers when designing policy interventions to both a) rejuvenate the farms population and b) encourage the earlier transfer of farms to farm successors.

Meredith and Crowley's (2017) research on the attitudes of potential farm successors complements the research findings of Duesberg et al. (2017). Meredith and Crowley (2017) report negative attitudes amongst potential farm successors towards the disposal of owned land or the relinquishing of control over inherited agricultural via long term leasing out. Their results suggest that even if policy interventions succeed in encouraging the rejuvenation of Irish farms through earlier farm inheritance, farm structural change in Ireland is likely to continue to be a very slow process given the aversion on the part of both farm holders and future farm holders towards relinquishing control of agricultural land management.

As part of the project a new agricultural land price and rental data set for Ireland was developed in conjunction with the Society of Chartered Surveyors in Ireland (SCSI). This new agricultural land price and rents data set will provide, on an annual basis, information on agricultural land prices and rents at a regional level.

4. Impact of the Research

This research project has provided economic and other social science based insights into the functioning of agricultural land markets in Ireland. A new data set on agricultural land market outcomes (the SCSI/Teagasc agricultural land prices and rents data set) has been developed with the support of this project while data on agricultural land market data for EU member states has been used to undertake comparative analyses of how agricultural land markets in Ireland and other EU member states function.

Conceptual economic models of agricultural land markets reviewed as part of this project highlight that agricultural income support policies are likely to affect how agricultural land markets function, with some of the value of price and/or income support likely to be

capitalised into agricultural land prices and rents. Agricultural and other broader public policy design can affect the efficiency of income support policies, consideration of this aspect of agricultural policy should be considered when reforming agricultural policy and developing policy to rejuvenate agriculture.

The importance of farmer and farm successor attitudes and preferences towards farm succession and inheritance was also found to be an important determinant of behaviour with respect to the use and control of agricultural land. The design of policy initiatives designed to facilitate structural change, such as the incentivisation of long term leasing arrangements, should consider the nature of these attitudes and preferences.

4(a) Summary of Research Outcomes

(i) Collaborative links developed during this research

Collaborative links with researchers across the EU working in the area of economic modelling the functioning of agricultural land markets and the wider study of agricultural succession and inheritance has been supported by this project through the funding of travel to and participation within organised and contributed paper sessions at international conferences.

The presentation of the finding of this research project's results has supported Teagasc involvement in European research networks focused on the issue of farm inheritance and agricultural land market functioning. The project's activities have underpinned the involvement of two Agricultural Land Markets project researchers in a H2020 consortium RENEW 2050 that is currently at the second stage of evaluation.

The RENEW 2050 H2020 Consortium is being led by Dr David Meredith of Teagasc and also involves Dr Jason Loughrey who was a post-doctoral researcher on this project. The work of the Teagasc researchers involved in the H2020 consortium directly builds upon the research activities supported by this project.

(ii) Outcomes where new products, technologies and processes were developed and/or adopted

The SCSi/Teagasc agricultural land price and rent data set (See SCSi/Teagasc 2018) represents a new source of information on agricultural land rents and sales prices that complements the recently relaunched CSO Agricultural Land Sales release.

(iii) Outcomes with economic potential

Greater understanding of how a) agricultural policy affects agricultural land prices and rents; b) how farmer and farm successor attitudes and familial circumstances affect attitudes to farm succession and inheritance should allow for better design of policy designed to encourage optimal utilisation of agricultural land and the rejuvenation of Irish agriculture.

(iv) Outcomes with national/ policy/social/environmental potential

Until the publication of CSO agricultural land price statistics in March 2017 there had not been any official data on agricultural land prices published in Ireland since the August 2005 release of the Quarterly CSO Agricultural Land Sales Bulletin.

The absence of published data on this critical factor market is an important information gap that has been addressed within this project through the development of a new data series by Teagasc in conjunction with the Society of Chartered Surveyors in Ireland (SCSI).

This dataset has (since 2014) produced data on the annual evolution of agricultural land prices and rents at national and regional levels. The SCSI/Teagasc data on agricultural land prices and rents, and the annual SCSI/Teagasc reports have been used in the annual Department of Agriculture, Food and the Marine Annual Review and Outlook reports commentary on agricultural land markets since 2015/2016. This joint publication by Teagasc and SCSI will continue as a part of the annual output of Teagasc's Agricultural Economics and Farm Survey Department.

The survey vehicle developed by Teagasc and the SCSI has also been used since 2015 to gather information on the impact of Irish Government fiscal policy measures designed to encourage the use of longer term leases by agricultural land owners. These measures were first introduced in Budget 2015. These findings with respect to the prevalence of long term leasing in Irish agricultural land markets have been published in the annual SCSI/Teagasc report and the findings have been provided to DAFM Economics and Planning Division directly.

The finding in O'Neill and Hanrahan (2016) that CAP payments are significantly capitalised into Irish agricultural land rents has implications for policies that aim to encourage the mobility of agricultural land in Ireland and for our understanding of the consequences of the choices of national implementation models under the Common Agricultural Policy. The capitalisation of direct income support payments into land rental and sales prices has considerable consequences. First of all, it increases production costs and decreases the competitiveness of Irish agriculture. Second, if government support is capitalized to some extent into land values, a (substantial) share of this support is captured by landlords and initial land owners as windfall profits. This contradicts the objective of the Common Agricultural Policy (CAP), and in particular the objectives of the most recent 2013 reforms of the CAP that sought to target "support exclusively to active farmers" (European Commission, 2010, p. 3). Current Irish taxation and agricultural policy supports a transition away from short term "conacre" land leasing towards more long term land leasing models. This movement and the increasing share of agricultural land that is leased rather than owned by farm operators, given the capitalisation of direct income support payments into agricultural land rents, may reduce the transfer efficiency of agricultural policy in Ireland.

Duesberg et al. (2017) highlight the importance, when designing agricultural policy, of using analytical frameworks that take into account the differing ways in which farmers with and without an identified successor approach the process of retiring from farming. These different farm groups are likely to respond differently to agricultural and fiscal policy innovations designed to encourage farm succession and the profile of target farmer populations should be considered when designing future policy interventions. Duesberg et al. also highlight the need for alternative retirement concepts that allow for a continued involvement in farm work and a gradual reduction of the workload by retiring farmers. The recently development farm partnership models may support the development of such new modes of farm retirement/farm rejuvenation and thereby facilitate the rejuvenation of Irish farming structures.

Meredith and Crowley's (2017) paper focuses on the attitudes and preferences of young farmers and potential farm successors towards succession and inheritance and control of agricultural land. The finding that there is an aversion amongst this group of future/potential future farm successors towards the relinquishing of inherited farmland suggests that the pace of structural change in Irish agriculture is likely to continue to be slow. Policies designed to rejuvenate Irish agriculture and accelerate the pace of structural change in Irish agriculture may not be consistent.

4 (b) Summary of Research Outputs

- (i) Peer-reviewed publications, International Journal/Book chapters.

Duesberg, Stefanie, Bogue, Pat and Renwick, Alan Renwick (2016) "Retirement farming or sustainable growth - land transfer choices for farmers without a successor" *Land Use Policy*, <https://doi.org/10.1016/j.landusepol.2016.12.007>

Loughrey, J. Donnellan, T. and Hanrahan, K. (2018) *The Agricultural Land Market in the EU and the case for better data provision. Forthcoming Eurochoices*

Meredith, D. and Crowley, C. (2017) *Continuity and Change: the geodemographic structure of Ireland's population of farmers. Irish Geography*, 50(2), 111-136, <https://doi.org/10.2014/igj.v50i2.1318>

O'Neill, Stephen and Hanrahan, Kevin (2016) 'The capitalization of coupled and decoupled CAP payments into land rental rates.' *Agricultural Economics*, 47 (3):285-294 <https://doi.org/10.1111/agec.12229>

- (ii) Popular non-scientific publications and abstracts including those presented at conferences

Hanrahan, K and Donnellan, T. (2014) "Land Market: Historical Developments". In *SCSI/Teagasc Land Market Review and Outlook 2014*.

Donnellan, T. and Hanrahan, K. (2014) "What should determine land prices?" In SCSi/Teagasc Land Market Review and Outlook 2014.

Donnellan, T. and Hanrahan, K (2016) "Brexit Implications for the Land Market in Ireland" In SCSi/Teagasc Land Market Review and Outlook 2016.

Loughrey, J., Donnellan, T. and Hanrahan, K (2015) "International Land Price Comparisons." In SCSi/Teagasc Land Market Review and Outlook 2015.

(iii) National Report

Society of Chartered Surveyors in Ireland (SCSi) and Teagasc (2014) *Land Market Review and Outlook 2014*. SCSi Dublin. Available to download at https://www.teagasc.ie/media/website/publications/2014/SCSi_Teagasc_Land_Market_Review&Outlook_2014.pdf

Society of Chartered Surveyors in Ireland (SCSi) and Teagasc (2014) *Land Market Review and Outlook 2015*. SCSi Dublin. Available to download at <https://www.teagasc.ie/media/website/publications/2015/SCSi-Land-Market-Review-and-Outlook-2015-corrected.pdf>

Society of Chartered Surveyors in Ireland (SCSi) and Teagasc (2014) *Land Market Review and Outlook 2016*. SCSi Dublin. Available to download at <https://www.teagasc.ie/media/website/publications/2016/SCSi-Land-Market-Review-2016.pdf>

(iv) Workshops/seminars at which results were presented

Banovic, Marija & Duesberg, Stefanie & Renwick, Alan & Keane, Mark & Bogue, Pat, 2015. "The Field: Land mobility measures as seen through the eyes of Irish farmers," 89th Annual Conference, April 13-15, 2015, Warwick University, Coventry, UK <https://ageconsearch.umn.edu/record/204200>

Duesberg, S., Renwick, A., 2015, Exploring Irish Farmers' perception regarding barriers to land mobility, presentation at the International Conference Meaning of the Rural, 26-29 of September 2015, Aveiro, Portugal

Duesberg, S., Renwick, A., 2015, Barriers to land mobility as experienced by Irish farmers. Poster presented at the UCD Earth Institute SAB Meeting, 30th September 2015

Hanrahan, K., Donnellan, T. and Loughrey, J. (2016) "Agricultural Land Prices & Rents" Presentation at the 6th CSO Agriculture Statistics Liaison Group Meeting, 27th April 2016, Department of Justice & Equality, Dublin 2.

Hennessey T "Outlook for Agricultural Land Markets" presentation at *Farming into the Future. Rural Agency Surveying Professional Group Seminar, Organised by Society of Chartered Surveyors in Ireland, Athlone, November 13, 2015.* https://www.scsi.ie/education/cpd/rural_seminar_thia_hennessey

Loughrey, J. (2015) "What should determine land prices?" Presentation at the Teagasc/RDS Land Succession and Inheritance Conference, May 19th, 2015. RDS, Ballsbridge, Dublin.

Loughrey, J., Donnellan, T., Lennon, J. (2016) "The Inequality of Farmland Size in Western Europe," Contributed paper 90th Annual Conference of the Agricultural Economics Society, April 4-6, 2016, Warwick University, Coventry, UK. Available to download at <https://ageconsearch.umn.edu/record/261112>

O'Neill, S and Hanrahan, K. (2014) "The Capitalization of Coupled and Decoupled CAP payments into land rental rates in Ireland" Paper presented in the organised session "Capitalization of Single Farm Payments into Land Rental Prices: A Comparison of Studies", 14th Congress of the European Association of Agricultural Economics, Ljubljana Slovenia, 26-29 August, 2014.

(v) Intellectual Property applications/licences/patents
N.A.

(vi) Other

The absence of publically available data on agricultural land prices and rents was identified in the project proposal. This research project has contributed to our understanding of developments in Irish agricultural land markets by developing, maintaining and making publically available data on agricultural land values and rents on an annual basis. The development of the SCSi/Teagasc Agricultural Land Prices and Rents dataset was supported by this project.

This new SCSi/Teagasc dataset contains information on agricultural land prices and rents at a regional level. The prices and rents collected within the SCSi/Teagasc agricultural land market survey also distinguishes agricultural land values on the basis of transaction size (area), and whether or not the land area transacted was associated (or not) with a residential dwelling. Prices and rents for land used for different uses (Grassland, Tillage, Potatoes, etc.) are also collected.

The SCSi/Teagasc survey vehicle has also been used to survey SCSi members on their assessment of whether changes in Government policy with respect to the impact of changes in the tax treatment of rental income from the long term leasing out of agricultural land has resulted in increased use of these lease arrangements by land owners.

The SCSI/Teagasc dataset contains information that is additional and complementary to the Central Statistics Office Agricultural Land Prices release that resumed in 2017. The characteristics of the agricultural land transactions reported within the new CSO data set, they excludes transactions involving residential or other buildings, means that additional data sources on agricultural land markets prices that contain information on land sales with and without residential property is of value, given the prevalence of this type of agricultural land sale in Ireland.

5. Scientists trained by Project

Total Number of PhD theses: 0

Total Number of Masters theses: 0

6. Permanent Researchers

Institution Name	Number of Permanent staff contributing to project	Total Time contribution (person years)
Teagasc	4 †	0.141
UCD	1	0.0 ‡
Total	4	0.141

† In total 4 permanent Teagasc researchers contributed to this project. Dr Kevin Hanrahan, Dr Thia Hennessy, Mr Trevor Donnellan and Dr David Meredith. Dr Meredith did not record his time spent on this project within Teagasc's time recording system. The number of researchers reported in the above table does not therefore correspond with the financial file summaries submitted to DAFM.

‡ Professor Alan Renwick formerly of UCD (now at Lincoln University, New Zealand) participated in the project and supervised and worked in collaboration with post-doctoral Researchers Dr Maria Banovic and Dr. Stefanie Duesberg. UCD did not report the person days spent by Professor Renwick on the project - hence the absence of total time contribution data for Professor Renwick.

7. Researchers Funded by DAFM

Type of Researcher	Number	Total Time contribution (person years)
Post Doctorates/Contract Researchers	3	3.58
PhD students	0	0
Masters students	0	0
Temporary researchers	0	0
Other	0	0
Total	3	3.58

8. Involvement in Agri Food Graduate Development Programme

Name of Postgraduate / contract researcher	Names and Dates of modules attended
Not Applicable	n.a.

9. Project Expenditure

Total expenditure of the project: €201,644.60

Total Award by DAFM: €201,243.13

Other sources of funding including benefit in kind and/or cash contribution(specify): €0

Breakdown of Total Expenditure

Category	Teagasc	UCD	Total
Contract staff	89,954.10	63,270.99	149,225.09
Temporary staff	0		
Post doctorates	0		
Post graduates	0		
Consumables	0		
Travel and subsistence	9,302.45	2,498.35	11,800.80
Sub total			
Durable equipment	0		
Other	0		
Overheads	23,814.14	16,442.	40,256.47
Total	119,070.68	82,573.92	201,644.60

10. Leveraging

Summarise any additional resources'/funding leveraged by this award from other sources e.g. Additional Staff, National/EU funding secured, EI Commercialisation Fund, etc.

N.A.

11. Future Strategies

The permanent Teagasc staff involved in the project have continued to work in this research area via their involvement in the annual SCSI/Teagasc Land Market Review and Outlook publication the development of which was supported by this project.

A Teagasc permanent research staff member involved in this project (Dr David Meredith) has lead the RENEW 2050 H2020 Consortium, while another of the Teagasc researchers who worked on this project (Dr Jason Loughrey) is now a permanent research officer in the Agricultural Economics and Farm Surveys Department, Teagasc is also involved in the RENEW 2050 Horizon 2020 Consortium.

Teagasc's research role within the RENEW 2050 Horizon 2020 consortium builds directly on the research undertaken in this project. The development of the networks and scientific capacity underlying Teagasc's role in the RENEW 2050 Horizon 2020 bid have been supported by this (and other) Stimulus project awards.

During the course of the project and shortly after its formal completion a number of the permanent researchers involved in UCD (Professor Alan Renwick) and Teagasc (Professor Thia Hennessy) left for other academic appointments in Ireland and New Zealand.

Professor Thia Hennessy formerly of the Agricultural Economics and Farm Surveys Department, Teagasc is now Dean of the Cork University Business School in UCC.

Professor Alan Renwick formerly of the School of Agriculture UCD is now a Professor in the Department of Global Value Chains and Trade, Lincoln University, New Zealand.

12. Consent to Publish Final Report on the DAFM Website and/or Through Other Dissemination channels

I consent to this report being made available to the public, through the Department's website and other dissemination channels. *

Yes No

13. Declaration

I declare that the information contained in this final report is complete and true to the best of my knowledge and belief.

Signed:  Project Coordinator

Date: 10/12/2018